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An Assessment of the Social Health of the Residents of Lamerd, Fars Province in 2019

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ABSTRACT

Introduction: Health is considered of utmost importance and can be assessed from various aspects. The social health assessment can be a good basis for planning to improve the general health of the target community. The present study was conducted to investigate the social health of Lamerd residents, a small town in Fars Province.

Methods: The present study is descriptive and uses a researcher-made questionnaire as the instrument. The research population of the study is 60319 Lamerd residents over 20 years old in 2016, and using Cochran's formula, a total of 382 people were selected through cluster sampling method. To describe social health, central tendency index of mean and dispersion index of standard deviation were used in SPSS version 24. The significance level was set at 0.05.

Results: In this study, 382 people were studied. Out of this number, 89 percent were male, and 66 percent were single. Most of the respondents belonged to the 30-35 age bracket. The findings showed that the mean social health (M=3.03, Sd=0.35) was at an average level. Among the evaluated dimensions of social health, the economic dimension was favorable (M=3.09, Sd=0.96). The social trust, as the most significant social capital index, was assessed and the results showed that the institutional trust was low (M=2.14, Sd=0.65). On the contrary, interpersonal trust was at a high level (M=3.14, Sd=1.13). The social harms indicator was at a high level (M=3.07, Sd=0.87), yet physical and mental health were rated as average and low, respectively. Considering life expectancy, the sampling assumed that the life span of the residents has shortened (M=3.75, Sd=0.76), and on education and literacy, their responses proved a moderately high tendency towards academic promotion and towards studying technical majors (M=3.14, Sd=0.9). The environmental condition indicator was also rated as unfavorable, and noise, air, and marine pollution were high (M=2.84, Sd=0.84).

Conclusion: Considering the importance of social health, investigating its different aspects through panel designs can be an appropriate analytical instrument for sociologists, pathologists, and health planners to move from unfavorable conditions to an optimal state.

Keywords: Social health, Lamerd, Health index evaluation

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Introduction

The residents of the southern cities of Iran were among the first people who confronted the manifestations of modernity. The changes occasioned by modernity entering these regions and establishing the industrial and developmental projects have led to changes in the residents' lifestyles. These changes have had many positive and negative consequences, and have influenced the residents' health. Traditionally, there have been two general approaches toward health and its definition. One is a disease-centered approach, which focuses on the presence and absence of illness in the physical and mental categories (1). From this perspective, health is a condition in which there are no illness symptoms in the person, and it is the ultimate goal of medical interventions. In this viewpoint, the role of environmental, social, and psychological determinant factors is usually ignored (2). The other approach, the health-oriented one, defines health as a state of high well-being. According to health theory, a healthy person is assumed to have excellent degrees of health indices. Davani et al. believe that true health is getting strong and capable, along with having a good life (3). The social dimension of health has been, especially recently, considered strongly alongside physical and mental health dimensions. Rafiey describes social health as wholesome social conditions and a community with social health as a society blessed with favorable conditions for people's well-being (4).

Various definitions of social health have appeared that are adopted depending on the type and nature of the research. The definition used in this study, however, is the one proposed by Tavakol. Tavakol states that social health offers a summing up of the social conditions of society and is evaluated as per the relationship between the individual and others and society. This index can be an appropriate analytical tool for applied sociologists, social pathologists, and development strategists (5).

A reduction in social health will cause problems and abnormalities. Under such conditions, social and cultural injuries, insecurity, and mistrust increase, and at the same time, social capital decreases. Economic and livelihood problems increase, and the environment gets damaged. These consequences will eventually destroy societies.

Lamerd is a small city in Fars Province and is located near Asaluyeh in Bushehr Province and Bandar Parsian in Hormozegan Province (6). Regarding the present study, this city is located in the southernmost part of Fars Province. Due to its proximity to the Persian Gulf, it has been the focus of some planning and policymaking in the country and aimed to establish heavy and high-tech industries. Among the oil and gas industries of the country, Parsian Gas Refinery and its feeding gas fields, that is, Tabanak, Veravi, Homa, Shanol, and giant energy industries and the large south aluminum factory, Salco, are located in this region (7). These giant industries have brought changes in the residents' lives, including economic and environmental changes and alterations in population structure.

Considering the health conditions of the society in terms of economic, social, sanitary, demographic, educational, environmental, and social health parameters as various dimensions of social health in the context of a sparsely populated and partly traditional society such as Lamerd seems to be necessary. This study aims to evaluate the dimensions and components of social health in the form of the social health table of Lamerd residents.

Methods

The current study adopts a descriptive survey method, and in terms of purpose, it is applied research. The research population of the current study is 60319 residents of Lamerd city over 20 years of age in 2016. Using Cochran's formula, the sample size for this study was determined approximately 382 individuals:

N = population size.

Z = 1.96, with a confidence level of 95%.

d = 0/5, standard deviation.

p,q = 0.5

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$$n = \frac{NZ^2pq}{Nd^2 + Z^2pq}$$
$$= \frac{60319 \times (1.96)^2 \times (0.5)(0.5)}{60319 \times (0.05)^2 + (1.96)^2 \times (0.5)(0.5)} \approx 382$$

The data collection method implemented in this study was the survey, and the questionnaire, designed and prepared by the researchers, was used for the same purpose. Moreover, the sampling techniques of the present study, firstly, was cluster sampling identified based on three counties of the city (Central County, Ashkanan County, Alamarvdasht County), and selecting a sample according to the quota percentage of each county. Secondly, the final sample was formed based on a fixed process of random sampling for each county. The researcher-made questionnaire included demographic information and was there to assess the social health dimensions.

In this study, social health has been evaluated in seven dimensions: welfare, economy, social status, social harms, health (physical and mental), population, education, and the environment (5). The components and indicators related to every dimension of social health are stated in Table 1.

Table 1. Dimensions, components, and indicators of social health (dependent variable)

Concept	Dimension	Component	Indicator
Social health	Economic and welfare	Employment	Job creation
		Price rise	Changes in land and estate prices, Changes in fares and rentals
		Income	Taking two jobs, Local business boom
	Social	Social capital; trust	Interpersonal trust (family and acquaintances) Institutional trust (organizations and institutions)
	Social harms	Mortal social harms (suicide, addiction, and murder), a feeling of inequality and insecurity	An increase or reduction of such harms
	Health	Physical	An increase or reduction of physical diseases, such as cancer
		Mental	An increase or reduction of mental illnesses, such as anxiety and depression
	Population	Life expectancy	Life span
	Educational	Continuing education	Impact on graduates' education
		Leading individuals towards specific fields of study	Learning technical skills and industry-specific skills
	The environment	Ecosystem health	The impacts of noise, air, water, and soil contaminations
		Natural resources	A change in the quality of farming and food products

To determine the validity of the questionnaire designed for this study, a logical or face validity form was applied to the present research. Aiming to conduct the face validity of the study, university professors and some senior doctoral students were consulted, and their expert opinions were obtained. Finally, after reviewing and amending the original draft, the final questionnaire was designed, and the data was collected. Moreover, reliability evaluates the accuracy of the measuring instrument. It is the degree to which the research method produces stable and consistent results. Cronbach's alpha, which is a measure of internal consistency, was used to evaluate the reliability of the research. The theoretical value of alpha varies from 0 to 1, since it is the ratio of two variances, and the variance in the denominator is always at least as large as the variance in the numerator.

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Nevertheless, based on the estimation mechanism used, alpha estimations can get any value less than or equal to 1, even negative values, even though only positive values are logical (Ritter). Higher values of alpha are more favorable. Table 2 shows that the value of Cronbach's alpha coefficients for social health questions is estimated at 78%.

Table 2. Research variable reliability coefficient

Variable	Variable type	Number of questions	Reliability coefficient
Social health	Indicator	23	0.78
Economic livelihood		3	0.77
Social trust		4	0.78
Social injuries		3	0.75
Physical/Mental health	Subcomponent	2	0.67
Population		3	0.79
Educational		4	0.79
The Environment		4	0.73

Ethical considerations

The authors explained the present study's objectives and the processes and gained the oral consent of the respondents, as they were assured about the confidentiality of their information.

Statistical Analysis

This study assessed various aspects of social health, and 23 statements were used in a Likert scale survey questionnaire. The highest score for each statement was 5, and the lowest score was 1. In positive statements, 'strongly agree' responses were scored 5, and 'strongly disagree' were scored 1. To describe social health, central tendency indices, such as mean and standard deviation, were used in SPSS version 24. The significance level was set at 0.05.

Results

Considering the sampling, about 90% (342) of the respondents were men, and 66% (253) were single. 47% (180) of the population believed that they belong to the middle class. More than 51% (196) of respondents were between 30 and 40 years of age, and 43% (167) of them passed junior high school. A brief description of the personal characteristics of the research population is provided in Table 3.

Table 3. Individual characteristics of the respondents

variable	levels	N	%
Gender	Male	342	89.5
	Female	40	10.5
Marital status	Single	253	66.2
	Married	129	33.8
Social class	Upper class	43	11.3
	Middle class	180	47.1
	Lower class	159	41.6
Age	Less than 25	53	13.9
	25 – 30	67	17.5
	30 – 35	108	28.3
	35 – 40	88	23
	over 40	66	17.3
Level of education	Illiterate	16	4.2
	Junior high school	167	43.7
	Diploma	111	29.1
	Bachelor	40	10.5
	Master	48	12.6

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Descriptive statistics related to the main research variable, namely social health and its welfare, economic and social injuries, physical-mental health, demographic, educational, and environmental parameters, are presented in Table 4. Table 4 is a percentage frequency distribution display of data which is a standard and useful method of expressing the relative frequency of survey responses and other data. It shows the number of responses and their percentage for each aspect of the social dimension.

Table 4. Results of the status of social health dimensions among respondents

Statements	Subcomponent	Very High	High	Medium	Low	Very Low	Mean	Standard deviation
Directly or indirectly, many job opportunities have been provided to residents after establishing the oil and gas industry in this region.	Economic- welfare	49 (12.8)	95 (24.9)	108 (28.3)	99 (25.9)	31 (8.1)	3.08	1.16
The oil and gas industry has made it possible for residents to have other jobs besides farming.		51 (13.4)	96 (25.1)	95 (24.9)	117 (30.6)	23 (0.6)	3.09	1.15
The presence of the oil and gas industry promotes local businesses.		49 (12.8)	96 (25.1)	116 (30.4)	86 (22.5)	35 (9.2)	3.1	1.16
Friends, acquaintances	Social trust	15 (13.1)	99 (25.9)	112 (29.3)	97 (25.4)	24 (6.3)	3.14	1.13
Neighbors		49 (12.8)	93 (24.3)	99 (25.9)	111 (29.1)	30 (7.9)	3.05	1.17
Institutional Trust (Islamic Council, Judicial Officers, Imam Jum'ah, the congressman, and oil and gas authorities)		-	6 (1.6)	93 (24.3)	231 (60.5)	52 (13.6)	2.14	0.65
Family	Social injuries	50 (13.1)	96 (25.1)	100 (26.2)	97 (25.4)	39 (10.2)	3.06	1.2
Mortal Social harms (Suicide, Murder, and Addiction)		42 (11)	130 (34)	161 (42.1)	15 (3.9)	34 (8.9)	3.39	0.93
The feeling of inequality and loss of individual rights		23 (0.6)	139 (36.4)	77 (20.2)	49 (12.8)	94 (24.6)	2.98	1.17
Feeling insecure due to the presence of addicts, strangers, and immigrants		11 (2.9)	119 (31.2)	101 (26.4)	49 (12.8)	102 (26.7)	2.85	1.09
Some people around informed us that they got sick due to the region's repercussions of oil and gas facilities.	Physical-mental health	44 (11.5)	78 (20.4)	92 (24.1)	125 (32.7)	43 (11.3)	3.11	1.19
Neurological and psychological problems (depression) have increased among the locals.		58 (15.2)	69 (18.1)	68 (17.8)	132 (34.6)	55 (14.4)	3.15	1.3
The life span of residents in the region has decreased in comparison to that of previous years.	Population problems	66 (17.3)	165 (43.2)	142 (37.2)	9 (2.4)	-	3.75	0.76
Facility expansion of petroleum industries has increased the life span of residents.		-	20 (5.2)	131 (34.3)	174 (45.5)	57 (14.9)	3.15	1.13
The pollution caused by oil and gas industries has shortened the life span of residents.		43 (11.3)	47 (12.3)	146 (38.2)	103 (27)	43 (11.3)	2.3	0.78

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Statements	Subcomponent	Very High	High	Medium	Low	Very Low	Mean	Standard deviation
Due to the job opportunities created by the oil and gas industries in the region, locals are interested in continuing their studies, especially at the university.	Educational	52 (13.6)	99 (25.9)	109 (28.5)	104 (27.2)	18 (4.7)	3.16	1.11
Due to oil and gas refineries and facilities, more people have turned to technical expertise.		53 (13.9)	94 (24.6)	99 (25.9)	107 (28)	29 (7.6)	3.09	1.17
The necessary motivation to obtain a higher education has increased.		49 (12.8)	108 (28.3)	107 (28)	104 (27.2)	14 (3.7)	3.19	1.09
Attending professional and technical courses has increased among the locals.		49 (12.8)	96 (25.1)	132 (34.6)	53 (13.9)	52 (13.6)	3.1	1.2
Noise pollution	The environment	54 (14.1)	111 (29.1)	119 (31.1)	81 (21.2)	17 (4.5)	3.27	1.08
Air pollution		51 (13.4)	98 (25.7)	93 (24.3)	108 (2.3)	32 (8.4)	3.07	1.19
The quality of farm products and crops such as palm		51 (13.4)	100 (26.2)	97 (25.4)	113 (29.6)	21 (5.5)	1.14	3.12
Sea pollution		52 (13.6)	108 (28.3)	91 (23.8)	115 (30.1)	16 (4.2)	3.17	1.13

Discussion

Several studies have been conducted on assessing the social health of the citizens in each society. Each of those studies assessed one or more dimensions of social health. The present study has evaluated seven dimensions of social health based on Tavakkol's study (5). Frequency and percentage data, along with each question's average evaluated rating, show that the majority of the answers were rated as medium, high, and very high. Therefore, it can be argued that the respondents hold a moderate view about the status of social health in Lamerd. The findings show that the arithmetic average of the educational dimension (3.14) was higher than that of the other subcomponents, and in all, the social health average (3.03) was at a medium level.

As reported in the frequency and percentage table, the data also show that in the economic-welfare dimension, more than 65% of respondents believe that job opportunities have increased, and local businesses have boosted after establishing oil and gas industries in the region. Most respondents rate the assumption as medium and high, indicating a favorable economic and welfare situation in the region. It agrees with the findings of Ogide (8), Miguel et al. (9), Saeedinia and Lobatfard (10), Abedifar (11), Tavakol and Nozari (10), Bazrafshan and Mohammadnia (12), and Keshavarzian (13). Thus, Miguel et al. (9) show that industry and factory establishment are strongly associated with increased income, employment, and consumption, indicating the region's positive industrialization.

In the social dimension of the region, the focus has been on social capital and more explicitly on social trust. This dimension was measured at two levels of interpersonal and institutional trust. The results showed that 74% of respondents rated trusting Islamic Council, Judicial Officers, Imam Jum'ah, the congressman, and oil and gas authorities as low or very low, which indicates a lack of institutional trust among the residents of the region. On the other hand, interpersonal trust among respondents, however, was rated as medium or high. It can be easily understood from the medium, high, and very high_responses of the sampling to trust in 'family, neighbors, and friends.' This outcome agrees with the research conducted by Sabrina Habib et al. (14), Ogide (8), Miguel et al. (9), DiPascal and Glaser (15), Mahdavi and Aziz Mohammadloo (16), Miguel and Kokretti (17),

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Seidlitz & Laska (18), Abedifar (11) and Dehghani (19).

The sampling responses on social harms show their undesirable status. The statements such as "mortal and conservative social harms (suicide, addiction, and murder)," "a feeling of inequality and insecurity," and "feeling insecure due to the presence of addicts, aliens, and immigrants", were rated mostly as medium and high. It is in agreement with the findings of Sabrina Habib et al. (14), Ogide (8), Miguel et al. (9), Baumuller et al. (20), DiPascal and Glaser (15), Mahdavi and Aziz Mohammadloo (16), Miguel and Kokretti (17), Seidlitz & Laska (18), Bursik (21), Abedifar (11), Dehghani (19) and Talebian et al. (22).

In the dimension of physical and mental health, 56% of respondents knew someone around themselves that was sick due to the repercussions of oil and gas facilities in the region. The majority of the respondents rated physical and mental health as medium and high, which bears witness to the negative impacts of industry on the health of residents in Lamerd. This feature agrees with the findings of Granados (23), Ramirez et al. (24), Ogide (8), Gilbert (25), Lyons et al. (26), Campbell et al. (27), Saeedinia and Loubatfard (10), Mokhtari Malek Abadi and others (28), Tavakol and Nozari (7), Keshavarzian (13) and Anbari and Malaki (29). However, the assumption that mental and neurological problems (e.g., depression) had increased among the residents and the natives was rated as low or very low by 50% of the respondents. It indicates that the respondents consider the mental status of the residents of the region desirable.

The statements related to demographic dimensions and specifically life span, such as the statement which says, "the life span of the residents of Lamerd have decreased compared to that in the previous years," show the unfavorable condition of this dimension. More than 87% of respondents rated this statement as medium, high, and very high. Increased facilities resulting from the establishment of the petroleum industry also have not caused the respondents to hold a different view about the life span of the residents. These findings agree with the views of Granados (23), Ramirez (24), Ogide (8).

The results point out the respondents' interest in pursuing higher education and promoting it in the educational dimension. The respondents also mainly were interested in technical majors due to the presence of newly-established industries in the region. This tendency agrees with the findings of Seidlitz and Laska (18).

The last part of the questionnaire has been allocated to the environment, one of the main facets and dimensions of social health. The respondents mostly rated the noise level, air, and marine pollution as medium, high, and very high, which indicates an undesirable status of this dimension of social health for the respondents. This result is also consistent with the findings of Ramirez (24), Bins et al. (30), Saeedinia and Lobatfard (10), Mokhtari Malekabadi et al. (28), Tavakol and Nozari (7), Keshavarzian (13), and Anbari and Malaki (29).

Obtaining the data for each social health table component is crucial in survey research on social health. Sadly, most organizations in charge of such data in Lamerd refused to provide the requested data or did not have any data.

Conclusion

Evaluating and measuring social health and its various dimensions in different regions and communities can be a good tool for policymakers and decision-makers to proceed from the current status to the optimal status. This research offers policymakers a panoramic perspective of the region under study to identify the strengths and weaknesses of the region and the problems and injuries of their residents to make proper plans. The effort to improve the social health of the residents of the regions is highly important.

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Authors' contribution

TM and MM conceived of the present idea, and developed the theoretical framework necessary for the work; MM collected the data, and performed computations. Both authors discussed the results and contributed to the final manuscript.

Conflicts of interest

The authors have no conflicts of interest.

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