

# Encountering energy precarity: Geographies of fuel poverty among young adults in the UK

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This paper develops the notion of “energy precarity” in order to uncover the governance practices and material conditions that drive and reproduce the inability of households to secure socially- and materially-necessitated levels of energy services in the home. The overarching aim is to foreground a geographical approach towards the study of domestic energy deprivation, by emphasizing the complex socio-spatial and material embeddedness of fuel poverty. The paper operationalizes these ideas via a field-based study of a group that has received limited attention in research and policy on fuel poverty: young adults living in privately rented accommodation. In evoking the experiences of such individuals, I employ energy precarity as a means of unpacking the spaces where energy deprivation is produced, experienced and contested. Among other findings, I highlight that people’s fluid lifestyles and specific end-use energy demand patterns mean that energy deprivation metaphorically and physically overflows the limits of home, creating multiple performativities of precarity that have received very little attention to date.

## KEYWORDS

energy justice, energy vulnerability, fuel poverty, housing, UK, young adults

## 1 | INTRODUCTION

The rise of austerity regimes after the 2008 global economic crisis has created fertile ground for observations of and debates on “precarious” everydayness (Peck, 2012; Stanley, 2014). Economic pressures created by the crisis have strongly affected young people in Europe and the UK. This is particularly true of the demographic group of “young adults” in the 18–35 age bracket, often enrolled in full- or part-time education but also characterised by unstable and transient housing and employment patterns (Bradley & Devadason, 2008; Rugg, Rhodes, & Jones, 2000). The exposure of this cohort to above-average degrees of labour insecurity and unaffordable housing has led to its portrayal as a new “precarariat” (Standing, 2011). Existential uncertainties and vulnerabilities among young people of post-adolescent age have been further heightened by the lack of political representation and provision of social support (Clapham, Mackie, Orford, Thomas, & Buckley, 2014; McKee, 2012).

The inability to secure a socially and materially necessitated level of energy services in the home is one of the multiple precarities faced by young people as a whole (Bouzarovski, Petrova, Kitching, & Baldwick, 2013). In England, some aspects of this situation are commonly known as “fuel poverty”; according to an official definition adopted in 2013, the

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problem exists when a household's required fuel costs are above the national median level and its income is below the poverty line, taking into account energy costs (DECC, 2016). More broadly, fuel poverty can be seen as a distinct form of hardship embedded in the articulation of everyday life among disadvantaged groups. Approximately 2.38 million households in England are thought to be affected (DECC, 2016). Socio-demographic groups traditionally acknowledged as vulnerable include older people, families with children, people with chronic illnesses and households receiving social benefits. But the historic overrepresentation of such strata in the public recognition of the problem has led to the marginalisation of people with more fluid and transient lifestyles from research and policy discussions on the issue. This is despite the official definition's improved ability to detect fuel poverty among non-pensioner households (Bouzarovski & Cauvain, 2016; Moore, 2012).

"Young adults" (Haartsen & Thissen, 2014) living in rental housing under flat-share or multiple occupancy arrangements have been particularly affected by policy and research lacunae in the fuel poverty domain (Layard, 2012; Smith, 2012). They predominantly live in "non-traditional" social and housing arrangements (Buzar, Ogden, & Hall, 2005) that challenge the conventional normativities of the home-owning nuclear family – one of the main underpinnings of urban planning, housing and energy policies in the UK (Cutas & Chan, 2012). At the same time, fuel poverty debates and action have been mostly focused on heating, with other domestic energy services that are of key importance to young people – such as information technology (see Horta, Fonseca, Truninger, Nobre, & Correia, 2016) – receiving comparatively less attention (Simcock, Walker, & Day, 2016). Energy studies have rarely entered into a dialogue with the broader body of scholarship on young people, where the established literature on the "geographies of youth" (Skelton & Valentine, 1997) has itself shown relatively less interest in young adults (Evans, 2008; Hörschelmann & Refaie, 2014). As a whole, therefore, there is a significant gap in existing geographical knowledge about how young adults both need and use different energy services in the home, particularly when it comes to the relationship between socio-economic hardship and their specific residential patterns (but see Butler & Sherriff, 2017).

"Energy vulnerability" frameworks have been addressing some of the deficiencies in existing theorisations of fuel poverty (Hiteva, 2013). Middlemiss and Gillard define energy vulnerability as

*the likelihood of a household being subject to fuel poverty, the sensitivity of that household to fuel poverty, and the capacity that a household has to adapt to changes in fuel poverty. (2015, p. 147)*

They argue that energy vulnerability explores the experiences of fuel poverty not as a fixed state – for example, where a household either is or is not fuel poor – but instead considers how different households may have varying degrees of vulnerability to fuel poverty in terms of their "exposure, sensitivity and adaptive capacity" (2015, p. 147). While this concept successfully captures the dynamics of the domestic relationship with energy, it rarely extends beyond the realm of the home, while failing to account for the conditioning of energy demand through wider political and economic dynamics (Harrison, 2013; Shove & Walker, 2014). It also lacks an explanation of the processes of empowerment and contestation outside the home. This makes it difficult to explain bottom-up mobilisations that have the potential to challenge and change energy systems operating at different scales (Huber, 2015).

Developing contributions by Butler (2004, 2010, 2014) and Lorey (2015), this paper introduces the notion of "energy precarity" in order to explore how young people are rendered governable and vulnerable by manifold socio-spatial arrangements. This leads me to theorise fuel poverty as the expression of a wider materially and institutionally embedded formation that involves the entanglement of space, politics and justice in the making of energy needs and indoor environments (Biehler & Simon, 2010; Day, Walker, & Simcock, 2016). Such an understanding, it is hoped, can provide a starting point for cross-pollinating several strands of geographical scholarship that have rarely communicated to date – including energy geographies, the geographies of youth and the critical geographies of precarity – while opening the path for an explicitly spatial and critical theorisation of fuel poverty per se. I do not discard the "fuel poverty" and "energy vulnerability" frameworks altogether, but rather expand and challenge their conceptual logic through a spatially grounded approach that encompasses the diverse experiences and contestations associated with domestic energy deprivation. The paper also shows how the socio-institutional normalisation of fuel poverty immobilises "young adults" from becoming politically active on the issue.

The paper commences with a critical overview of existing research and theorisation of the notions of precariousness and precarity with regard to young adults, and in the context of extant fuel poverty and energy vulnerability scholarship. It is in this section that I foreground the need for geographers to engage more explicitly with the wider socio-spatial dynamics of inequality that underpin the rise and experience of fuel poverty and energy vulnerability. I subsequently provide a field-based exploration of fuel poverty via the lens of energy precarity, by using vignettes from a survey and interviews

undertaken in Birmingham (in the Selly Oak ward) between 2012 and 2014. The energy precarity-related characteristics of the study area are introduced in the fourth part of the paper. I then focus on the performativity of energy precarity, by interrogating the strategies and enactments undertaken by young adults as a result of their encounters with inadequate energy services in the home. The sixth part of the paper expands the analysis by shifting the focus from personal circumstances to the broader infrastructural and policy context. The conclusion emphasises the potential of, and need for, further geographical explorations of this somewhat dissensual but conceptually fecund paradigm.

## 2 | BEYOND FUEL POVERTY AND ENERGY VULNERABILITY: REVISITING THE SPACES OF ENERGY PRECARITY

Precariousness, precarity and precarisation – signifiers of uncertainties, risks and vulnerabilities – have re-entered academic and political debates as frameworks for scrutinising the post-2008 economic crisis and the subsequent imposition of austerity regimes. Research in these domains has focused on the challenging patterns of everyday life under conditions of “doing more with less” (Peck, 2012). Geographical contributions have played an important role in the literature on the subject, because precarity and precarisation are chiefly experienced, (re)produced and (re)imagined as socio-spatial phenomena (Ettlinger, 2007; Lewis, Dwyer, Hodkinson, & Waite, 2014; Tyner, 2015; Vasudevan, 2015; Waite, 2009). “Precariousness” has been defined as a geographically omnipresent occurrence with ubiquitous affects, signifying the inherent co-dependence and vulnerability that characterises human existence (Butler, 2010; Lorey, 2015). “Precarity” refers to segmented, specific forms of “precariousness” (Ettlinger, 2007) with uneven spatial and social implications for the production of inequality. Thus, while precariousness is a shared condition, precarity is politically induced: even if precariousness may exist in, for example, the energy and housing sector more broadly, energy-related precarity is only generated under certain circumstances. The notion of precarity is associated with multiple and often disputed understandings that vary across different geographical and political settings (Waite, 2009).

Academic use of the term was pioneered by Bourdieu (1963), who employed the idea of “*précarité*” with reference to the situation of contingent or casual workers in Algeria in the 1960s (Standing, 2011; Waite, 2009). Overall, the concept has a double meaning: representing the vulnerable, marginalised and impoverished workforce, on the one hand; and giving visibility to the “class-in-the-making” that can transform political systems, on the other (Standing, 2011). It thus offers agency for political change and emancipation (Waite, 2009): the EuroMayDay protests as well as the Occupy movement brought “precarity” to mainstream politics and activism in the 2000s.

Neilson and Rossiter (2008) have expanded the meaning of “precarity” to economic and spatial dimensions such as housing and debt. In addition, a number of scholars have referred to specific types or sub-notions of “precarity” – such as work, migrant and generational precarity (Means, 2015). These frameworks have provided a basis for theoretical explorations and empirical analyses alike. The “precarity of place”, coined by Banki (2013), is of special relevance to geographical debates. She positions this concept next to “residential precarity” and “labour precarity”. Despite the relatively narrow conceptual focus on the “precarity of place”, the approach can be used as a conceptual tool to explore how vulnerabilities are created, experienced, resisted and overcome (Vrasti, 2013, p. 465). Neoliberal societies are characterised by the existence of numerous actors affected by different types of precarity, as well as multiple and “hyper-precarities” (Lewis et al., 2014). In her heuristic mapping of precarity, Ettlinger (2007) highlights the need to rescale this condition from global events and macrostructures to the “convoluted” micro-spaces of daily life. For her, the micro-spaces of the quotidian provide a nexus for both the denial of precarious living conditions, while giving rise to essentialist strategies for addressing associated vulnerabilities. Elsewhere, Ettlinger (forthcoming) has also argued that precarity is produced via processes of informalisation in the micro-spaces of the everyday. In her words,

*inequality (across many axes) provides the hierarchical grounds for capriciousness (defined with reference to unethical and unpredictable, deleterious actions at a whim), which engenders informalisation, and thereby produces precarity over time and across space. (Ettlinger, forthcoming, np)*

I would argue even further: precarity is not only rendered via informalisation, but techniques and processes that are developed to overcome precarity are themselves embedded in processes of informalisation. I explain this in greater detail in the sections that follow, by pointing to the informal mechanisms and tactics that young adults develop to overcome the lack of adequate energy services in the home.

The term “energy precarity” has been used in its French translation (“*précarité énergétique*”) to define and target vulnerable households in France. According to French legislation, a household suffers from “*précarité énergétique*” if it encounters difficulties in obtaining the energy required to meet its basic energy needs due to insufficient financial resources or housing conditions (Legendre & Ricci, 2015). Despite its inclusivity, this definition has not been developed with reference to wider conceptual understandings of precarity, and has also been criticised for its vagueness (Dubois & Meier, 2016). However, by introducing housing conditions into official discourses, the definition conceptualises fuel poverty as a socio-spatial phenomenon that is often tackled with the aid of informal tactics that create alternative spaces of support beyond the boundaries of the home – an understanding otherwise foregrounded in the field of energy geographies (Bridge, Bouzarovski, Bradshaw, & Eyre, 2013; Calvert, 2015; Pasqualetti & Brown, 2014). Research in this and related areas has identified the complex dynamics of energy justice, spatial inequality and material circulation involved in producing and sustaining domestic energy deprivation (Bouzarovski & Simcock, 2017; Petrova, Gentile, Makinen, & Bouzarovski, 2013). Nevertheless, energy geographies scholarship has rarely paid attention to the structural nature of the economic and spatial interdependencies that drive energy deprivation in the home (Bouzarovski & Tirado Herrero, 2015). This gap can be addressed, in part, by employing the “condition of dependency” (Vasudevan, 2015) idea contained within the notion of precarity. Following Vasudevan’s (2015) argument that squatting is a reflection of housing precarity, it can be surmised that energy precarity is also a distinct form of housing precarity.

In the text that follows, “energy precarity” is used as a double signifier that calls attention to the performative experience of multiple vulnerabilities in the home, while illuminating the political and institutional embeddedness of fuel poverty manifested via the presence or absence of strategies of mundane resistance and everyday struggles that often take place beyond the boundaries of the home. Defined in this manner, energy precarity complements the fuel poverty and energy vulnerability frameworks by expanding understandings of energy deprivation beyond the home, and linking them with the institutional and political circumstances that may (im)mobilise particular socio-demographic groups to act on the issue. On the one hand, it explains the production and normalisation of fuel poverty via politically and structurally induced multiple insecurities, and on the other, it draws attention to the market mechanisms used to govern fuel poor households (thus addressing a gap in the current official definition identified by Middlemiss, 2016). The discussion in the following section demonstrates how current policies tackling fuel poverty in the UK have contributed to a continuous production of energy precarity among “young adults”, by institutionalising and normalising their limited access to decent housing and affordable energy services.

### 3 | FUEL POVERTY AND ENERGY PRECARITY AMONG YOUNG ADULTS IN THE UK

Direct evidence about the extent of fuel poverty among young adults is relatively scarce, even if, for example, the UK former Department for Energy and Climate Change (DECC) has confirmed that this group faces an increased risk of falling into fuel poverty due to its low earnings and energy inefficient accommodation. According to such statistics, approximately one fifth of young people in the 16–24 age cohort live in fuel poverty (DECC, 2014). Young adults are also mentioned as a strongly affected category in the Marmot Review Team’s (2011) paper concerning the health impacts of cold homes. It has sometimes been pointed out that young adults and students are only short-term fuel poverty sufferers (Baker, Starling, & Gordon, 2003). Despite the lack of systematic evidence from the UK, Healy and Clinch (2004) challenge the claim that domestic energy deprivation among young adults (including students) is of a transient nature. Using evidence from the Republic of Ireland, they argue that students are among the 42% of fuel-poor households who suffer from a long-term lack of adequate energy services in the home. The presence of coping strategies and trade-offs, such as “to heat or to eat” (Bhattacharya, DeLeire, Haider, & Currie, 2003), has also been detected among young adults.

Therefore, in addition to incorporating housing precarity, energy precarity can be seen as a function of income, food and labour precarity (Armano & Murgia, 2013). It is also known that non-heating energy services – particularly access to communication and information technologies – are more important to young adults compared with other age groups. A survey focusing on the 18–25 age cohort found that 69% of respondents placed the importance of having an internet connection ahead of other energy services such as hot water (57%) (uSwitch, nd). Further supporting such a claim is another finding from the same survey, indicating that respondents went online an average of 78 times a day. Thermal comfort research has also showed that the indoor environments required and inhabited by young adults are similar to those that characterise other groups in society, contrary to widespread thinking that such individuals are more resilient to poor housing



conditions due to their more active lifestyles (Ormandy & Ezratty, 2012). Only 30% of student hall residents in Dunedin (New Zealand) reported feeling “comfortable” in their homes during winter (Howden-Chapman et al., 2012).

In the context of the UK, young people are heavily marginalised by the current housing system (Ferreri et al., 2017). The most significant implication comes from the tightening of the housing benefit policy; for 25–35-year-olds, it is only paid on the basis of a single room (Hamnett, 2014). As a result of intended housing benefit cuts for young people in the 18–21 age group, poor-quality and energy-inefficient homes in multiple occupancy (HMOs) may become the only affordable option for them (Bouzarovski & Cauvain, 2016; Viitanen & Weatherall, 2014). It is worth mentioning that the Warm Front programme does not exist anymore, even though it helped 2.3 million British households upgrade the energy efficiency of their homes (Sovacool, 2015). The ECO mechanism – which provided assistance to improve properties occupied by people on low incomes – is available only until 2017, without a clear idea of a substitute. The Green Deal and LESA (Landlord Energy Saving Allowance) – loan-based policies for “able to pay” households – have also been withdrawn. Funding provided to the Energy Savings Trust was discontinued, even though it offered valuable advice to households. Many HMOs were beyond the reach of these measures to begin with, due to a series of planning, legal and property obstacles (Bouzarovski & Cauvain, 2016; Viitanen & Weatherall, 2014).

The most positive policy measurement relevant for the improvement of the energy efficiency of the private rented sector (PRS), which otherwise houses disproportionately high numbers of young adults (Bouzarovski & Cauvain, 2016), is the requirement that PRS properties let out after 1 April 2018 have a minimum energy performance rating of “E”. Still, the broader implications of such standards on the housing stock and migration patterns within it remain unclear, especially in light of the almost complete withdrawal of fuel poverty funding. Also of relevance here are fundamental economic uncertainties: income inequalities among young people in the UK at school-leaving age are on the rise, while their opportunities for earning an independent income are decreasing (Hodkinson, Hodkinson, & Sparkes, 2013). Therefore, there is a clear need to understand the potential of young adults to mobilise and become politically active around the issue of fuel poverty. Young adults – and especially students – have been frequently labelled as lacking adequate levels of awareness about energy issues in general, and especially efficiency measures in the home (Clugston & Calder, 1999). Yet it has transpired that young people display an above-average willingness to engage with new technologies (Energy Saving Trust, nd). This has led, in part, to the rise of youth-centred approaches to encourage residential energy conservation (Horn, Leong, Greenberg, & Stevens, 2015). Tikka, Kuitunen, and Tynys (2000) argue that students’ attitudes towards energy and environmental issues more broadly are widely divergent in line with gender and educational backgrounds, which means that youth cannot be treated as a monolithic category (Evans, 2008). Many young people have been active organisers of, or participants in, various multi-scale political processes (Roberts, 2015; Staeheli, Attoh, & Mitchell, 2013).

Despite the significant body of evidence that young adults can resist and contest “passive precarization” (Lorey, 2015), this group’s potential for political mobilisation in the case of domestic energy deprivation remains largely unfulfilled. It is necessary to understand how the political and institutional embeddedness of fuel poverty creates precarious spaces while subjectivising young adults as a vulnerable group, on the one hand, and to unpack the everyday strategies and tactics to combat and overcome the state of being vulnerable, on the other. In the remainder of the paper, the notion of “energy precarity” is employed as a means to capture the production, experiences of and resistance to domestic energy deprivation.

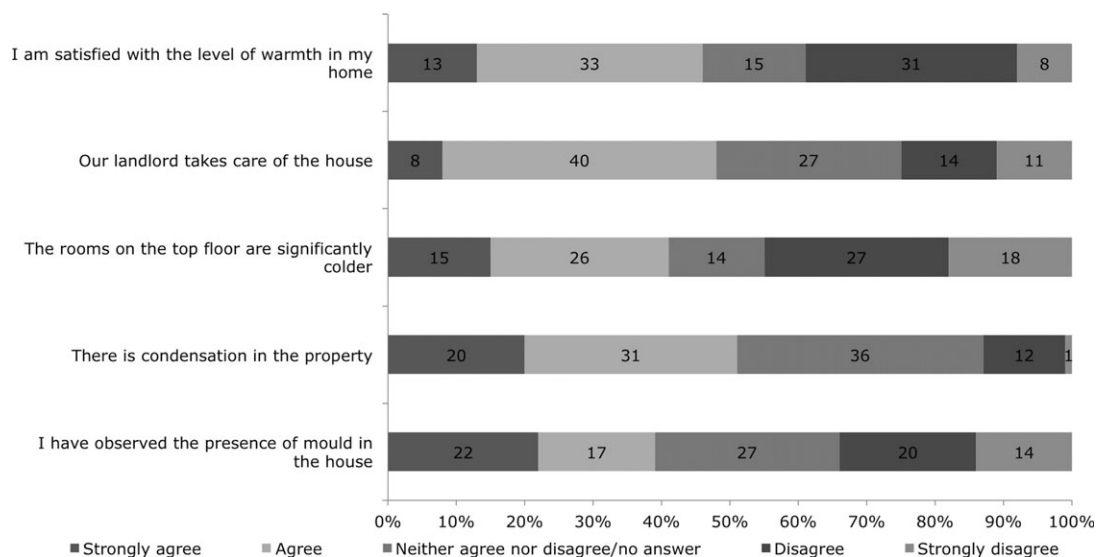
## 4 | SELLY OAK: A SITE OF MULTIPLE PRECARITIES

The field research that provided the evidence base for this paper was undertaken in the Western part of the Selly Oak ward in Birmingham. The area’s suitability as a case study stems from the concentration of several relevant factors, including the socio-demographic and economic profile of the ward as well as the structure of the housing sector. The UK’s index of multiple deprivation places many parts of the area among the lowest 40% in the country. One of the largest contributors to this ranking is the “Barriers to Housing and Services” component of the index, which categorises most of the area in the UK’s worst quartile. Parts of Selly Oak are among the 10% most deprived in the UK according to this measure. Among the main contributors to the Child Well-being Index of these districts is the housing sector, which places most of them among the 5% most deprived areas in the UK. Overall, this means that the area has been characterised by moderate to high levels of multiple deprivation, partly as a result of inadequate housing and low incomes – the main causal factors of fuel poverty. According to the 2011 Census, the average age of people in Selly Oak is 30, with 44% of the people from the 16–64 age group being students. Selly Oak is also one of the UK wards where more than a fifth of the total population lives in shared private rented housing (Smith & Hubbard, 2014).

A mixed-methods approach based on a questionnaire survey, semi-structured interviews and diaries was employed towards the collection and analysis of on-site evidence. All respondents were provided with a detailed participant information sheet and consent form pertaining to all components of the study. For the questionnaire survey, 100 households – single people, couples, couples with children, flat- or house-sharing households – aged 18–35 were identified through personal contacts (a network of informants from community-based groups and the local council was established, in order to target potentially suitable households and maximise the response rate). Some potential respondents were identified via snowballing by households who had already expressed their interest to take part in the research. A range of techniques were used to approach participants and invite them to take part in the survey, including direct one-to-one contact, and sending the questionnaire via e-mail. Subsequently, 75 households responded positively, and were surveyed in February 2012. Of the 75 households that were surveyed, 68% were represented by flat-sharing households dominated by students. The questionnaires that they completed covered the household features and housing history of the participants, their current income, dwelling conditions, thermal comfort circumstances and practices, as well as energy consumption behaviours and patterns (for further details about the empirical outcomes of the survey, see Bouzarovski et al., 2013).

In addition, semi-structured interviews were undertaken in order to explore some of the questions from the survey in further depth, so as to detect the nuances in household behaviours and expectations. A total of 36 households from Selly Oak were involved in the qualitative part of the research. The interviews were supplemented by detailed energy diaries, as well as energy consumption and temperature measurements undertaken during one- to two-week periods in the winter of 2012. Whenever possible, all adult members of a household were interviewed, which meant that some interviews were conducted with individuals and others with couples. Though aware of the limitations of couple interviewing – in terms of researcher positionality and inter-personal dynamics (Valentine, 1999) – it was believed that observing domestic relations in a joint interview would be appropriate, since decisions about housing are usually reached at the household level. The diaries operated on a self-reported basis, including information about the state and use of various energy services in the home, and associated everyday life practices. An additional 15 semi-structured interviews were undertaken with young adults living in the same part of Selly Oak in 2014 in order to evaluate whether changes had occurred in relation to previously identified fuel poverty issues in the area. Five of the 2014 interviewees were included in the earlier 2012 research study (otherwise discussed further in Bouzarovski et al., 2013). These households were approached thanks to links with households included in the earlier phase of the research. Inductive analysis was used towards identifying the patterns, themes and categories emerging from interview transcripts (Baxter & Eyles, 1997).

Some of the data from the questionnaire survey made it immediately clear that many of the surveyed households lived in homes that were poorly maintained: common problems included ill-fitting windows and poor wall insulation. Although approximately 40% of respondents stated that their house had double-glazed windows, approximately one third of them still reported the presence of mould and condensation in the home (Figure 1). In addition, 35% of the population in the sample



**FIGURE 1** Comparative responses to statements about various fuel-poverty related practices and factors in the Bournebrook survey based on Bouzarovski et al. (2013)

Note: n ranges between 286 and 310

suffered from perceived inadequate levels of warmth in the home (see Figure 1). The poor energy efficiency of the surveyed buildings might have contributed to this, alongside the limited use of heating: approximately half of them stated that they had been cutting back on appliance use to save energy. The interview data supported such findings: the majority of the interviewees only heated their homes between two and five hours. When discussing the levels of domestic warmth, it also became clear that the heating was on only in particular rooms – principally the shared lounge area. The measurements that were undertaken showed both temporal fluctuations in room temperatures, and marked spatial differences among different parts of the house. Bedrooms, bathrooms and hallways tended to be colder, often with temperatures between 10 and 15°C. The uneven heating of the houses also led to a lower average temperature (16–20°C). Residents claimed to be “tight-fisted” with their energy use due to the fact that they “had little money and refused to spend it on bills” (Amy, 30 years old, unemployed).

A variety of social and class backgrounds were represented in the survey sample, with non-student households – often groups of unrelated house-sharing adults in precarious employment – tending to occupy the lower income part of the distribution (due to constraints on space, a detailed investigation of the role of income and economic circumstances remains beyond the confines of this paper). One third of the surveyed individuals thought that the rooms on the top floor were significantly colder than the rest of the house – thus possibly indicating that there was a loss of useful heat through the roof (see Figure 1). The survey and interviews alike also confirmed previously reported concerns about the built quality of rental properties, especially in areas with high concentrations of young adults and students (Rugg et al., 2000). The image of “student squalor” was markedly persistent, confirming the findings of earlier work on housing conditions among this group, underlining the incidence of dampness, poor electrical safety, overcrowding and inadequate facilities (Humphrey & McCarthy, 1997; Nicholson & Wasoff, 1989). Even if a quarter of the survey sample thought that their landlords did not take adequate care of the house, more than half of the respondents (52%) did not provide a clear answer to this question (see Figure 1). This could have transpired because tenants often do not know what to expect from their landlords, while landlords are not legally obliged to provide tenants with information about technical details such as, for example, the functioning of the heating system (Lister, 2006).

Despite reporting a wide range of inadequate housing conditions, many of the surveyed individuals did not feel affected by fuel poverty. But the in-depth interviews revealed that the under-consumption of energy often affected how participants used their residential accommodation. This discrepancy between the quantitative and qualitative parts of the study points to the necessity for researching fuel poverty beyond micro-statistical data (Middlemiss & Gillard, 2015). In precarity studies, this situation has been explained via processes of normalisation and “self-precariation” (Ettliger, 2007) – aspects that have not received much attention in research on fuel poverty and energy vulnerability (Day & Hitchings, 2011).

At the same time, none of the student interviewees felt “ashamed” of not having a warm home (contrary to Harrington et al., 2005), which may be attributed to the widespread cultural expectation that living in the cold is “a normal part of everyday life when you are young”.

## **5 | PERFORMATIVITIES OF ENERGY PRECARIETY: MULTIPLE SERVICES, SOLIDARITIES AND SPATIALITIES**

The previous section discussed how some of the well-established aspects of fuel poverty and energy vulnerability – such as low-quality and energy inefficient housing and the lack of heating – could affect and be perceived by young adults. Based on Butler’s argument that “performativity does not just refer to explicit speech acts, but also to the reproduction of norms” (2009, p. x), I now explore the manner in which energy precarity was embedded in the lives of interviewed households. Because energy precarity involves household responses to the state of being vulnerable or poor, it is always subject to multiple experiences and performativities, by being “concerned with the ongoing creation of effects through encounters ... rather than with consciously planned codings and symbols” (Thrift & Dewsbury, 2000, p. 415). Approaching fuel poverty through the performativities of precarity challenges many of the traditional assumptions of fuel poverty scholarship and policy (e.g. the focus on domestic heating, and the explanatory triad of energy prices, incomes and energy efficiency, see Bouzarovski & Petrova, 2015). Even if the importance of conventional fuel poverty drivers was confirmed in the Selly Oak study, I was able to identify a range of additional factors in the rise and articulation of the condition. Many of the participants in the research linked the experience of reduced domestic comfort with issues beyond space heating, often reporting reduced appliance use due to the cost of their electricity bills:

*I don't feel comfortable in this house. It's not only that we need to live in cold rooms just to save on bills, we also need to take account of how often we use the oven, when to take a shower, for long ... and on top of that, sometimes the water in the shower is lukewarm. (Susie, 21 years old, student)*

While more-than-heating energy services have started receiving more academic attention (see Simcock et al., 2016), the importance of specific energy services to particular demographics is still a research lacuna. The use of information and communication technologies (ICT) was reported as one of the key necessary energy services in the households of young adults. As Alex (20 years old, student) noted:

*When I am home, I spend most of my time working or watching films on my laptop. I can live in coldish homes, but can't imagine my life without my laptop and a good internet connection. These days all our assignments and marking is online.*

This was also the case for Rosie (32 years old, part-time NGO campaigner) and her partner Robert (33 years old, environmental engineer) who lived with her two small children. While she said that they are very frugal with their electricity and gas usage, they always tried to keep the battery of their two laptops, two smart phones and the iPad (used mostly by their children) fully charged.

*You will never see lights on in a room that is not occupied, but there is always a charger in one of the plugs ... one of the laptops, phones or the children's iPad...*

Among households who felt that they were experiencing fuel poverty, the articulation of everyday life was affected by overlapping domestic dynamics. Several individuals highlighted the complexities of household relationships: despite paying rent separately, energy bills were collective. Therefore, with different members of the household being in varying financial situations, energy use was frequently brought down to a level that could be afforded by the person on the smallest budget. Even those who were relatively well off financially lived in cold temperatures if this was dictated by their household circumstances. This suggests that a sense of responsibility and care for co-habitants can shape the everyday practices of energy demand beyond narrow economic factors. Because “feelings of uncertainty permeate the social structure” (Furlong, 2016, p. xvii), specific social and housing arrangements may enhance an individual's precarity despite his or her social background. While for Ettliger (forthcoming), informality and informalisation produce precarity, in this case the mundane everyday solutions to energy precarity are not only constitutive of informal arrangements, they also constitute further informalities created as a consequence of people being contingent social beings (Berlant, 2011).

Thus, Emma – a 23-year-old postgraduate student and passionate baker – reported that she could not enjoy baking because her flatmates were not happy if the oven was used too often. This is despite the different benefits that this practice brought to her everyday life:

*At home [meaning her parents' house] whenever I have a stressful situation, I bake. That is my way of relaxing. Here, I can't really do that. My flatmates are upset whenever the oven is on. We need to monitor how much we spend and it's not fair that we should all pay more because of me.*

Insufficient energy services in the home also affected their everyday routines of the surveyed households. Some participants explained that they simply used cold rooms less: individual bedrooms were avoided and more time was spent in the shared living room, where the temperatures tended to be higher. The inability to afford heating during the day meant that several interviewees were inclined to spend more time at work:

*I have flexible working hours and don't have to work from my office every day. But it's better to do it, though. Few reasons, save some money because I don't have to heat the house during the day, plus my office is nicely warm and pleasant. (Tracey, 24 years old, graphic designer)*

Flexibility and temporality have been linked to the intensification and normalisation of precarity (Ferreri et al., 2017). This also explains why, for some of the students involved in the study, the easiest way of dealing with their cold homes was to go to the University more often and stay longer or go to other people's houses:



*During the first semester I definitely spend more time at Uni and the library. It's just freezing at home during the day. We decided to heat the house only between 6 and 8pm and keep the costs for gas low. (Tom, 19 years old, student)*

*I sometimes go to my friend's house. Her house is much warmer and cosy . . . we study usually there. (Elena, 20 years old, student)*

This flexibility linked to the inadequate levels of domestic energy services creates new alternative sites of energy consumption. Despite originating in the micro-spaces of domestic residential environments, energy precarity shifts energy demand to realms beyond the boundaries of the home and neighbourhood – thus calling for a rethink of the fuel poverty and energy vulnerability literature's almost exclusive focus on the domestic environment (Day et al., 2016). The experiences and performativities of energy precarity also highlight the manner in which social ties and collective support (Jokinen, 2015) play a role in ameliorating deprivation. The diffused spatial distribution of social networks in the case of young adults means that the factors that underpin the vulnerability to fuel poverty are not necessarily concentrated within the territorial boundaries of a given locality or area. Understanding and addressing the geographies of energy precarity, therefore, requires approaches that extend beyond the confines of localism and area-based approaches.

Performativities of precarity provided an important coping strategy for dealing with the significant “spatial shrinkage” (Shortt & Rugkåsa, 2007) in the heating of the surveyed homes. The dynamic and mobile manner in which the young adults included in the study conceived themselves with regard to domestic energy deprivation did not necessarily concur with official framings or definitions, just as older people included in Day and Hitchings' (2011) study tended to reject the image of themselves as passive victims unable to deal with the cold. This suggests that the day-to-day experience of living in fuel poverty is “characterised by people's understandings of themselves, and what is appropriate for them in their social context” (Middlemiss & Gillard, 2015, p. 148). Yet the mainstream portrayal of young people and students as “undeserving” fuel poor (NUS, 2014) means that questions posed by Butler with regard to the wider performativity of precarity become essential:

*How does the unspeakable population speak and make its claims? What kind of disruption is this within the field of power? And how such populations lay claim to what they require in order to persist? (2015, p. 58)*

## 6 | INSTITUTIONALISING AND CONTESTING ENERGY PRECARITY

*Social and political institutions are designed in part to minimize conditions of precarity. (Butler, 2009, p. ii)*

As was outlined above, energy precarity itself is rooted in multiple uncertainties, centring on the institutional, policy and everyday practices that underpin the (self)recognition of individuals who are vulnerable to fuel poverty. This contingency can be seen as a starting point for accepting, resisting and resolving the fuel poverty “problem”. Differently from the performativity of precarity – where the focus is on how individuals and groups adapt to and contest their vulnerability – this section captures the dynamics through which precarities are generated in the first place. The suggestion that the neoliberal production of precarity does not necessarily follow a diffusion pattern from marginal spaces towards the centre (Lorey, 2015) should not be taken to mean that energy precarity has lost its geography. Rather, it implies that area-based approaches fail to capture the more subtle geographies of these spatially diffused and fragmented processes.

The production of energy precarity in the UK reflects, *inter alia*, the lack of strategic governance in the PRS and HMO sectors, where the state has taken a *laissez-faire* stance in relation to capital investment in this part of the housing stock (Bouzarovski & Cauvain, 2016; Smith, 2012). Households living in the PRS are arguably the “hardest group to reach” in fuel poverty alleviation policies, despite living in some of the worst insulated and oldest homes (with 45% built pre-1919; see Boardman, 1991). Measures implemented in the sector depend mostly on the personal volition and initiative of landlords, in a situation where the constant supply of tenants disincentivises substantive property improvements. Even appliances are unlikely to be replaced if they do not pose immediate danger (Lister, 2006). Many interviewees in our study felt deeply frustrated by the inability to influence the regulation of the political and economic relations that affected the constituent dynamics of energy deprivation in their homes. Their transitory housing tenure made them vulnerable to pressure from landlords, while fostering a feeling that they were unable to participate in local politics on a sustained basis:

*As you can see and smell, there is mould and damp all around the house. We have been asking our landlord to do something about it. He promised that he would bring an electric dehumidifier to help with the damp months ago ... and still nothing. We think that he is concerned that the electricity bill will increase, we don't pay separately for electricity, it's included in the rent. Now he hides from us and waits the last few months from our rent to pass by and hopefully the next bunch of students will not be so needy. (Kate, 24 years old student)*

*Even if we complain, I don't think that politicians will take us seriously. People from the local council wouldn't pay attention to someone who is only for a year or two in "their area". (Roy, 25 years old, shop assistant)*

Further complicating this situation was the nature of the coping strategies and social networks possessed by young people – in order to rely on their friends as a means of economic, social and material support, the interviewees chose to live in the kinds of areas where rental demand was the highest and the housing of poorest quality. This superficial housing flexibility was coupled with a widespread expectation that it is “not the end of the world if you live in a dingy, cold or poorly furnished house when you are young” (Mike, 29 years old, unemployed). Thus, the production of energy precarity hinges on reflexive mechanisms for the “bearable acceptance” of difficult conditions, rather than their outright denial (Ettlinger, 2007). This demonstrates how the temporality of “the present” becomes a salient aspect of precarious situations (Berlant, 2011, pp. 4–5; Jokinen, 2015): accepting the mainstream framing of poor living conditions as provisional and non-permanent made living in fuel poverty tolerable for the interviewees.

Many of the youngest participants in the study – principally students – believed that they need to “just go with the flow at the moment as everything will improve later” (Jim, 19 years old, student). But their optimism was not shared by three of our older interviewees, who felt that they were chronically unable to improve their housing circumstances despite managing to secure full-time employment:

*Yes, this is not the worst house that I have lived in ... but to be honest, I had higher hopes. I thought that after university, I will not have to share a house, but live on my own ... as you can see I still live with flat-mates and moreover the house is not great ... cold, damp ... you name it ... sometimes, I feel like I'm stuck in a situation that I can't do anything about. (Cary, 26 years old, NHS employee)*

Young adults are thus often trapped in an on-going protraction of housing transitions. Among British households commencing their housing careers in 2009, close to 70% entered the PRS, with only a fifth of them being able to purchase their own home (Druta & Ronald, 2016). Young adults' limited access to homeownership has broader societal implications, because consumption is one of the key signifiers of class formation in neoliberal societies. While the ability to purchase a home has been portrayed as a way of engaging in “proper” housing consumption and a middle class achievement (Druta & Ronald, 2016), the inability to climb the “housing ladder” is seen as “ethically flawed consumption” (Flint, 2003). In combination with the disproportionate presence of fuel poverty in the PRS, this means that young adults who are “stuck” in such properties are left with less power to participate in decision-making processes with regard to both energy and housing (Smith, 2015). A number of our interviewees were frustrated by this situation, often locating their inability to influence wider systemic circumstances in the lack of political power and knowledge. It can thus be argued, based on Ettlinger (2007), that the long-standing acceptance of precarious conditions has led to the institutionalisation of fuel poverty among young adults, while decreasing the space for political action and contestation. In combination with the broader regulatory and policy context, the expectations and behaviours of many of our interviewees can be seen as an “internalised” form of self-discipline – a mode of self-control that always serves to regulate one's own precariousness Vasudevan (2015).

## 7 | CONCLUSIONS

This paper has revisited recent debates on precariousness, precarity and precarisation in order to contribute to a critical geographic conceptualisation of domestic energy deprivation. I have developed the framework of energy precarity as a means of illuminating the socio-spatial conditions and practices associated with the rise, embeddedness and experience of fuel poverty beyond the realm of the home. Evidence from a case study in Birmingham has indicated that young adults in private rented housing are suffering from a lack of adequate energy services in the home. Their situation is, in part, institutionalised and

normalised by the widespread socio-political expectation that it is acceptable for young people to inhabit low-quality housing during the transitional and temporary period of “youth”. Also relevant are the numerous demographic and housing underpinnings of energy demand and fuel poverty specific to this group. The long list of distinguishing features includes dynamics internal to the flat-sharing households in situations where bills are common – bringing them down to the most affordable level – the importance of non-heating energy demand for young people, the spatially concentrated nature of private rented accommodation that they tend to occupy, as well as young people’s poor engagement with local politics. The mundane everyday tactics developed to deal with the deprivation are constituted in and constitutive of informal collective arrangements that may provide temporal solutions but do not really systemically challenge the issue. Such conditions help increase the power of landlords and letting agencies, while decreasing incentives for long-term energy efficiency investment.

In conceptual terms, the driving forces and experiences of energy precarity reveal the everyday dynamics of fuel poverty, as well as the mobilisation of agency (Lorey, 2015) that brings “bodies into alliance” (Butler, 2014) in order to instil political change “in the name of representing a shared condition that needs to be challenged and contested” (Schram, 2013, p. 16). Energy precarity thus both reflects and describes the multiple vulnerabilities faced by households who lack adequate energy services in the home. While pointing to the lack of political mobilisation around fuel poverty, the Selly Oak study indicated that the condition functions beyond the micro spaces of indoor residential environments. This is because the strategies that households and individuals utilise in addressing domestic energy deprivation extend well beyond the boundaries of the home and the neighbourhood, while spatially re-distributing the consumption of energy.

Energy precarity provides a heuristic tool to understand how vulnerabilities are produced and regulated via processes of subjectivisation, normalisation and provision of superficial flexibility. The reviewed evidence from the Birmingham context revealed the existence of a specific set of governance practices in relation to the housing stock inhabited by young adults. The binding-together of disempowered tenants and poor-quality housing with the inadequate treatment of PRS and HMO residences in official planning frameworks constitutes a form of “negative governance”,

*a system of governing paradoxically predicated on the withdrawal of all positive procedures of state and a delegation of power to those forces that are by definition outside the state’s capacities. (Rose, 2014, p. 209)*

This means that in this case young adults are left to manage their everyday life as they can without a proper recognition of their vulnerability and adequate systemic support. Thus, fuel-poor young adults living in rented properties have thus been relegated to “life itself”.

Conceptualising fuel poverty and energy vulnerability under the aegis of energy precarity opens new theoretical possibilities in geographical thought, particularly at the boundaries of the budding discipline of “energy geographies” and the more established body of knowledge on the geographies of youth. Young people’s fluid lifestyles and specific end-use energy demand patterns mean that fuel poverty metaphorically and physically overflows the limits of home, creating multiple performativities of precarity in spaces (such as libraries, cafés, university buildings, work offices) that have received very little attention to date. The interactions between housing and energy injustices in driving young people’s precarisation point to the need for a spatially integrated understanding of the manner in which fuel poverty reflects manifold vulnerabilities beyond energy, including the precarity of housing, food and labour (Lewis et al., 2014). This also calls for further explorations of processes of socio-technical subject-formation (Walker, Cass, Burningham, & Barnett, 2010) to understand how domestic energy deprivation is conditioned, institutionalised and reproduced via a set of material and institutional normativities (Rudge, 2012). Such an endeavour could help rethink, for instance, whether area-based policies are the best way to address infrastructurally conditioned inequities extending across multiple scales (Graham & Marvin, 2002). And last but not least, a deeper investigation of the diverse strategies that individuals utilise to address material deprivation (for example, see Middlemiss & Gillard, 2015) can potentially provide valuable insights into the wider dynamics of political mobilisation associated with precariousness and vulnerability per se.

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