Sociological Study of the Relationship between Social Capital and Energy Consumption Pattern with Emphasis on Electricity Energy (Case study: Young Citizens of Babol)

Ali Akbar Safari[1]
Ali Rahmani Firoozja*[2]
Majedeh Gholipour[3]

Abstract

The pattern of energy consumption is affected by social, economic and cultural conditions in society. On the other hand, energy policy has been particularly important in recent years in terms of increasing the role of energy and the environment in the economic, political and social activities of different societies. The research method is survey. The statistical sample includes 120 citizens of Babol who were selected by systematic random sampling.The level of household awareness was increased but did not have much effect on consumption pattern. The pattern of consumption in families has changed. There have been changes in the composition of household appliances that have affected the amount of consumption. The amount and level of consumption according to the payment bill has been a sign of high energy consumption.There is a significant relationship between individuals' cultural capital and consumption pattern, there is a significant relationship between two indicators of social capital (social trust and social interaction) and consumption pattern. There was no significant relationship between social participation and consumption pattern, but there was a significant relationship between economic capital and consumption pattern.

Keywords: Consumption pattern, Energy, Electricity, Social capital, Social trust, Social interaction, Social participation.

[1] PhD Candidate, Department of Sociology, Babol Branch, Islamic Azad University, Babol, Iran aksafari1393@gmail.com
[2] Associate Professor, Department of Sociology, Islamic Azad University of Babol, Babol,Iran. arf1348@gmail.com (Corresponding author)
[3] Assistant Professor, Department of Sociology, Islamic Azad University of Babol, Babol, Iran majedeh_gholipour@yahoo.com

1. Introduction

Today, the issue of energy supply has become one of the most important issues of all societies. The use of energy in various uses of trade, industry and mining, agriculture etc. has increased so much that any challenge in the field of energy supply can cause irreparable damage to various economic sectors. Also, population growth, people's well-being, use and access to materials, movement and communication, and technologies that meet the demands of the growing population are some of the factors that bring with them the growing demand for energy and the incentives to supply it. In addition to energy supply, another important issue is the upward trend of energy consumption in the global arena, and this includes energy consumption in its various types, including crude oil, petroleum products, gas, environment, coal, etc. (Asari Ardakani, 2011).

Considering the category of consumption in general, the consumption pattern includes the quantity and quality of consumer items of individuals and households in the community, which changes under the influence of variables such as consumption standard, income, social status and .... Therefore, "energy consumption pattern" refers to the quantity and quality or amount and method of energy consumption such as oil, gas, electricity, etc. in various industrial and domestic uses and to produce or meet needs (Shahabadi, 2013, p. 19).

Research also shows that in most of the plans and targets, increasing the productivity of consumer devices and equipment or preventing wastage of energy losses to liberalize the prices of energy carriers has been given more attention and its cultural, social and psychological aspects have been neglected. With the passage of time and the introduction of concepts related to sustainable development, energy planning at the national and international levels, has placed its position and goals in the direction of sustainable development, ie economic, social, environmental and institutional dimensions.

Planning or directing the process of energy consumption of households requires recognizing the consumption behaviors of individuals and examining the relationship between social factors and effective variables in this field, which will be discussed in this article.

2. Statement of the Problem

Excessive use of energy resources crises such as climate pollution. It led to the loss of non-renewable energy, as a result of which many developed

countries sought to change the way energy was consumed. Different perspectives were formed in the face of these crises. The economic perspective pursued a policy of reducing energy consumption by using the price mechanism and examining supply and demand (Wilhelm, 2010).The technological perspective countered the energy crisis by emphasizing the production of goods and tools and greater productivity. In the social perspective, the impact of social and cultural factors has been in the spotlight (Salehi et al., 2016, p. 102). The world today is a world of economic and industrial development, and energy is one of its basic necessities; so that energy is one of the most determining factors in directing the interaction of the countries of the world (Moshiri and Shahmoradi, 2006). But despite the fact that Iran is one of the richest countries in the world in terms of energy, but it is considered among the developing countries, the main reason for which is not optimizing the use of these resources (Asadi Mehmandousti, 2009).

According to the report of the World Energy Association (WEC), Iran was one of the countries with the highest energy intensity in the world during the years 1990-2015 (Akbari, 2015). The life of the new society is largely dependent on electricity (Marzban, Akbarian and Ghasemi, 2005, p. 52) and its many advantages over other energy sources have caused this type of energy to be increasingly considered by the international community (Lin and Smith, 2010, p. 158). Energy consumption in Iranian society is increasing rapidly without following a logical pattern. Information about electricity consumption in the country shows that Iran's energy consumption is four times that of Turkey, six times that of Indonesia, and 14 times that of Japan. Although Iran has about one percent of the world's population, it consumes about two percent of the world's energy (Zarbakhsh, 2016).

Increasing demand for energy resources worldwide, both in industrialized and emerging countries such as China and India, on the one hand, and limited supply of energy resources, has increasingly placed the issue of energy scarcity on the agenda of policy makers (Eskandrion, 2015). In general, the study of energy consumption behavior is important in at least three ways: First, the discussion of consumption in the modern age, for various reasons, including its cost, environmental consequences and limited fossil resources, is one of the most important topics today (Hani Rayo et al., 2014, pp. 1072- 1071). Second,

consumer behavior, especially since electricity consumption in the household sector is the highest in the country, is of importance (Salehi and Emamgholi, 2012). Third, any solution in the field of unsustainable energy consumption requires a change in human behavior that gives a pivotal role to humans in energy consumption (Salehi, 2013).

Among the various sectors of electricity consumption in the country, the home sector is known as the largest consumer of electricity. Electricity consumption in the construction sector of the country is reported 2.5 to 4 times of the world standards. Energy loss in the construction sector is more than one-third of the country's energy consumption (Hashemi Perpanchi, 2010). In global and international relations, energy is in a significant position due to its various economic, social, cultural, legal, political, technical, engineering, and environmental dimensions, and so far, various approaches to protect the environment and energy saving have been considered. The most important of them include technical and engineering approaches, economic approaches, legal approaches and behavioral change approaches (Safari and Rezapour, 2005). The reason for such approaches goes back to various factors affecting the discussion of energy consumption. Scientific studies show that various human factors affect the pattern of energy consumption. In this article, the effect of social capital on the pattern of electricity consumption among urban household subscribers in Babol has been studied.

3. Review of the Literature

The life of the new society is largely dependent on electricity and its numerous advantages compared to other energy sources have made this type of energy more and more attention of the international community (Ahmadi, Farrokhi and Salehi, 2014). In recent years, awareness and attention to increasing energy consumption and numerous limitations in the development of resources required for its production along with environmental issues, has led to comprehensive studies aimed at achieving the optimal pattern of electricity production and determining the share of clean alternative energy (Khosh kholgh, 2015).

The impact of cultural and social variables of consumption to change energy consumption patterns has been largely neglected, and in particular no

research has been done on this topic. Mozaffari and Motafker Azad (2018), in an article have studied the effect of social capital on household electricity consumption in the provinces of Iran. The results of this study showed that social capital had a negative and significant effect on household electricity consumption. Also, other results of the article showed that per capita income, the need for cooling, household size and consumption of the previous period have a positive effect on household electricity consumption. The electricity consumption of the previous period had the greatest impact on the household electricity consumption function. The price elasticity of household electricity consumption has been assessed negatively, so the increase in electricity prices has reduced power consumption.

The variables of heating need and domestic gas price have no significant effect on electricity consumption. Salehi et al.. (2016) in their article have explained the sociological pattern of electricity consumption of the citizens of Mazandaran. The findings of this study show that the subjects under study had good power consumption behavior. In addition, the findings show that people have a relatively good knowledge of energy consumption. The results of testing the hypotheses showed that among the research variables, only between the variables of education and knowledge of energy consumption with the behavior of electricity consumption was not observed.

Akbari et al. (2016) in an article examined the effect of social characteristics (socio-economic base) and cultural (environmental culture) affecting the rate of change in electricity and natural gas consumption of households in Isfahan after the implementation of the law on targeted subsidies.The results showed that the socio-economic status of Isfahani households did not have a significant effect on their savings in energy consumption (electricity and natural gas); While the culture (environment) of households has had a significant negative impact. Nikoahd, Zare Shahabadi, Eskandari Fard and Amiri (2015) in an article have studied the effect of social capital on consumerism (a case study of women over 15 years of age in Malayer). The regression results showed that the independent variables of the study could explain 14.5% of the changes in the dependent variable. Also, among the independent variables, social participation with a beta value of 0.308 had the greatest effect on the dependent variable. Finally, the findings

indicate the involvement of other factors in explaining consumerism, which itself requires further reflection on the results and more detailed studies. In their article, Talebian et al., (2015) have analyzed the social patterns of energy consumption in Tehran.The findings of this study showed that energy consumption behavior varies according to situational conditions, environmental conditions, economic status, lifestyle and consumption norms. Environmental and climatic effects have caused significant differences in energy consumption and have greatly increased the range of change.

Javan Khoshkhalq (2015) in his master's thesis has studied the social, economic and cultural factors affecting energy consumption behavior. The results showed that among the studied variables between the variables of cultural capital, social capital, environmental attitude, environmental value, attitude towards targeted subsidies, age, employment status, marital status, source of news, social trust, social participation, environmental science, there is a significant relationship between building and the dependent variable under consideration (power consumption behavior). Zare Shahabadi et al. (2013) have studied the effect of socio-cultural factors on energy consumption patterns in households in Yazd. International media, high education and income, celibacy, weak religious beliefs, low normativeness are some of the factors that have a negative impact on energy consumption patterns. In a descriptive-explanatory study, Manfred Stopok et al., (2018) examined the topic of "Culture, Consumption and Cost: A Comparative Analysis of Household Energy Consumption in Kenya, Germany and Spain". The results of this study showed that there are several factors in increasing energy consumption in the residential sector of Kenya compared to Germany and Spain. Lifestyle has played an important role in the pattern of energy consumption (electricity). In an article using a multi-stage regression method, Borzan et al. (2016) examined the relationship between per capita electricity consumption in the household sector and social capital in Croatian cities. Social capital index by parameters such as crime, opportunistic behavior, and corruption are identified. The results show the negative impact of social capital on electricity consumption. Jones (2015) in an article examines the impact of economic and social conditions on electricity consumption in the United States. He showed that improving the social situation reduces electricity consumption.

Investing in social issues has changed the consumption habits of households. Also, rising incomes and improving economic conditions have led to increased electricity consumption. Altro and Haidar Syed (2011) investigate the long and shortt dynamics of electricity demand in Pakistan at general levels and some (household, commercial, industrial and agricultural) during the period 1970-2010 using collective analysis and vector error correction.

The results show that, firstly, in the short run, electricity demand has reacted slightly to income and prices, so in the short run, electricity is an essential commodity for people. Second, the long-term income elasticity in most sectors (household, industrial, and agricultural) has been greater than in units, indicating the luxury of electricity in Pakistan. Third, long-term price elasticities are greater than one for the three sectors of housing, commerce, and agriculture, making electricity a luxury for these three sectors.

In a study, Santa Mauris et al., (2007) examined the relationship between social conditions and energy consumption among households in Athens, Greece. The results showed that income, population and household size, the life of a residential building, have a direct impact on energy consumption. Emotions, responsibility for the next generation, environmental concerns and trust in government have the opposite effect on energy consumption.

Reddy (2004) investigated the impact of socio-economic factors affecting household energy consumption in India during the period 1983-19000. The results showed that energy prices, social capital, life expectancy and human capital have a negative impact on energy consumption. Also, per capita income and household size have had a positive effect on energy consumption. Today, in addition to human and economic capital, another capital called social capital has been considered by social scientists and humanities. Social capital or the spiritual and social dimension of a society's health is a dimension that can help solve society's social problems by encouraging people to cooperate and participate in social interactions and enable the society to move towards economic, political and cultural growth and development. Saz (Bagheri Yazdi, 1390).Social science theorists have offered different definitions of social capital. Putnam considers social capital to include social networks, interconnectedness, trust, and reliability that can improve community efficiency by creating and facilitating coordinated facilities. Coleman sees it as

facilitating individual and collective action within society, and Fukuyama as the ability of individuals in society to work together to achieve common goals.

Nahapit and Gushal have proposed the following dimensions for social capital:

1- Structural dimension: includes structural links, activities and how to organize a working group in the community.

2- Communication dimension: refers to the interactions and communication of members within a group and outside the group. In this dimension, indicators such as trust and mutual communication are discussed.

3- Cognitive dimension: It is related to participation, trust, attitudes and commitments in the collection and its axis is cognition which provides a common vision of goals and values for network members by using common language (Nahapiet & Ghoshal, 1998).

4.Dimensions of Social Capital

In classification, social capital is divided into three dimensions: structural, cognitive and communicative

1) Structural dimension:

A- Links in the network: including the extent and intensity of communication in the network

B- Network shape and composition: including network hierarchy, connectivity and network density

C. Organizational fit: To what extent the network created for one purpose may be used for other purposes.

2) Cognitive dimension:

A. Common language and signs

B. Common narratives

3) Communication dimension:

A- Trust

B- Norms

C- Commitments and mutual relations

D- Determining the common identity

Using a common language, the cognitive dimension provides a common vision of goals and values for network members and provides an introduction

to their optimal functioning in the social system. At the organizational level, and especially in large organizations, creating shared insights among members and bringing their thoughts and views closer to each other is a way to develop a cognitive dimension.

Another classification of the dimensions of social capital has been done by the "Kennedy" group of Harvard University, and the above variables are observed to some extent in this classification, which has been done comparatively; This study group identified the following eight dimensions. (The Saguaro Seminar, America, 2000)

1) Trust

A. Social trust: The main axis of social capital is the answer to the question of whether you trust people? These people may be neighbors, co-workers, a shop assistant, a colleague, the police, and in short, everyone you interact with in your daily life.

B- Trust between different races: A society is generally homogeneous and people are often of the same religion and race, but it is possible to examine social capital between different races (black, white, yellow) and the extent of racial trust in each other examined.

2) Political participation

A. Ordinary political participation: One of the tools to measure the participation of individuals in society is to measure the level of political participation. This participation can be measured by the number of voters, the amount of reading and buying newspapers, citizens' information on political issues and the like.

B. Critical political participation: Studies show that a society may have a low level of normal political participation; In other words, the number of people participating in the parliamentary elections is very low and also the reading of newspapers is low and the political vision of the society is low, but at the same time this society is at a high level in terms of critical political participation and people in activities such as marches, rallies, political revolutions ...

A. Civic Leadership: Civic leadership deals with the degree to which individuals participate in groups, clubs, and associations, and the affairs of the

city or school, and the like, and considers the extent to which the individual plays a leadership role in these groups and associations. .

B. Civic participation: refers to the extent to which individuals in the community operate in the following types of groups: religious groups, sports clubs, professional leagues, youth organizations, parent associations, charitable professional groups, trade unions, cultural centers, and literary groups. , Art, culture, entertainment, cooperatives and…

4) Informal social ties

This dimension is the opposite of the previous dimension. In fact, leadership and civic participation measure social capital in formal terms; However, some communities try to develop informal relationships and prefer informal memberships and partnerships. In fact, this dimension measures the informal aspects of social capital, such as: the number of friends of a person, the amount of socializing with friends in the office environment, socializing with colleagues and office friends in out-of-office settings, participating in games such as chess and visiting family members.

5) Forgiveness and the spirit of volunteering

One way is to measure the relationships of people in the community by examining their membership and cooperation with charities and volunteers. This cooperation can be in the form of financial aid, such as financial aid to relief committees, nurseries ... or by allocating time, such as attending meetings related to urban development associations or supporting university graduates.

6) Religious participation

Religion plays a very important role in social capital, and people, depending on their religion, may be a source of participation, such as attending and working in mosques, prayer rooms, churches, and places of worship.

7) Justice in civil participation

In some societies, the tendency towards the wealthy is higher education and a particular race, and conversely in some other societies the poor and those with a lower social status are given priority. Since these factors are important in the health of society, it is important to measure the degree of equality of different people in social participation. This dimension can be examined by factors such as race, income, education.

5. Research Methodology

The method of this research is cross-sectional and profound due to the nature of the subject of the survey method and in terms of time and depth criteria. The statistical population is all urban households in Mazandaran province, 450 households have been selected as a sample. Cronbach's alpha coefficient technique was used to estimate the reliability of the measurement tool. Cronbach's alpha level of each of the indicators is given in Table 1.

Table 1. Cronbach's test to determine the reliability of research structures

Cronbach's alpha coefficients	Number of items	Index	
0.71	12	Consumption form	
0.77	17	Consumption combination	Consumption pattern
0.83	2	Amount and level of consumption	
0.91	27	Social capital	

5.1. Operational Definition of Concepts

5.1.1. Consumption Pattern

Consumption pattern includes the quantity and quality of consumer items of individuals and households in the community and consists of three main components (Zare Shahabadi et al., 2013, p. 30) which are:

1- Consumption pattern: Energy consumption pattern refers to the behavioral methods of each household in order to use electrical energy. Such as using natural light instead of artificial light, using fresh food instead of frozen material, etc.

2- Combination of consumption: It means a combination of household appliances. To measure this, a triple combination of home appliances including essential appliances (refrigerator, stove, TV, gas heater, etc.), conventional

(freezer, computer, washing machine and fireplace ...) and luxury (dryer, fryer, cooker and Air conditioner ...) is questioned.

3- Amount and level of consumption: This index shows the amount of electricity consumption of households in terms of the amount and costs paid. The amount of energy consumption is extracted from the electricity bill of each household.

According to the theoretical foundations, three dimensions of social capital have been implemented as follows:

Social trust: refers to the level of trust among people in the community. This dimension is measured by 6 items, including: Individuals such as: individual opinion about the honesty of people in society, trust in people and others in social interactions, trust in government, feeling of trust and security in urban environments and traffic and public and private places in the city it has been used.

Social participation: refers to the degree of participation of individuals in institutions, organizations and social associations in order to achieve their goals. This dimension is measured by 4 items, among which the participation in neighborhood and city decisions is one of these items.

Social interaction: refers to understanding, empathy, and the degree to which one belongs to others. This dimension is measured by 5 items and was measured by questions about the type and extent of the person's interaction with friends, acquaintances and strangers, as well as a positive or negative view of the interactions.

Economic capital: One of the indicators of economic capital is income (Abbaszadeh et al., 2012, p. 9). But economic capital includes other types of financial resources that are manifested in the form of ownership. Due to the fact that in most researches, economic indicators are presented objectively, there is no need to estimate the validity of these indicators. In this study, this variable is measured by components including income, area of residence, type of residential house and the rial value of the personal car.

5.2. Research Hypotheses

 - There seems to be a significant relationship between social trust and electricity consumption.

- There seems to be a significant relationship between social participation and electricity consumption.
- There seems to be a significant relationship between social interaction and electricity consumption.

6. Findings

Based on the descriptive results of the research on the characteristics of the sample population, about 33% of the respondents are self-employed. The majority of them, about 71.8%, live in private houses and houses, 84.2% are married. Most of them have an income of about two to three million. 44.3% have a diploma, 27.8% have a bachelor's degree and 3.5% are illiterate. The majority of respondents were in the age group of 28 to 37 years. About 42.2% of the family was 4 people and 4.6% of the family was more than 5 people.

Table 2. Distribution of respondents according to demographic characteristics

Income		Type of housing		Employment status	
Frequency	Item	Frequency	Item	Frequency	Item
6.7	Less than a million	22.9	Rental	12.9	Employee
31.3	One million to two million	1.1	organizational	25.3	Free
26.9	Two million to three million	71.8	proprietary	39.4	Housewife
25.1	Three million to four million	4.2	Other	7.3	student
10.0	Over four million	100	Total	15.1	retired
100	total			100	total
Number of family members		Age		education	
Frequency	Item	Frequency	Item	Frequency	Item
14.5	2 person	22.5	27-18	5.3	illiterate
38.7	3 person	34.3	28-37	44.3	Diploma
42.2	4 person	17.9	38-47	27.8	Bachelor
4.6	5 person and more	25.3	48-57	24.4	MA
100	Total	100	Total	100.0	Total

The results of the research on how the energy consumption pattern shows that more than 34% of the respondents have a suitable pattern in the field of energy consumption and 52.6% had a moderate consumption pattern and 12% had an inappropriate consumption pattern. Regarding the dimensions of the energy consumption pattern, more than 54.6% of the energy was used correctly and only 6.1% had the wrong form and behavior. In the field of consumption combination, 20.2% of respondents use low combination, 68.2% medium combination and 11.6% use a large combination of devices. Consumption level of 39.8% of respondents is also low, about 48.0% use moderately and 12.2% use a high amount of energy. Also, in Table 3, the result of a single-sample t-test is shown, according to which the average energy consumption pattern and its dimensions are significantly different from the average, so that the final score of the energy consumption pattern is 15 times higher than the test value. Also, one of the variables related to consumption pattern is the level of people's awareness of the correct consumption pattern. According to the data in Table (3), the majority of respondents (76.2%) had high awareness, 0.8% had low awareness and 23% had moderate knowledge of the correct consumption pattern. The result of one-sample t-test also shows a significant difference between the mean observed and the test item.

Table 3 . Distribution of respondents according to energy consumption pattern

Knowledge of the appropriate consumption pattern	Consumption pattern				Options
	total	Consumption level	Consumption combination	Consumption form	
0.8	12.0	39.8	20.2	6.1	Low/inappropriate
23	52.6	48.0	68.2	54.6	medium
76.2	34.4	12.2	11.6	39.3	High / convenient
100	100	100	100	100	total
76.4	65.1	26.5	41.1	63.3	Average score
31.4	30.6	-29.5	-15.3	16.2	T
0.000	0.000	0.000	0.000	0.000	sig

Correlation test was performed between energy consumption pattern and independent variables (social trust, social participation, social interaction). The result of this test in Table 4 shows that there is a positive and significant correlation between energy consumption pattern and social trust at the level of 0.05, in other words, with increasing social trust in the family, the energy consumption pattern will be more appropriate. There was no significant correlation between energy consumption pattern and social participation at the level of 0.05. Also, according to the data in the table, there is a positive and significant correlation between energy consumption pattern and social interaction at the level of 0.05, in other words, with increasing social interaction in the family, the energy consumption pattern will be more appropriate.

Table 4. Correlation between energy consumption pattern and social trust

Consumption pattern		items	
sig	r		
0.0004	0.37	Social trust	
0.104	0.16	Social participation	Social capital
0.000	0.24	Social interaction	

The model rindicated that the correlation coefficient of these variables with the energy consumption pattern was equal to $R = 0.471$ and the coefficient of determination was 0.304 and the adjusted coefficient of determination was equal to 0.262 and these coefficients indicate that about 26% of changes in energy consumption pattern by these variables can be explained. Also, the explained regression model is linear and significant according to the analysis of variance. The value of F-test was calculated to explain the significance of the effect of independent variables on the consumption pattern equal to 11.2 with a significance level of 0.000. The table below shows the result of this regression analysis along with the value of t, beta and corresponding coefficients, significance levels and model type.

Table 5 . Multivariate regression result to explain energy consumption pattern

sig	t	Standardized coefficients	Raw coefficients		Independent variables
		Beta	Std.Error	B	
0.000	12.4	-	1.8	5.02	αCoefficient
0.000	5.2	0.37	0.32	2.1	Social trust
0.002	7.26	0.08	1.06	2.27	Social interaction
0.01	2.3	0.14	0.03	0.084	Knowledge of the correct consumption pattern
0.000	3.2	0.17	0.42	1.04	Number of household members
sig	F	Adjusted R Square	R Square	R	Number of variables entered
0.000	9.2	0.262	0.304	0.471	9

The results of the regression equation show that the regression equation is a significant equation at the 99% confidence level. The rate of multiple correlation (R) of independent variables with the dependent variable of the research which is the energy consumption pattern is equal to 0.571 and the coefficient of determination for the energy consumption pattern (R2) is equal to 0.327. That is, about 32.7 of the variance of the dependent variable is explained by the independent variables entered in the model. Comparison of coefficients shows that among the independent variables, the variable of cultural capital has the most impact and the most significant and positive predictive power pattern of energy consumption pattern and the variables of social trust and household income are the next to affect the pattern of energy consumption.

7.Conclusion

Since most of the country's energy is currently consumed in the household sector and the likelihood of wasting energy in this sector due to the use of

incorrect consumption patterns, this research in this regard to study behaviors, factors and social, cultural and economic variables. Regarding the pattern of energy consumption (electricity), 120 urban households in Babol. The results of this study show that the level of awareness about energy consumption in urban households in Babol has increased, but unfortunately this awareness has not had much effect on the pattern of electricity consumption. In recent years, due to lifestyle changes, the form of energy consumption in families has changed so that artificial light is used instead of natural light during the day, and frozen food is used instead of fresh food. In the combination of household appliances, the use of luxury appliances has been seen, which has been effective in energy consumption. The amount and level of energy consumption according to the payment bill has been a sign of high energy consumption. According to the correlation test between independent and dependent variables (energy consumption pattern variable), social trust, social interaction variables had a positive and significant relationship with energy consumption pattern variable, which means that by increasing these indicators, energy consumption pattern will be appropriate. The variable of social participation did not have a significant relationship with the variable of consumption pattern. The results of hypothesis testing showed that there is a significant relationship between the two indicators of social capital (social trust and social interaction) and the pattern of electricity consumption. Social participation and electricity consumption patterns were not significantly related to each other. The results of regression show that among the independent variables, the variable of social trust has the most impact and significant and positive predictive power pattern of energy consumption pattern and the variables of social interaction, awareness and number of household members have the highest impact on energy consumption pattern.

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