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Energy poverty as a restriction of multiple capabilities: A systemic approach for Belgium

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Abstract

Energy poverty is a multidimensional issue and the capability approach is fruitful to show how energy-poor households are restricted in many aspects of well-being. With reference to Nussbaum's Central Capabilities, and based on qualitative interviews, this contribution aims to illustrate how energy-poor people are limited in five capabilities in their daily life and how these restricted capabilities sometimes reinforce each other in vicious circles. The capabilities analysed are related to material property ("Control over one's material environment"), recreational activities ("Play"), culture ("Senses, imagination and thoughts"), expression and management of emotions ("Emotions"), and to health and adequate nutrition ("Bodily Health"). These five capabilities are chosen for this contribution and analysed in this order because a recent quantitative study for Belgium has shown that the differences in their deployment are the highest between energy-poor households and energy-rich ones. Data for the present contribution are drawn from 60 in-depth interviews with persons in energy poverty that were carried out in 2014-17 in the three Regions of Belgium.

Keywords

Capabilities; energy poverty; capability deprivation; vicious circles; qualitative interviews.

Introduction

Energy poverty may be defined at the household scale as "a lack of adequate energy services in the home, with its associated discomfort and difficulty. (...) [or] as a set of domestic energy circumstances that do not allow for participating in the lifestyles, customs and activities that define membership of society" (Bouzarovski and Petrova 2015, 33). It is thus a multi-dimensional issue encompassing many aspects of everyday life. Literature on energy poverty in Europe has overwhelmingly focused on the negative health impacts of energy poverty (e.g. Marmot Review team 2011; Thomson et al. 2017) with limited attention to other kinds of impact. As such, we argue that the application of the Capability Approach, given its multi-dimensional approach to well-being, is fruitful in that it enables the insight that energy-poor households are concretely deprived in wide-ranging aspects that make up a life of dignity.

Based on qualitative research on energy poverty in Belgium, this paper explores this capability deprivation by giving voice to persons in energy poverty themselves, in describing their everyday situations, feelings, and coping practices. In doing so, it also in part responds to Galvin (2019)'s call for energy justice research to connect with the moral sensitivities of those in positions of agency, such as policy actors, in making moral claims. Qualitative insights, we argue, by highlighting the everyday lives and experiences of those in energy poverty, have the potential to make such an empathic and moral connection.

There is no official definition of energy poverty in Belgium, and so estimates vary quite widely according to the definition and proxy indicators used. Based on EU statistics on income and living conditions (EU-SILC) data, between 2004 and 2016, 4-6% reported arrears on their utility bills in the previous twelve months. Meyer et al. (2018, 280) deem that in 2013, 14% of Belgian households were in energy poverty because they spent too high a proportion of their income on energy bills (overconsumption supposedly due to an energy inefficient housing), and a further 4.6% because of their underconsumption of energy. Using a different definition and based on the Belgian 2009 data from the Generation and Gender Programme (GGP), Bartiaux et al. (2018, 1226) estimate that 10.3% of households were in energy poverty in 2009. Despite the variation in estimates, it is evident that the issue is endemic. Policies relevant to tackling energy poverty and poor housing conditions exist, but the policy landscape is fractured across a complex institutional structure, and access to social assistance may be hindered by bureaucratic and stigmatising practices (Baudaux and Bartiaux 2020).

There are several reasons for this rather high prevalence of energy poverty in Belgium, a country of three Regions. The building stock is old: in the Flanders Region, 68.9% of the buildings were built before 1981, in Wallonia, 79.4%, in the Brussels Region, 93.5%; and 23% of the population in 2011 lived in a dwelling built before 1919 (STATBEL 2015). This old building stock is poorly insulated and it has been estimated that 99% of houses and 95% of apartments do not comply with the 2050 energy norms (Recticel Insulation 2020). The Brussels Region has a much higher proportion of apartments (78%) than the other two regions (23% and 20% in Flanders and in Wallonia). In these two Regions, most dwellings are owner-occupied (70% and 64.5% respectively for the dwellings built before 2006), but the reverse is true in the Brussels Region (38%), which may further hinder energy retrofit there (STATBEL 2015).

The following paper proceeds as follows. First, it briefly explains the capability approach and its recent developments, as well as how this approach has been related to energy poverty in the literature. Next, the qualitative research strategy is described. The main part is devoted to the presentation and interpretation of interview data in relation to five of Nussbaum's central capabilities. The concluding discussion summarises the relationship between energy poverty and capabilities in the experiences of the 60 persons interviewed.

Conceptual framework

The capability approach: Sen, Nussbaum, and after them

The Capability Approach was developed from the 1990s onwards by economist Amartya Sen and philosopher Martha Nussbaum (e.g. Sen 1992; Nussbaum and Sen 1992; Nussbaum 2000; Sen 2009), as an alternative approach to conceptualising development, poverty, and social justice. It arose out of a critique of both resourcist accounts, such as measure of GDP, and of welfarist (utility) accounts, such as measures of happiness or life satisfaction. In the Capability Approach, the outcome of interest is human flourishing, a much more multi-dimensional concept than either resources or utility. It is also a liberal concept, with freedom taking a central role.

In the Capability Approach, the concept of capabilities denotes opportunities to engage in valued 'beings and doings' (Sen 1992), which may be straightforward doings such as eating, or more complex states, such as having healthy and fulfilling relationships. The active engagement in these 'beings and doings' are termed 'functionings', while the capability is the opportunity to do so. The distinction is important as the approach does not prescribe how life should be lived, as a focus on functionings alone would, but rather promotes a full set of opportunities, some but not all of which may be engaged in at any given time; hence, capabilities are termed 'substantive freedoms' (Sen 1992). The Capability

Approach has some important characteristics that distinguish it from other approaches to understanding development and social justice. First, by focusing on outcomes in terms of what people can do, it accounts for difference in the amount of resources people might need in order to achieve these outcomes. This allows individual, social, and geographical difference to be taken into account. Second, it is multi-dimensional, as mentioned, emphasising that well-being involves a number of aspects that are not reducible to each other. Third, the approach recommends the measurement of capabilities at the individual level, in order not to hide inequalities with larger units such as households, regions, or countries.

Following the Capability Approach, poverty should be understood in terms of ‘capability deprivation’ (Sen 2009); as Fitzpatrick (2014, 23) puts it, “ultimately, what poor people are deprived of is the right to live lives of dignity, freedom and respect in which they possess the opportunities to fulfil their potential.” The goal of development is to improve capability sets (i.e. such opportunities and freedoms). It follows that social justice should also be evaluated in terms of capabilities (Sen 2009). However, in evaluating poverty and justice, clearly not all capabilities are of equal concern, as some are more essential to well-being than others. Famously, Sen and Nussbaum differ in their approach to deciding on what are these essential capabilities. While Sen’s approach is that any such list should be decided through democratic processes in the context of any given project (Sen 2009), Nussbaum defined a list of ten ‘central human functional capabilities’ (2000, 78-80) which she believes have a broad philosophical basis, are readily agreed on, are fundamental to well-being and are irreducible to each other. These capabilities concern: life of normal length; bodily health; bodily integrity; senses, imagination, and thought; emotions; practical reason; affiliation; other species; play; and control over one’s environment on both a political sense and a material one. For Nussbaum, the responsibility lies with States to secure adequate levels of these functionings for all citizens, and hence these capabilities can be seen as akin to rights.

Wolff and de-Shalit (2007) usefully develop Nussbaum’s notion of core capabilities with the concepts of ‘corrosive disadvantage’, and the corollary, ‘fertile functioning’. A corrosive disadvantage is a situation where the absence of one important capability leads to the undermining of other crucial capabilities, in a form of vicious circle. A ‘fertile functioning’ (or capability) on the other hand, is one that supports multiple other capabilities, and thus signals an important site of attention for social policy. Potential vicious circles are also alluded to by Middlemiss et al. (2019, 233).

Criticisms of the Capability Approach have often centred on its emphasis on the capability sets of individuals, which, combined with the emphasis on freedom, has been taken as a form of individualism, even neoliberalism. We see a distinction though between methodological individualism (of the Capability Approach) and ontological individualism – the Capability Approach does not in fact imply that capabilities are the individual’s responsibility or that they are analogous to individual qualities; many will require institutional or collective action and others are by definition social (such as engaging in relationships). Still, some authors have developed alternative variants that put a greater emphasis on the social as the location of capabilities (see e.g. James 2018). A further criticism raised by Fitzpatrick (2014) is that it downgrades the role of material resources, including capital and property: this is relevant in studying energy poverty, which has a strongly material foundation. Fitzpatrick (2014) further argues that we need to conceive of capability poverty in both absolute and relational terms, a point which lends itself to notions of poverty and justice.

Energy poverty, energy justice and the capability approach

Although conceived of as an approach to poverty more generally, energy social scientists recently started to turn to the Capability Approach as an approach to understanding energy poverty more specifically. Its multi-dimensional scope is appealing: for Hillerbrand (2018), the Capability Approach is useful in showing the numerous implications of energy systems. Day, Walker, and Simcock (2016) express energy demand in terms of pursuit of capabilities, and define energy poverty in terms of capability deprivation as a direct or indirect result of compromised energy access – including through poor affordability. They successively link fuel (as a resource) to domestic power supply, then to domestic energy services (hot water, heating, lighting, etc.), then to ‘secondary capabilities’ such as storing food, washing clothes, charging mobile phones, and finally to the more fundamental ‘basic capabilities’ such as having good health, maintaining relationships, engaging in employment.

This approach can also be used as the basis of considerations of energy justice. Energy justice is a relatively new notion, gaining traction since around 2010, and it is nested into the well-established environmental justice concept (Walker and Day 2012). As put by Schlosberg (2004, 517), “the justice demanded by global environmental justice is really threefold: equity in the distribution of environmental risk, recognition of the diversity of the participants and experiences in affected communities, and participation in the political processes which create and manage environmental policy.” In other words, environmental justice describes justice by three dimensions: distribution, political recognition of vulnerable and marginalised social groups, and inclusive procedures (see also Walker, 2012). Bickerstaff, Walker, and Bulkeley (2013), Sovacool and Dworkin (2015), Jenkins et al. (2016), among others, have discussed and popularised the concept of energy justice in the social sciences. Energy poverty is increasingly problematised as an energy injustice after Walker (2012), Walker and Day (2012), Bickerstaff, Walker, and Bulkeley (2013), and other researchers following. In several review papers on energy justice (Galvin 2019; Jenkins et al. 2016; Sareen and Haarstad 2018), these three dimensions are now considered as consensual; meanwhile others add the capability perspective as a further dimension (e.g. Harlan et al. 2015). In our view, the capability approach may be better seen as alternative to some of these other perspectives, rather than simply complementary or additional, not least because as noted above, it seeks to reframe the basis of distributional decisions in terms of capabilities rather than resources. It has also been argued that the Capability Approach to some extent integrates procedural and recognition concerns (Schlosberg 2007; Day 2017).

A capability approach to energy poverty in Belgium

A conceptual and operationalisable framework on energy justice and capability was proposed and tested for Belgium in earlier work by Bartiaux et al. (2018). That work compared the capability sets of energy-poor households and the energy-richest ones, using data from the Belgian survey that was executed around 2009 as part of the Generation and Gender Programme (GGP). Most of Nussbaum’s central capabilities (Nussbaum 2000) could be proxied from questions asked in this GGP survey. To enable the comparison, Bartiaux et al. (2018) developed a new simple statistical index of variability of capability attainment between the energy poor and the energy richest households. Results showed that in Belgium, energy-poor households and energy-rich households differ dramatically in their capabilities in many aspects of daily life. The most severe differences are for the following capabilities, in this order: a) Control over one’s material environment and property; b) Play; c) Senses, imagination and thought; d) Emotions; e) Bodily health and adequate nutrition. Nussbaum’s definitions of these capabilities are shown in Table 1.

Table 1. Five central capabilities of interest as defined by Nussbaum (2000, 78-80)

Control over one's material environment and property	"B. Material. Being able to hold property (both land and movable goods), not just formally but in terms of real opportunity; and having property rights on an equal basis with others; having the right to seek employment on an equal basis with others; having the freedom from unwarranted search and seizure." (p. 80)
Play	"Being able to laugh, to play, to enjoy recreational activities" (p. 80)
Senses, imagination and thought	"Being able to use the senses, to imagine, think, and reason – and to do these things in a "truly human" way, a way informed and cultivated by an adequate education, including, but by no means limited to, literacy and basic mathematical and scientific training. Being able to use imagination and thought in connection with experiencing and producing self-expressive works and events of one's own choice, religious, literary, musical, and so forth. Being able to use one's mind in ways protected by guarantees of freedom of expression with respect to both political and artistic speech, and freedom of religious exercise. Being able to search for the ultimate meaning of life in one's own way. Being able to have pleasurable experiences, and to avoid non-necessary pain." (pp. 78-79)
Emotions	"Being able to have attachments to things and people outside ourselves; to love those who love and care for us, to grieve at their absence; in general, to love, to grieve, to experience longing, gratitude, and justified anger. Not having one's emotional development blighted by overwhelming fear and anxiety, or by traumatic events of abuse or neglect. (Supporting this capability means supporting forms of human association that can be shown to be crucial in their development.)" (p. 79)
Bodily health and adequate nutrition	"Being able to have good health, including reproductive health; to be adequately nourished; to have adequate shelter." (p. 78)

Building on that earlier work, this paper aims to illustrate first how energy-poor people experience these top five discriminating capabilities, or their lack, in their daily life, and second, how deficits in these capabilities sometimes reinforce each other in vicious circles. The first aim complements the comparative approach of the earlier work with an examination in more absolute terms, echoing Fitzpatrick (2014) as mentioned earlier, while the second aim echoes Wolff and de-Shalit (2007)'s concept of 'corrosive disadvantage' as discussed above.

We followed Nussbaum's approach in applying an externally defined list of capabilities in our analysis rather than Sen's approach of defining the capabilities of interest within the project in a bottom-up way, as the latter would not have been practically possible. The secondary analysis of a survey-based dataset as undertaken in Bartiaux et al. (2018) would not be possible from Sen's approach. Furthermore, the qualitative study needed an analytical framework, in the sense of a set of essential capabilities of interest, that could be applied consistently across three regions of Belgium. Arriving at this in a bottom-up way, following Sen's recommendation, would necessitate a large-scale deliberative process that would not have been possible within the scope of the project. Whilst we acknowledge some critical positions that have been taken regarding the universalism and potential paternalism of Nussbaum's pre-defined list (Deneulin 2002; Feldman and Gellert 2006), it is in our view a list of broad concepts that still lends itself to in-context specification, and its application is arguably no more paternalistic than the application of other commonly used sets of basic needs, human rights, or indeed notions of justice. Furthermore, we agree with Deneulin's conclusion: "If development policies based on a perfectionist theory of the good seem paternalist, (...) so much the better, since that type of

paternalism is nothing more than the refusal to see another person suffering from not being able to live a human life.” (Deneulin 2002, 516).

Materials and methods

In conjunction with ethnographic research in the Brussels Region (Baudaux 2019), sixty in-depth interviews with persons living in energy poverty were gathered in the three Belgian regions – Brussels, Flanders, and Wallonia – in 2014-2017. The working definition of energy poverty used in this research was a problematic access to domestic energy in daily life with physical discomfort (given the low temperature and/or humidity of the dwelling) and/or financial discomfort generating a self-limitation of energy consumption and/or indebtedness. A delay in paying an energy bill and insufficient financial means are often used to initiate a right to social assistance in Belgium (Huybrechts et al. 2011), or as a criterion for defining energy-poor households in international research (Thomson & Snell 2013).

The participants were found thanks to contacts with municipal centres for public action/welfare¹, associations dealing with energy poverty, right to energy and the like, social housing organisations, and personal contacts. Interviewees with varied socio-demographic profiles regarding gender, age group, household type, labour force participation were actively searched for. However, most interviewees had a weak socio-economic profile. Only 10 were working, whilst 21 were unemployed, 4 on sickness leave, 9 on a retirement pension, 11 on disability benefits, and 2 were homemakers. Three interviewees were immigrants with a temporary working permit or insecure legal status so no information on their working status was provided. These weak socio-economic positions were reflected in their tenure status. Only 16 interviewees out of 60 were owners of their house or apartment, nearly half of them in Brussels. The rest were tenants, of whom 24 rented a social housing unit and 20 rented on the private rental market.

The process of recruitment was more difficult and time-consuming than anticipated. First, this was partly due to our initial aim to maximise the diversity of the respondents’ profiles. Second, potential interviewees seemed tired of having their daily life controlled (usually by social workers) or saw no value in participating (“what will I gain from your study?” asked a woman in a waiting room of a Public Centre for Public Action (Baudaux 2019, 74)) – no compensatory payment was offered, which was perhaps a misjudgement (see a discussion on this topic in Longhurst & Hargreaves 2019, 4). Third, some social workers were also reluctant to ask their beneficiaries to participate.

In-depth interviews are close to ethnographic interviews (Spradley 1979) and have the following characteristics: empathy with the interviewee, open-ended questions, numerous follow-up questions, and compared to semi-directive interviews, a tone closer to a conversation between people who are familiar to each other (Kaufmann 2016). A high degree of empathy with the interviewee prevented him or her from feeling blamed or stigmatised by the researcher-interviewer. Furthermore, in-depth interviews help to give the opportunity to interviewees to adopt a narrative perspective on their own practices in their daily life (de Gaulejac 1999; Cyrulnik 2005). This method gives time to keep distance with the immediate factual problems and to conceive with common concepts the patterns of their way of acting, feeling, and thinking. Focussing on their experience related to energy poverty, people explore in this way their emotions, their habits or their adaptative strategies. In-depth interviews were preferred to focus groups to avoid bringing persons in energy poverty together, which could have made them feel uncomfortable with each other – several of them have wanted to explain during the interview that their situation was special and “has nothing in common with those who are waiting in the same queue”

(Baudaux and Bartiaux 2020, 9). In addition, individual interviews made it possible to have the interview carried out in their home – nearly all interviewees accepted it, so the researcher-interviewer could observe the dwelling.

Each Belgian research team involved in the research carried out 20 in-depth interviews in one of the three Belgian Regions, with a common question guide. The main topics were the following: description of the dwelling (and often of the previous one), representations and experience of comfort, budget management, social life, and health issues. Furthermore, during the interviews, retrospective material was often obtained, e.g. discussion of previous health problems. It should be noted that this diachronic approach was not the main goal of our interviews, contrary to energy biographies as conducted by Butler et al. (2014).

Interviews lasted approximately one hour. All were audio-recorded and then fully transcribed. The procedure to analyse the content of the interviews was discussed and agreed on by the three research teams, who developed and regularly updated a common codebook of the main topics and sub-topics to be employed in a thematic content analysis. NVivo software was used to facilitate the analysis. For this paper, as the in-depth interviews contained a lot of relevant information on deprivation in several areas of daily life, a new thematic content analysis was undertaken using Nussbaum's list of central capabilities – more specifically focussing on five capabilities as explained above.

In the quotes cited in the results section, all first names have been changed to ensure anonymity while keeping their initial language.

Results

In this section we discuss the five capabilities drawn from Nussbaum's list of Central Capabilities, in the order of the most to least differentiating found in the previous quantitative analysis between energy poor and the energy richest households in Belgium (Bartiaux et al. 2018). Our analysis of the qualitative data enables discussion the interview participants' experiences and perspectives with respect to these five capabilities.

Control over one's material environment and property

Having the right to seek employment (as in Nussbaum's definition of this capability) is not equivalent to having the right to be employed. However, the former right is pointless if the labour market has no or few job opportunities, namely for the non-skilled labour force. Belgium has a high unemployment rate, especially in several sub-regions, as reflected by one third of our interviewees being unemployed. Malwena for example explained:

"I'm looking for a job but I cannot find one. You cannot find something that does not exist. We have to find something, but everybody knows very well that there are not [enough job opportunities]."
(Malwena, single mother, unemployed, about 40, owner, Wallonia).

Several interviewees owned their dwelling. Some owners bought their dwelling several decades ago, others inherited it, and a few others were "emergency buyers": because the waiting time for social housing is several years long in all of the three Regions, these "emergency buyers" may turn to the private market, and urgency and restricted choice compel them to accept low-quality housing (see Baudaux et al. 2019, 47). Access to property did not necessarily secure participants' situation, since

their home may need serious renovation. For example, Sonia owned her home; nevertheless, the poverty she experienced denoted a lack of real opportunity to control her material environment:

“I’m now completely without money. Those coins that fling about over there, that’s all there’s left. Two or three €, that’s just enough for one loaf. (Sonia, single mother, unemployed, about 55, owner, Flemish Region – this conversation took place on the 23rd day of the month).

The building stock in Belgium is old and rather badly insulated (STATBEL 2015). Energy-poor participants often pointed to the lack of insulation as one of the primary factors responsible for their heating problems, even in social housing apartments:

“And I have a shack that I can’t get warm in the winter and that is too hot in the summer (...). Normally you should have insulation. You have 2 centimetres plasterboard and there should be insulation behind it. But here you have plasterboard and there is nothing behind it!” (Patrick, living alone, disabled, age between 50 and 64, tenant in a social housing, Flemish Region).

Damp was also often mentioned by interviewees as it makes the dwelling harder to heat:

- I: *“Are you pleased with your dwelling?*
- *Ah no. (Short pause). It’s in the bathroom (...) no matter how much we ventilate after taking a shower (...) there is nothing more I can do! But to ventilate. And to clean the damp. (...) I already had my ceiling entirely black, all black” (Alice, single mother, employed, in her thirties, tenant in a social housing, Brussels Region).*

A further material problem is the old age of some appliances and a lack of money to replace obsolete ones:

“I went four months without a fridge. When I moved in here, I bought a 30 € refrigerator second hand but it burned. (...) Without a refrigerator, it is not possible (...). Without a washing machine, it is a hassle. I have already been three years without a washing machine, I had the opportunity to have one given to me, it lasted one week and then it was over.” (Brigitte, single mother, disabled, age between 25 and 49, tenant in a social housing, Flemish Region).

Material problems linked to energy poverty have been abundantly studied in many studies (for a European overview, see Thomson and Snell 2013). In summary, the social and material context of energy poverty in Belgium involves high unemployment rates especially for the non-skilled labour force, an old and generally poorly insulated building stock, characterised also by prevalent damp, expensive rents, and long waiting lists for social housing. Many households do not have the freedom of choosing and controlling their material environment. This situation has a reciprocal relationship with energy poverty, as an underlying cause of energy poverty, and being in energy poverty deepens this lack of control.

Play

Moments of lightheartedness, to which this capability “Play” refers, are very rare if not non-existent for people in energy poverty. On the contrary, worries were related “directly to energy poverty: a person got a vagal attack after being the victim of a door-to-door scam; recurring problems with a boiler damaged a person’s sleep quality and mental health; other persons got dispirited from filling the administrative file to get renovation bonuses to insulate roof and windows.” (Baudaux et al. 2019, 66).

In addition, many had deep concerns about their health, and above all about their children's health as shown below.

Because of their (very) limited financial means, the interviewees drastically reduced their recreational activities and even their plans for future leisure projects:

"We don't go out, we don't even go to the cinema (...) when things will be better, well, we'll go to the seaside for one day, we will go... I don't know... We will have a walk, maybe in the centre [of the city] to have a drink together [with her daughter] on a terrace" (Catherine, single mother, unemployed, in her forties, tenant in a social housing, Wallonia).

"Going on holidays? We can't. Visiting a theme park? We can't." (Cindy, single mother, disabled, age between 25 and 49, tenant on the private market, Flemish Region).

The literature on energy poverty is silent over sufferers' recreational activities and the relation with their poor well-being. Playing is also related to an extended conception of social activities. Play and laughter can provide some distance between oneself and one's living conditions which can facilitate the questioning of them, even laughing at them, through a 'problematological relationship' (Meyer 2011). On the contrary, people under pressure because of their restrictive material conditions, cannot separate themselves from their living conditions. In this way, energy-poor households are systematically facing problems they cannot keep away, solve or even question. This is a tragic condition with restricted agency: living conditions are imposed and cannot be avoided.

Senses, imagination and thought

There are few statistics available on the education level of the energy-poor persons in Belgium, but this level seems to be rather low: in 2009 (latest data available), 5.7% had no diploma at all (against 2.2% in the total population) and 43.5% had 6 or 9 years of schooling with the corresponding diploma (31.3% in the total population). Dejaeghere (2020) notes that "education is not necessarily agency- or well-being-enhancing; rather it can often reproduce inequalities reflected in society" (Dejaeghere 2020, 17). As shown below, some interviewees expressed a lack of agency or a feeling of powerlessness, which is close to "being passively shaped or pushed around by the world", or the contrary for Nussbaum (2000, 72) of a "truly human" way in using senses, imagination and thought (see Table 1).

The lack of leisure has already been discussed in the previous section devoted to the capability "Play". For our participants living in energy poverty, their rare leisure, especially together with other persons, is due to a lack of time, or of means of transportation, or a lack of mental availability that we have called a "mental shrink" (Bartiaux, Oosterlynck, et al. 2019, 103), as the next quote illustrates:

"You've got a lot in your mind, for me, it was judicial... There were moments when we came to live here and I had... I was busy with five or six court files. OK, you're not busy with it, it's your lawyer who's occupied with it, but it's something that engages you mentally. And if you have to do your housework, you have to care for three kids, you have to be aware that they go to school and you have to go to work... I've tried it a few times, but the concentration is... All your attention is engaged by making ends meet, a lot of energy goes in it. That takes most energy, seeing 'how can I make the end of the month?'" (Renate, single mother, on a sickness leave, aged 50-64, tenant of a private dwelling, Flemish Region).

Maria, who had “no means of locomotion”, tried to keep on being informed but she spoke of a newspaper as a luxury, “a madness”:

“I buy a newspaper, from time to time. Well, my financial means being what they are, I cannot afford a madness!” (Maria, retired living alone, in her eighties, tenant in a social dwelling, Wallonia).

This limited access to education and culture prevents energy-poor persons from dreaming and imagining other ways of life for themselves, possibly living in a more decent and more sustainable way. There is a risk that those in energy poverty may develop adaptive preferences and lower agency when they “feel that their aspirations cannot be achieved”, as noted by several scholars (see Dejaeghere 2020, 32).

Moreover, few opportunities for self-expression and creativity make negative emotions more difficult to handle, as shown below.

Emotions

The following quotes illustrate some of the emotional difficulties experienced by the persons in energy poverty: feeling that one’s life is a failure, as well as fear and anxiety of being homeless or of causing an accident because of the bad condition of the dwelling and being sued in court:

“For the life I lead, I would not want to be there anymore. However, I am not someone with a suicidal tendency but ... (...) I am probably depressed but I cannot even cry, I cannot do it anymore. I do not have anyone to count on, except the Public Centre for Social Action.” (Mariette, single woman, pensioner, aged 65+, owner, Wallonia).

“The Public Centre for Social Welfare in [his city] suggested me, as well as the social housing organisation, to start a condemnation procedure, in order to get priority for social housing. I was informed of the risk that nine times out of ten, it would not be accepted, and I could become homeless.” (Paul, single man, unemployed, 50-64, tenant in the private market, Flemish Region).

“We’re always afraid too because, well, as she [the energy counsellor] told us, there are pieces of the front wall that are deteriorated and might fall. We’re always afraid, because if one day it falls on somebody and if that person sues us in court, we might have a great deal of money [to pay] ...” (Lucie, widowed with her adult child and grandchild, unemployed, in her sixties, owner, Brussels Region).

Among the energy-poor population in Belgium, Thomson et al. (2017: 10-12) estimate that nearly half have poor emotional well-being, and about 20% likely depression (data from the 2012 European Quality of Life Survey). Poor well-being and lack of self-confidence can prevent people in energy poverty from taking up formal or informal help (as also found by Longhurst & Hargreaves 2019):

“They say: “you have a right to it [plastic film to somewhat insulate the windows], you have to ask.” I will not ask because she [the social worker] will break my morale ten times more. And I prefer to suffer than to be demolished” (Anna, single, unemployed, in her forties, tenant on the private market, Wallonia).

Living in energy poverty also often leads to social isolation due to self-restriction practices, shame about the dwelling, support from family or friends disappearing when things are going wrong. In principle, poverty is representing a state of life that people do not want to live or want to escape from:

poverty is representing the difference or the distance from a normal state of life (Paugam 2013; Vranken et al. 2017). Therefore, energy poverty also leads to social restriction because energy-poor households are ashamed of their living conditions (Hards 2013) and because others keep a distance from them, preferring not to be associated with people considered as different (for they are transgressing from a normative way of living). These conditions help explain the shrinking physical and emotional world of people living in energy poverty:

“How do you expect me to invite someone to eat in an apartment where I have been already asking [the landlord] for a flush [of the toilet], where there is moisture everywhere? (...) How can I invite someone in?” (Anna, single, unemployed, in her forties, tenant on the private market, Wallonia).

“My family left too. (...) You know, I had a bankruptcy... when everything is fine, you’ve a lot of friends, once the situation is bad, just a few stay... so to speak, nearly none. (...) I still have a pal that I see once every other six months...” (Kristof, single, unemployed, in his fifties, tenant in a social housing, Brussels Region).

Energy poverty may thus reinforce social isolation, and the reverse happens too, as also shown in UK by Middlemiss et al. (2019). Being attached to things or people requires managing one’s emotions in a secure context (Pourtois and Desmet 2014). Living in an unregular or unpredictable context often leaves the individual with a high risk of stress and trauma and people often repress their emotions to avoid this risk (Cyrulnik 1999). This perspective helps understand why people facing stressful energy problems face difficulties on the one hand to regulate their emotions and on the other hand to express them.

Bodily health

The in-depth interviews illustrate in many ways that persons living in energy poverty are deprived of good health, for themselves and also for their children, which gives their parents additional stress:

“I was very ill at one point and I had a lot of bronchopneumonia, I had to go to the hospital (...) I say that it is due to the heating problems that I had previously. Even now I am still paying the consequences (...) in addition, my daughter is disabled, I’m afraid that it falls on her too.” (Catherine, single mother, unemployed, in her forties, tenant in a social housing, Wallonia).

“My son...that’s every other week that I’m at the doctor for his respiratory system and she [the daughter] has also a lot of trouble and I think it’s due to the moisture. My health has also really deteriorated since I’m living here.” (Julie, single mother, disabled, aged 25 to 49 years, tenant in a private dwelling, Flemish Region).

A quantitative study based on the 2012 European Quality of Life Survey found for Belgium that about 26% of energy-poor persons had poor self-reported health, “a highly reliable and valid measure of health status” (Thomson et al. 2017, 4). Several interviewees living in energy poverty were also deprived of adequate nutrition and sufficient protein intake:

“I have a very tight budget and sometimes I am reduced to eating boxes of rice pudding or oatmeal (...) It often happens that I do not eat enough to satisfy my hunger.” (Christophe, single, disabled, in his forties, tenant of a private dwelling, Wallonia).

Again, single mothers prioritised their child(ren), even if it meant depriving themselves:

*“I have already been hungry but I give priority to my son, I do everything to make him not hungry”
(Brigitte, single mother, disabled, age between 25 and 49, tenant in a social housing, Wallonia).*

These under-nourished persons are far from being isolated: it has been calculated that in 2009, 31% of energy-poor households in Belgium could not afford to eat meat, chicken, or fish every second day; 23% were so in Austria, and as much as 74% in Bulgaria in 2005 (Bartiaux, Maretti, et al., 2019, 235-237). This ‘heat or eat’ trap has been studied in the UK and US (Bhattacharya et al. 2003; Beatty et al. 2014). However, as Cindy (and Paul in the next section) indicated, the dilemma in budget management is not only between heating or eating: health expenses are also curtailed (for medicines and/or visits to the physician).

“Sometimes I postpone my own medication, just to be able to pay for the medication of the kids. Sometimes I should see a doctor, when one of the kids is ill...I have an aspirin or a paracetamol at home, let’s try that first. I can’t say: “let’s go to the doctor”. (...) Halfway through the month, my money is finished” (Cindy, single mother, disabled, age between 25 and 49, tenant on the private market, Flemish Region).

A study in rural UK households in energy poverty also suggested “a far more complex set of decisions being made than simply ‘heat or eat’” (Lambie-Mumford & Snell 2015, 7). Longhurst & Hargreaves (2019: 6) also support the extension of this ‘dilemma’. Another aspect of this capability is to have an adequate shelter. Housing has been discussed above, in relation to the capability ‘control over one’s material environment’.

Vicious circle versus coping strategies

As shown previously, when reporting difficulties or fragilities associated with energy poverty, energy-poor people refer to their constrained lifeworld corresponding to restricted capabilities. Each of these limited capabilities is strongly affecting households’ daily life. Within the first capability studied here (lack of control over one’s material environment), there are already vicious circles: living in energy poverty entails more expenditures, as related by our interviewees: higher energy consumption for old appliances and incandescent bulbs, fine for some mistake in making payment, fraud from unscrupulous contractors, neighbours, or landlords (Baudaux et al. 2019, 50-51). In his book entitled “it becomes expensive to be poor” (as translated from French) Hirsch (2014) demonstrates this paradox, after Caplovitz (1963)’s “The Poor Pay More”.

Even worse, restricted capabilities are often influencing each other in a vicious circle, aggravating the quality of life of energy-poor households. Several interviewees clearly saw as inter-related their lack of control over their housing conditions, their health problems, and the difficulties to address them, as Paul explains it:

“My lungs...I smoke, but that’s not the cause... it’s due to the moisture and possibly also due to the presence of Eternit panels [containing asbestos], that I’ve a phlegm in my lungs for almost a year now. But I don’t go to the doctor, since I don’t have the money for it. (...) The calculation is very simple: if you have only 800 €, except the extra I receive for gas, but you have to pay around 500 € for rent and electricity, gas and water bills, telephone, and internet...What’s left to eat, to get dressed? I was ill several times, and I didn’t go to the doctor. I had a bronchitis and I didn’t go to the doctor. I can’t afford that, I can barely even afford medication.” (Paul, single man, unemployed, 50-64, tenant in the private market, Flemish Region).

These difficulties are also experienced by some even though they work and live in social housing, but are nevertheless in energy poverty such as Annie who had a “well calculated budget”.

Lack of control over one’s environment, poor bodily health, weak access to recreational activities are three restricted capabilities that are often observed in conjunction. Moreover, the feeling of losing control over one’s environment is often associated with depression and stress, shrinking the space for self-expression and emotional management. Facing these vicious circles, energy poor people feel unable to prevent problems, lose self-confidence, and often express powerlessness, fear, or shame. Shame may be indirectly passed on to children:

“I’ve had a prepayment meter at first, but I found it really horrible. (...) I even kept the children home from school since they couldn’t take a shower. You don’t have hot water” (Martine, lone-mother, working, in her fifties, tenant in a private dwelling, Flemish Region).

Summing up, energy-poor people are often deprived at the same time of the five capabilities studied here; deprivation in one set of opportunities related to one area (such as lack of control of one’s material environment, and its associated feeling of shame) often “contaminates” another area (such as emotional management). Furthermore, in their study of social-housing tenants in UK, Longhurst and Hargreaves (2019) interestingly show how emotions such as fears and worries about energy use, its payment, and possible debt, do shape energy-related practices by inducing constant vigilance and reducing energy consumption “even when they could afford to use more” (p.6). This under-consumption may be detrimental for the maintenance of the building (especially for damp), and/or increase social isolation, and/or be one cause of a health problem, and so forth: in other words, it may relaunch vicious circles of capability deprivation.

In this systemic and synchronic perspective, the diachronic dimension is still to be added. Living in energy poverty may indeed occur after, during or before several other difficulties such as recurrent difficulties in making ends meet, snowball effects with debts concerning not only energy bills but also consumption bills or arrears for rent, supplementary costs when missing a payment or when using inefficient electrical appliances; or a divorce, a bankruptcy, or serious health problems. Life courses cumulating capability deprivation in various areas are indeed hindering opportunities for a more flourishing life. For Kergoat (2009), various social inequalities should not be analysed as adding together but rather as mutually-reinforcing domination relationships (see also Burnay (forth.) for a discussion of the life course concept).

“I receive more or less 1200 € but I have 3 or 4 bailiffs who take away a big part, so I have nothing left. I have a rent of 290 €, plus 50 € to pay my debt. Sometimes there are bills I don’t pay because I couldn’t even afford it and I prefer to have money to nourish my son, to pay my rent, and to have a roof over my head.” (Brigitte, single mother, unemployed, aged 35 to 49, tenant in a social housing, Wallonia).

However, people living in energy poverty have coping practices for escaping from this restrictive way of living. These coping practices are initiatives or innovative practices they engage in to try to overcome their conditions and find new pathways, often with the help of their social environment. The interviewees reported assistance from their [municipal] Public Centre for Social Action/Welfare, or from specialised organisations, or from social housing companies.

“I phoned to the [publicly-funded] “house of energy”, because, well, I used too much energy. Actually, I thought my bill was huge. (...) I changed the lights with LED. (...) About the radiator, I had a thermostat I didn’t understand. (...) It’s something [complicated] and obviously, I didn’t use it correctly, it’s still the same, I heated too much, I didn’t know how to turn it off, well I mean, I was going around in circles. [The energy counsellor] is going to put a new one, more recent and simpler” (Jeanne, female single, 60-69, retired with a side job, owner, Brussels Region).

Interpersonal solidarity between neighbours also helped to reduce adversity: people give and receive help for better well-being. Help could be related to food, clothes, or time for childcare. Longhurst and Hargreaves (2019) also reported financial help to pay energy bills or top up prepayment meters.

“One day, my neighbour came, I don’t know how, and said “Madam, do you eat enough every day?” I swear it’s true. I said yes but... (...) I started to cry. “Come with me” he said. He insisted and we went to the shop across the corner. He bought frozen fish, meat, potatoes, vegetables (...) for over 50 €. He brought everything in my house and I said “Sir, I cannot afford for this, I’m not able to repay you right now...” “Madam, do not repay, I don’t want it!”” (Lucie, widowed with her adult child and grandchild, unemployed, in her sixties, owner, Brussels Region).

Self-help could also be collective help for retrofitting the dwelling of a neighbour. These solidarity experiences show how energy-poor households may develop new competences, skills, and knowledge to enlarge their capabilities and try to escape from severe vicious circles constraining them.

Concluding discussion

In the three Regions of Belgium, sixty qualitative interviews were carried out with households living in energy poverty. Qualitative findings evidence the wide capability deprivation in which these persons live. This capability deprivation can be read as multi-dimensional poverty (Sen 2009, Fitzpatrick 2014). With reference to Nussbaum’s central capabilities, energy poverty is associated with, and may arise from, a lack of control over one’s material environment, in the sense of inadequately upheld rights to decent shelter and an inability to afford or to ascertain by other means, adequate maintenance of housing. Energy poverty co-exists with compromised bodily health, reduced capacity for playing and imagining as well as emotional burden.

These living conditions affect the adaptive defence mechanisms usually expressed in coping strategies (Lazarus 1993). When coping strategies are sufficient, people are able to regulate their feeling of stress, finding solutions to solve their problems or expressing their feelings as a defensive act. However, when feeling powerless and lacking self-esteem, people do not find the best adaptive coping strategies. With poor coping adaptation, people living in energy poverty are easily affected and emotions can become overwhelming.

Based on numerous interviews with persons living in energy poverty, these findings illustrated by many quotes may strengthen the moral claim of energy justice as they call for our humanness common to these persons, researchers, and policymakers “with their moral sensitivities and the moral commitments they already have” (Galvin 2019, 183). In our moral claim for energy justice, we conceive of justice through the distributional dimension reframed in terms of capabilities. This includes obvious socioeconomic deprivation, discussed e.g. in relation to the capability of ‘control over one’s material environment’, but also wider deprivation in terms of lesser access to education, health, and culture capabilities. Procedural justice and recognition issues are also included, in terms of the revelation that

negative emotions such as loneliness, shame and anxiety prevent the energy poor from voicing their difficulties in the public sphere. These restricted capabilities often work in conjunction in the energy injustice faced by energy-poor households met during our interviews.

The methodology of this study does not support the theorising of causality or directionality of relationships, but rather the findings point to the vicious circles and mutually reinforcing nature of these capability deprivations. Thus, energy poverty can be seen as capability deprivation arising from inadequate access to energy (see Day, Walker, and Simcock 2016) but it is also apparent that the relationships are not one way (as also shown by Middlemiss et al. 2019). Rather, these households in energy poverty are in situations of corrosive disadvantage, to use Wolff and de-Shalit's term.

Therefore, interventions against energy poverty, enabling better access (or affordability) of energy, can be a form of 'fertile functioning', providing households with ways out of the vicious circle of capability deprivation. Those who did find means of coping and of relief show that both institutional help and the wider social environment could be crucial. While energy poverty is often thought of as a problem of materiality, e.g. of poor energy efficiency, this reinforces the insight that capabilities are also always embedded in the social, and that addressing energy poverty and securing households against energy poverty is not merely an engineering or an economic problem, but one that also requires social action.

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Declaration of interest statement

The authors declare no conflict of interest.

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Endnotes

ⁱ In each municipality, there is a publicly funded centre for helping people in need, mostly from a financial point of view. Literally translated these centres are called in Dutch, “Public centres for social welfare” and in French “Public centres for social action”. In English, here, we use both expressions.