



## A review study on Social Capital and household energy consumption

Zana Mozaffari <sup>a\*</sup>, Armin Sharifi <sup>b</sup>

- a. Assistant Professor, Department of Economics, Faculty of Humanities and Social Sciences, University of Kurdistan, Sanandaj, Iran (Corresponding author email: [z.mozaffari@uok.ac.ir](mailto:z.mozaffari@uok.ac.ir))
- b. M.A. in Energy Economics, Department of Economics, Faculty of Humanities and Social Sciences, University of Kurdistan, Sanandaj, Iran. (email: [arminsharifi97@gmail.com](mailto:arminsharifi97@gmail.com))

### Abstract

Social capital is one of the factors affecting energy consumption. In this article, an attempt has been made to theoretically examine the issues related to the role of social capital in energy consumption in the household sector. Surveys showed that current efforts to change patterns of energy demand tend to target people as discrete and isolated individuals. In so doing, they ignore the fact that energy use occurs in places such as homes, workplaces and communities in which complex webs of social relations already exist. Social capital broadly refers to the social resources available through networks, social norms and associated levels of trust and reciprocity. The literature of energy, in the form of environmental protection and consumption, is investigated here with regards to social capital to determine the utility of any theoretical and empirical relationship. It is argued that insights from the associations of social and energy consumption can assist energy efficiency practitioners and researchers in understanding the broader social framework that underpins household energy use, but that more robust empirical research is necessary.

**Keywords:** social capital, energy consumption, households sector.



## 1. Introduction

Though the term was coined relatively recently, ‘social capital’ has become quite popular amongst academics and policy-makers. The Performance and Innovation Unit of the UK’s Cabinet Office addressed the policy options for social capital in the UK (PIU 2002). The Office of National Statistics implemented the Social Capital Project, a research programme that established and agreed a set of harmonised themes and questions on social capital to be used across government, which have been fully or partially implemented in a number of national surveys (Harper 2001). The resulting ‘Question Bank’ allows researchers to examine and use the identified survey questions for social capital measurement across many national surveys. Internationally, the Organisation for Economic Co-operation and Development has recognised the impact that social capital can have declining rigidity in class structure and government support of community involvement (Grenier and Wright 2006). However, Hall did find that levels of social trust had fallen, with differences appearing to exist between generations, i.e. younger people had lower levels of social trust. His explanation rests on what he sees as the increase in individualism, particular during Thatcher’s leadership in the UK. Grenier and Wright (2006), in their research and review of Hall’s and other authors longitudinal measurements of social capital indicators (such as organisational membership, trust, etc.), believe that the decline and social class disparity is actually much more drastic. They indicate that forms of organisational participation are concentrated mainly in the middle classes, and emphasise that “the benefits of strong social capital will not be realized by a society where some are highly networked participants and others are left outside to cope on their own” (p.50).

The concept of social capital has its critics. Fine (2001) criticises it as a “chaotic, ambiguous, and general category that can be used as a notional umbrella for almost any purpose” (p.155). Critics and proponents alike highlight the lack of clarity in the definition of social capital, often



questioning whether social capital is ‘capital’ (addressed below), and noting lack of standardisation in testing for the concept. In addition, as Portes (1998) indicates, social capital may simply be a “label for the positive effects of sociability,” but concludes that it still “has a place in theory and research” (p.22). Broadly, social capital research must be undertaken carefully, with precision in measurement and definition to clearly understand the consequences and make a case for social capital. This search for clarity is still ongoing in research, though the Question Bank developed by the Office of National Statistics in the UK has tried to address various models and indicators in their resulting matrix.

As alluded, social capital is seen as a ‘good’ thing, promoting social cohesion; lower levels of social capital are associated with higher crime rates (Lochner, Kawachi et al. 1999), higher levels of social capital are associated with better health and well-being and good economic performance (Halpern 2005; Hall 1999). However, there are instances where social capital does not promote broad social cohesion, and is considered a club good rather than a public good (Portes 1998). Old boys’ networks, groups that exclude women and minorities, and, more extremely, the Mafia, can use social capital as a club good, which is non-inclusive, socially disadvantages people and can have negative effects. Non-socially cohesive outcomes of social capital are seen as ‘perverse effects,’ the ‘dark side’ of social capital (Field 2003).

Policy-makers obviously prefer the ‘good’ effects of social capital, its ability to support social cohesion and the well-being of a community or nation. The warning here is that those studying, measuring, utilising or stimulating social capital must be very careful to understand that social capital can have ‘good’ (socially cohesive) outcomes, but can just as likely promulgate exclusionary – or flat out negative – effects.



## 2. Literature Review

The most common function attributed to social capital is that it's the source of benefits that come through networks far beyond family. As the second function, social capital and strengthening it, and in this regard strengthening social networks, can lead to benefits and advantages outside the family network. Among the adequate consequences of social capital, its effect on energy consumption is worth noting (Borozan et al., 2016). In this new approach, human beings and their behaviors are considered one of the main elements and factors to protect the interests of future generations and feel sympathetic to their fellow human beings. Social capital is one of the latent and hidden and, at the same time, very influential variables on energy consumption and environmental behaviors (Portes, 1998). Social capital can be used as a variable to optimize energy consumption and protect the environment. Since each economic growth and production increase requires more energy consumption and use of resources, it is possible to reduce excess energy consumption and the negative consequences of economic growth and achieve sustainable development by using and investing in social capital. Since many energy inputs are shared resources and properties, their sustainable use and protection require collective action. Societies with higher social capital are expected to promote better collective action in energy management. Communication among society members plays a significant role in preventing resource destruction and growing the society's wealth (Safari et al., 2020).

Crime reflects a lack of adherence and commitment to the rules and regulations of the community, and the spread of crime represents reduced social capital (Rosenfeld et al., 2001). Social capital contains concepts such as trust, cooperation, and interactions between members of the group so that the group leads to achieving the goal, which is considered positive based on current values and criteria. Social capital is considered a modern mechanism 'as an essential component in crime prevention. In other words, social capital is the formation of a compressed social network that





maintains social order and creates a sense of social responsibility and collective commitment in individuals toward environmental issues (Deller & Deller, 2010). Research results of social researchers indicate that deviations and crimes increase by reducing social capital and vice versa. As mentioned, social capital implies trust in others, dialogue between parents and children, self-sacrifice, reduced relative deprivation, etc. (Akcomak & Ter Weel, 2012).

Awareness of the community's issues and knowledge about the environment, as well as the needs and problems of the environment, individual and collective rights and responsibilities of people living in the neighborhood, and the responsibility of governmental agencies for these problems and needs can increase personal awareness and strengthen social capital (Pérez-Luño et al., 2011). Awareness can be created or raised by inducing a spirit of knowledge and educating individuals on their rights and responsibilities toward the environment. So that by being aware of their rights and responsibilities towards society and the environment, a person can do the right thing to improve the neighborhood situation (Lesser, 2000).

Participation and cooperation are other concepts of interest and one of the aspects of social capital. Two points are hidden in the participation concept that the equal value of human beings is the most fundamental of the two (Dekker & Uslaner, 2003). One of the reasons why social capital is difficult to measure is that this phenomenon does not occur at the individual or the collective level but appears between these levels when the individual participates in the group. The social capital term as a metaphor for capital can be misleading because, unlike financial capital, which is in the hands of individuals, the interests of different kinds of social organizations are not in the hands of the elements but their participation in groups organized for a particular benefit (Hoenig et al., 2016).

### 3. Funds



Are social capital and household energy consumption related, and if so, how will this affect energy efficiency? Though there is only tangential research conducted specifically connecting energy and social capital (see Keuhn 1998, Aune, Berker et al 2002 below), particularly at the household, micro- level, there are several theoretical and empirical studies linking social capital to the state of the environment, climate change and sustainable consumption. Findings from these studies show mixed results, but demonstrate potential for exploring the issues of energy consumption further.

In order to examine household (micro-) level energy use and social capital, it is useful to examine ‘consumption’ more generally, as everyday consumption is generally regarded as an individual act. Consumption theories and studies are quite diverse, but it is generally recognised that consumption, whilst undertaken by individuals, is actually a social phenomenon (Aune, Berker et al. 2002; Briceno and Stagl 2006; Corrigan 1997; Lutzenhiser 1993; Warde and Tampubolon 2002; Wilk 2002).

Briceno & Stagl (2006) summarise the social impact by stating that consumers are constantly striving to consume the same (or better) goods and services as friends, neighbours, etc. The consumption of ‘cultural goods’ is key to maintaining integration in a social structure (Lizardo 2006). Those who do not engage in “culture consumption is therefore more likely to be disconnected from others and forgo all of the benefits that come from network relations and that have been glossed under the banner of social capital” (Lizardo 2006, p. 800). Or, as Briceno and Stagl (2006) state, society has become more focused on the ‘individual,’ leading to a decline in the ‘sense of security’ found in traditional community relations. Though this seems to be idealising the past, the point they make is that social capital is critical in inspiring sustainable consumption because it delivers satisfaction, which is what people are seeking when they act as consumers (i.e. substituting for loss of ‘sense of security’).

The authors do admit that sustainable consumption, as well, has “traps like the persistence of insatiable needs as well as rebound effects” but that these can be avoided if sustainable



consumption programmers target strategies around “social culture, attitudes and behavior” (p.1550). Whilst organizations such as the EST in the UK would say they are already trying to target attitudes and behavior, the interesting point here is that for sustainable consumption incentives to be effective, it would be useful to add the ‘social’ sense of community and security back into the ‘individual’ act of consumption. The implication for social capital is that sustainable consumption programmers can “increase the benefits derived from the assets of social capital itself” (p.1544). However, it indirectly implies an increase in communal trust – people need to trust that their individual actions are part of a collective movement that everyone participates in, assuming others will not ‘free-ride’ by consuming unsustainably – without stating how to instigate this trust.

Regarding ‘trust’ on an individual level of consumption, Lai (2001) identifies trustworthy information, as a form of social capital in a study of Taiwanese middle class consumers. People trust others in their social networks more than advertisers or salespeople when it comes to deciding on products or services to purchase. “Social capital increases the efficiency of consumption practices” (p.82) because relying on advice from trusted friends or acquaintances enables easier, reliable, quicker decisions. However, this does not imply ‘sustainable’ consumption, only the facilitation of consumer purchasing. Regarding energy efficiency, this implies that people may be more willing to trust a friend than an advertisement when wondering which computer monitor or washing machine to buy. In this world of choice, even items with an energy efficient label can be overwhelming and confusing (as it is likely that more than one washing machine has a ‘B’ rating), so any trusted advice can help a person make a decision that much easier. However, if that friend is not concerned with energy efficiency, the result could also be one that did not encourage ‘sustainable’ consumption.

Consumption practices are often related to lifestyle. Cultural capital is, in essence, the expression of a type of lifestyle, and can be considered an element of social capital. Energy consumption will



inevitably play a role in household-based lifestyle, whether it is in providing energy for the latest gadget or simply the type and amount of lighting in a house. For example, in a cross-national study, Wilhite, Nakagami et al (1996) found an average of 9.6 light bulbs in living room areas in Oslo, Norway to achieve a ‘cosy’ effect, compared to an average of 2.5 in Japanese households, who prefer fewer, centrally placed lights (in Shipworth 2000). Here, lifestyle choice (i.e. cultural capital) and norms of ‘cosiness’ in Norway implies higher levels of energy consumption through light bulb use than Japan, where the lifestyle preferences are different. Socio-demographic variables are also useful to indirectly determine lifestyle choices and energy use. Carlsson-Kanyama and Linden (2007) found that the variable ‘income’ affected the type of house bought or rented, which can influence lifestyle and thus consumption patterns. Aune, Berker et al (2002) demonstrate the indirectness of this variable by highlighting two studies that both did not find correlations between energy use and the socio-demographic variables income or education, but determined that “the effect of income is through the size of the house”.

#### **4. Discussion**

This preliminary investigation of the proposed micro-level relationship between social capital and household energy consumption has shown that there is the very beginning of theoretical and empirical research being conducted. Social capital is a relatively new way to understand already-identified social phenomena; it is simply coalesced in a new fashion, adding value with the concept of ‘social currency’. Use of social capital has its critics, largely due to lack of agreement on definitions, measurement and operationalization. But the potential benefits of social capital - better education, lower crime, better health, etc. - are recognized by UK policymakers who are starting to question methods of increasing it. This paper simply questions: Are social capital and household energy consumption related? The answer is not straightforward.

As literature on energy and social capital is very limited, the relationship between environment, climate change and sustainable consumption was examined. However, the results are rather mixed.





No author denies the value of social networks, trust or the influence of social norms in determining environmental action and sustainable consumption. However, as a concept, some found social capital to be severely limited, while others saw it as crucial to collective action.

For householders, informal networks are the most common means to learn about energy efficiency, though the UK Government provides information through advice centres and, most recently, through home information packs. The government may try to inspire a sense of ‘collective action’, but action on energy efficiency is a household effort, rather than an organizational one. Any change in lifestyle and energy use will likely depend on the social aspects of norms, facilitated by trusted information, and maintenance of social standing through the consumption of ‘cultural goods’ (Briceno and Stagl 2006), in addition to factors such as cost, utility, and feasibility.

For energy efficiency campaigners, programmers are best mobilized at the community level. Though this ‘community’ may not be geographically bound, given the mobility and communications opportunities of today, local communication and campaigns may, nevertheless, be extremely useful. National support for local level action may instigate locally appropriate action for which local participants feel ‘ownership’, rather than being told what to do through national legislation (Adger 2003; Pretty and Ward 2002). Programmes based in, and lead by, a local community have the potential to efficiently utilize local knowledge that increases trust in the programmes (Shipworth 2000). On the individual level, trust of people in social networks can be important in passing on information to ease consumption (Lai 2001). If programmes build trust, they can inspire the messages of sustainable (rather than unsustainable) consumption of energy efficiency technologies, and help people understand how to use less energy whilst maintaining expected levels of comfort.

## 5. Conclusion

Is there a relationship that exists between social capital and energy consumption? The findings are ambiguous, particularly on the household level, but do show justification for further research. The



social nature of consumption – whether buying energy efficiency devices or consuming energy services – indicates a socially-founded approach to energy consumption is appropriate. There are indications that high levels of trust amongst, in particular, locally-based networks (i.e. community- or meso-level) would allow ease in dissemination of reliable and trusted information. Nationally supported, but locally federated action on energy efficiency can utilise existing social capital, and possibly even build social capital. Different groups may utilise social capital (bonding, bridging, high levels, low levels) in different ways when acquiring information about energy efficiency, and it may prove fruitful to properly assess types of social capital before designing an energy efficiency programme for any given local area. Overall, the literature substantiates the grounds for further research into the relationship of household energy consumption and social capital to be able to better determine the optimum way to encourage energy efficiency.

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