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Review Article

The effect of Institutional-Normative Factors on compliance with Health Protocols in the Face of the COVID-19 Disease

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Abstract:

This research examines the effect of institutional-normative factors on compliance with health and safety protocols in the face of the COVID-19 disease in the villagers of Mazandaran province. Mazandaran province has a relatively large geographical area, and for this reason, in the current research, the different villages of the province are divided into three regions: east, west, and center of the province. In this context, an experimental study was conducted to analyze normative-cognitive factors. Using a questionnaire, 338 residents of the villages of Mazandaran-Iran formed the sample of the present study. The residents of the village were selected and studied using the cluster sampling method. The influence of the normative cognitive factors related to the villagers is discussed in the face of the experimental data analysis framework. The results of the research showed that there is a significant relationship between the type of job of the villagers and the marital status and compliance with health protocols. Also, a negative and significant relationship was found between gender, length of residence in the village, and the number of family members. The results of the regression showed that the social norms of the village residents and the network of acquaintances and relatives had the strongest effect on compliance with health protocols. The present study showed that social norms, which are one of the cultural elements, have direct results in the rural communities of Mazandaran and increase personal protection behaviours.

Key words: institutional-normative factors, social norms covid-19, personal protective behaviour, mazandaran province

Introduction

Villages are built as powerful settlements based on social (collectivism, participation, and cooperation), economic (joint farming), and political (defense against existing potential risks) needs, with their decisions and actions they can have many positive and negative effects. Put on food, clothing, housing, work, way of life, government, health and recreation of the society, Therefore, they should be responsible for their effective decisions and actions and observe ethical considerations to achieve sustainable development goals through economic development, social progress, and environmental responsibility. [1]. Therefore, the issue of health and hygiene in the village environment and among villagers cannot be left alone. Rural management and planning can be comprehensive and achieve its real goals when it finds solutions to all aspects and problems that the villagers are dealing with [2].

In the context of the spread of the coronavirus disease, the issue is also of vital importance, because in addition to health, the issue of human life is also discussed, and for this reason, various solutions have been proposed to deal with the spread of the corona disease in the rural areas of Mazandaran. Some studies in Iran showed that although the spatial distribution of the coronavirus is from the center (Qom province) to other provinces [3], the northern provinces - especially Mazandaran province - in Iran because of receiving a large number of tourists and their stay in the villages and some cultural features such as the tradition of collectivism, the number of people suffering from the disease was very high in this province.

For example, the representative of the Minister of Health in the affairs of Corona Disease in Mazandaran and Golestan provinces, who believes that the center of contamination was transferred to the villages of Mazandaran province and this chain should be broken as soon as possible, asked the travelers and also the natives of the villages to Avoid traveling to the villages of Mazandaran. In contrast and as a different solution, rural youths in some areas of the province started restricting traffic in the villages in the middle of March 2018 with the high prevalence of the

coronavirus disease in urban areas. Of course, most of their focus was on the traffic of non-natives, who mostly either owned villas in these areas or sought to settle in rented houses in the villages [4].

Therefore, one of the points that was pointed out in some research, including [5], is the existence of some personal factors with subcategories: people's experiences, cognitive ability, physical factors, different levels of motivation, sense of responsibility, risk management, and self-management skills. that are effective in the preventive behaviour of people in the face of the COVID-19 disease.

In this regard, the government's policy of developing health guidelines and protocols is the most general and the most appropriate way to protect people's health against the coronavirus. It seems that the degree of compliance or non-compliance with these guidelines and protocols is influenced by various individual and social factors, which study is necessary and necessary to strengthen preventive behaviours.

One of the factors that should be considered in health policies during the coronavirus pandemic is social norms. These norms act as a deterrent to people to comply with health guidelines. Social norms are formal, informal rules that guide people's behaviour in groups and social environments (Stanford Philosophical Encyclopedia, 2022). Understanding that social norms must work to support healthy behaviour change.

The results of the research [6] showed that a type of horizontal communication in which information is shared in trusted social networks can form social norms that influence the adoption of preventive behaviours against COVID-19 and it slowly inhibits the general spread.

Currently, there is no proper and scientific understanding of how villagers deal with the COVID-19 virus, and for this reason, policies and plans without specific direction target all classes and social groups, which is both costly and ineffective. And sometimes it may be undesirable.

Undoubtedly, extensive efforts are made by the responsible institutions to preserve the health of the villagers and prevent the spread of the coronavirus among them, but the scientific and historical experience in the field of medical sociology shows that the solution is here as well. The main thing depends on people's participation and acceptance of social responsibility by everyone.

A person's subjective norm is determined by his or her normative beliefs, that is, whether significant others and reference groups approve or disapprove of the behaviour. Some researchers believe that institutional rules and regulations form institutional frameworks to influence human behaviour. Otherwise, they are not truly institutionalized [7]. It is more difficult to accept the model of social norms in rural society, especially in the coastal cities, because it is feared that tourists will strengthen the practice of not adhering to the norms. [8].

During the coronavirus era in Iran, especially with the start of the second wave of COVID-19, the government set special regulations to prevent people from traveling and traveling to coastal and marine areas as well as tourist areas. These rules also include institutional rules (such as that the interests of activists are regulated) and normative rules (which regulate the behaviour of individuals in groups). With this description, in this regard, the current research aims to explain the sociological institutional-normative factors affecting compliance with health protocols in the face of the COVID-19 disease, and the main question of the research is what institutional and normative factors affect compliance with health protocols in the face of Is the disease of Kovid-19 effective?

Literature

Theory of planned behaviour

The theory of planned behaviour focuses on theoretical constructs related to individual motivation factors as factors that determine the probability of performing a certain behaviour.

This theory considers the best predictor of a behaviour to be the intention to perform the behaviour, which in turn is determined by the attitude towards the behaviour and the normative perceptions about it.

The theory of planned behaviour is an extension of the theory of reasoned action and includes an additional construct: perceived control over performance.

This theory focuses on attitudinal constructs, subjective norms and perceived control, explains a large part of the variance of behavioral intention, and predicts several different behaviours, including health behaviours [9].

One of the theoretical constructs is attitude, but there is a difference between attitude towards an object and attitude towards behaviour. For example, many attitude theorists have measured the attitude towards an issue such as the attitude towards cancer to predict a behaviour such as getting a mammogram.

Fishbein proved that the attitude towards the behaviour, such as the attitude towards mammography, is the best predictor of mammography behaviour than the attitude towards the subject, i.e., cancer [10].

Fishbein and Ajzen (1975) have shown that it is important to have a high degree of congruence between the measures of attitude, norm, perceived control, intention, and behaviour in terms of action, goal (e.g., mammography), context (e.g., at the mammography center), and time (for example, in the next twelve months).

A change in each of these factors causes a behaviour change. Low compatibility between the model-building criteria on each of these factors will lead to a low correlation between the variables of the theory of planned behaviour, while high compatibility leads to a high correlation [11].

Theoretical constructs of the theory of planned behaviour

Attitude is determined according to a person's beliefs about the results or characteristics of performing behaviour (behavioral beliefs), which are measured by evaluating those results or characteristics. That is, a person may have a firm belief that his behaviour leads to positive results, he has a positive attitude towards behaviour. On the contrary, a person who has a strong belief that his action will be evaluated with negative results will have a negative attitude towards that action.

In the same way, a person's mental norm is determined according to his normative beliefs, that is, whether important others and reference groups approve or reject the behaviour. A person who believes that some important others think he should perform a behaviour and is motivated to meet their expectations finds a positive subjective norm.

On the contrary, a person who believes that important others think he should not perform a behaviour, a person will find a negative mental norm, and a person who is less motivated to comply with the expectations of reference groups or important others will have a relatively neutral mental norm.

Some researchers added the concept of perceived behavioral control to the theory of rational action to include factors beyond the individual's control that affect intentions and behaviour. [12].

With this added variable, they built the theory of planned behaviour. Perceived control is determined by control beliefs, which are related to the presence or absence of facilitators and barriers to behavioral performance.

Perceived control is necessary to facilitate or diffuse behaviour. The inclusion of perceived control was partly based on the idea that behavioral performance is jointly determined by motivation (intention) and ability (behavioral control). [12].

A person's perception of control over behavioral performance, along with intention, is expected to have a direct effect on behaviour, especially when perceived control is an accurate assessment of actual control over behaviour and volitional control is not high. The effect of perceived control is reduced, and intention is a sufficient predictor of behaviour in situations where voluntary control over behaviour is high [13].

Therefore, similar to Triandis' conceptualization about the facilitating conditions of perceived control, it is expected to moderate the effect of intention on behaviour, however, this assumed interaction has not been empirically confirmed.

In the theory of reasonable action and planned behaviour, they assume a scientific chain that connects behavioral beliefs, normative beliefs, and control beliefs to behavioral intention, and behaviours are connected through attitudes, mental norms, and perceived control. Fishbein and Ajzen have specified and quantified the hypothesized causal relationships between the components of the model. This is one of the strengths of these two theories. It is assumed that other factors act not independently, but like demographic and environmental variables, through model structures.

Planned behaviour assumes that perceived control is an independent factor of behavioral intention along with attitude towards the behaviour and subjective norm. By keeping the attitude and mental norm constant, a person's perception of the ease or difficulty of the behavioral performance will affect his behavioral intention. The relative weight of these three factors in determining intentions should be different for each type of behaviour and social group. Few studies have operationalized perceived control using basic measures of control beliefs and perceived power. Instead, researchers have used more direct measures of perceived control [14]. (According to table 4).

Attitude is determined according to a person's beliefs about the results or characteristics of behaviour (behavioral beliefs), which are measured by evaluating those results or characteristics. That is, a person may have a firm belief that his behaviour leads to positive results, and he has a positive attitude towards behaviour. On the contrary, a person who has a strong belief that his action will be evaluated with negative results will have a negative attitude toward that action [15]. Regarding the topic of the article, we tried to say that if the villagers have a positive evaluation of their protection in the face of coronavirus, they will also have a positive attitude towards it and vice versa. This is the application of this theory in the subject of research.

Social Nan Lin is one of the first thinkers who proposed the theory of social capital and its effect on health, life satisfaction, and happiness in 1982.He emphasized three types of social capital: in-group, out-group, and institutional. Intra-group capital (bonding constraints) is defined as the number of social contacts a person has with others during the day. In intragroup capital (bonding constraints), Nan Lin emphasizes kinship capital, trust, and social support that he gets from close friends and acquaintances, and finally, in institutional social capital (cohesion constraints) he emphasizes the individual's membership and participation in groups and institutions. It refers to large and voluntary associations. He compares social capital at the micro level, i.e., families and small groups, with social capital at the middle level, such as trust in neighborhood groups and neighbors, and social capital at the macro level in the form of trust in institutions and organizations. The model **(Figure 1)** shows the effect of social capital on mental health.

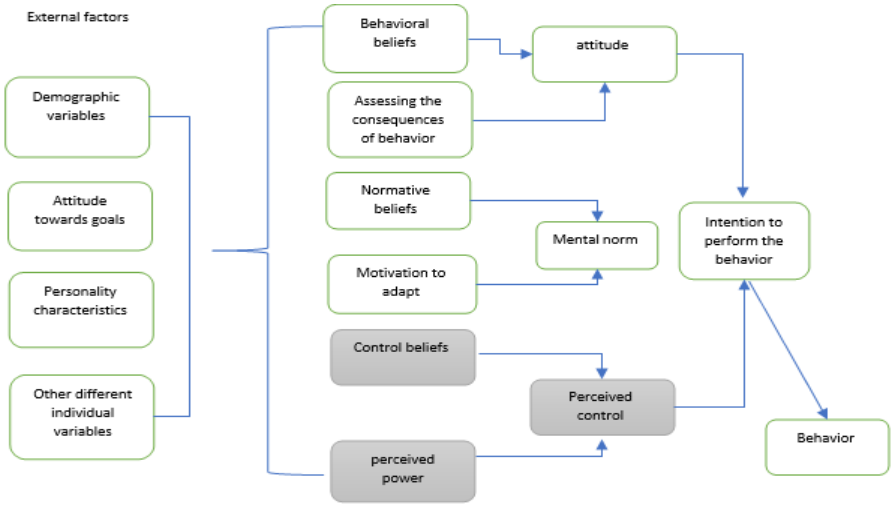

Figure 1: Theory of Planned Behaviour

Corona brings with it psychological damage such as fear, stress, and depression, which threatens the health and mental health of social groups. Various viewpoints, such as biological and psychological, examined the cause of mental illnesses from their perspective. Sociological perspectives consider unequal social structure, social roles, lack of social support resources, and social capital as a threat to the mental health of society.

Social capital reduces the impact of negative life events (such as job loss or marital disputes) and makes long-term problems (such as long-term physical and mental illnesses) bearable. Therefore, knowing the mechanism and how social capital affects health is of particular importance at this particular time when society is involved in the coronavirus disease.

The presence of social capital, networks, and social support leads to a sense of ease, reducing anxiety, increasing the power of the body's defense system, and ultimately, mental health, capital and health.

Conservation motivation theory

- Health behaviour theories can help to better understand the factors affecting protective behaviours for health promotion planning. The conservation motivation theory was proposed by Rogers (1975) and has been widely used as a framework for predicting conservation behaviours [16]. Conservation motivation theory is well-suited to examine how beliefs enter into intentions and behaviour. This theory is used to apply effective communication to modify suggestions for improving behaviour and action. Therefore, with the explanations given in the discussion of intervention stages for treatment and behaviour change, this theory can be a suitable theory for designing intervention programs [17].

A series of related research shows that the theory of conservation motivation is well able to predict whether or not to use conservation behaviours [18,19, 20].

The theory of protection motivation is effective for investigating behaviours such as receiving the influenza vaccine, epidemic prevention behaviours, cancer prevention behaviours, sun protection behaviours, SARS prevention behaviours, and behaviours related to infectious diseases and skin cancer prevention [21].

According to the theoretical literature, the research hypotheses can be formulated as follows:

There is a relationship between the amount of contact with the risk (the amount of exposure to the conditions of corona infection) and compliance with the health instructions of the villagers.

There is a relationship between the personal experience of coronavirus and the compliance with health instructions by the villagers.

There is a relationship between the social norms related to the spread of the coronavirus and the observance of health instructions by the villagers.

There is a relationship between institutional trust and compliance with health guidelines by villagers.

There is a relationship between the facilities and facilities to deal with the coronavirus and the compliance with the health instructions by the villagers

There is a relationship between the degree of compliance with the health guidelines for dealing with COVID-19 and the demographic characteristics of the villagers (age, gender and education level, income, employment status, number of family members, and length of stay in the village).

Methodology

In terms of methodology, this research is included in survey research, which has been used to collect data using a researcher-made questionnaire.

Related to the benefit of cost-effectiveness is a survey's potential for generalizability. Because surveys allow researchers to collect data from very large samples for a relatively low cost. Of all the data-collection methods, survey research is probably the best method to use when one hopes to gain a representative picture of the attitudes and characteristics of a large group. [22].

The questionnaire is a highly structured technique for data collection, in which each respondent is asked the same set of questions. For this reason, the questionnaire provides a very efficient way to form a variable matrix by case for large samples [23].

In the data collection section, first, in order to evaluate the respondents' interpretation of the meaning of the questions and check whether the range of answers is sufficient or not, we used the professors and experts of the research team, after that we implemented a complete questionnaire and 35 people completed it. And according to the questioners, information was obtained about the linguistic and physical reactions of the respondents to the questionnaire and questions. The duration of completing each questionnaire was calculated as 5 minutes. Again, it was the time of pre-examination in September. And after the final revision of the questionnaire, 363 questionnaires were distributed, and the data were collected during the months of February and March 2019 [15].

Mazandaran Province According to the census of 2015, the population of Mazandaran Province is 3,283,577 people, which includes 1,084,786 households, 1,654,007 men and 1,629,570 women. 50.37% of the province's population are men and 49.63% of the province's population are women. 57% of the province's population live in cities and 43% of the province's population live in villages [24]. The geographical situation of the target area - Mazandaran province - is shown in **Figure 2.**

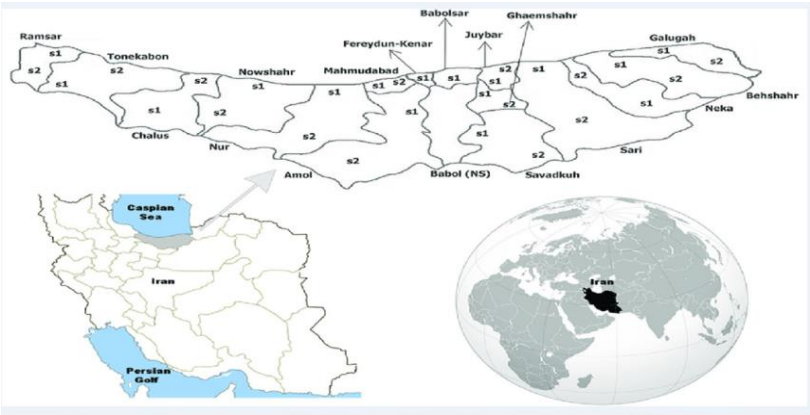

Figure 2: Mazandaran province

The statistical population of the present study is made up of all the residents of the rural areas of Mazandaran province in 2019. of which 338 people were determined as a statistical sample and selected and studied using the cluster sampling method.

Mazandaran province has a relatively high geographical extent, and for this reason, in the current research, the various villages of the province are divided into three regions: east, west, and center of the province. Considering the geographical extent of Mazandaran province especially the difficulty of accessing villages and the time limit and finally, the very high cost of accessing samples in rural areas, choosing samples that represent the entire community is not an easy task. it has been tried to use the most appropriate sampling method - multi-stage cluster sampling.

In the first stage, the cities of Mazandaran province were classified into three groups, and each of them was placed as a cluster.

In the second stage, each cluster was divided into three regions: mountainous, coastal, and plain.

In the third stage, two villages were selected from each mountainous, plain, and coastal region, two villages were in the red status from the point of view of the corona and two villages were in normal status. Thus, a total of 36 villages were selected as samples.

In the fourth step, one person from each household was selected as a sample and Cochran's sampling formula was used to determine the number of samples. The research sample in a household was the first

person who opened the door of the yard or house and was over 18 years old, otherwise, he was asked to call the next person and was replaced.

To verify the validity of the face validity method, as well as the reliability of the tool, it has been confirmed using Cronbach's alpha coefficient. In this research, a multi-stage sampling method will be used. In multi-stage sampling, society members are selected according to the hierarchy (from larger to smaller units) from various units of the society.

The reason for this, considering the time limit and the difficulty of financial access, is the geographical extent of Mazandaran province, which covers an area of 23,756.4 square kilometers from the west in Golugah to the east in Ramsar and about 46.1% of the country's area.

To implement the multi-stage cluster sampling method, the following activities were performed. In the first stage, the cities of Mazandaran province were classified into three groups, and each of them is considered as a cluster:

In the second stage, each cluster was divided into three regions: mountainous, coastal, and plain. In the third stage, four villages were selected from each mountain, plain, and coastal region, two of which were in the red status from the point of view of Corona, and two villages were in normal status. Thus, a total of 36 villages were selected as samples.

In the fourth step, one person from each household was selected as a sample and Cochran's sampling formula was used to determine the number of samples. The research sample in a household was the first person who opened the door of the yard or house and was over 18 years old, otherwise, he was asked to call the next person and was replaced.

Results

Table 1 shows the characteristics of villagers regarding exposure to the coronavirus in different variables in terms of percentage. For statistical analysis, we selected descriptive statistics to document the characteristics of the sample and the distribution of categories of items. In addition, the descriptive findings clarify the conditions of the variables and show that the largest number of people (29.2%) lived in the village under investigation between 21-30 years ago. The average duration of residence was 22.16 years. Also, regarding the number of family members of the participants, it should be said that the largest number of rural families (115 people) out of 363 farmers in the surveyed community (31.2 percent) had 3 family members.

In addition to what is seen in the table, the investigation of inferential statistics indicating the variables of the research showed that the relationship between the type of job and personal protection behaviour in the face of the coronavirus, according to the statistics obtained from this test, F=6.309 and the level Significance (sig=0.000) significant relationship was observed. Examining and comparing the average of different jobs showed that the participation rate of people with government jobs and personal protection behaviour is higher than other occupational groups because they have a higher average. These two variables have a negative (sig=0.006) and inverse (T=-2.741) significance. Also, the findings of the research showed that the average of personal protection behaviours among women was higher (M=44.39).

Regarding the relationship between marital status and personal protection behaviours, the results of the test showed that the rate of adoption of personal protection behaviours is higher among people without a spouse (due to divorce) because they have a higher average (F=0.780), but the significance level of the test (Sig= 0.506) showed that this relationship is not significant.

Age		**Marital status**		**Educational Level**		**Income Level**		**Gender**		**Main Job**	
18-24	12.9	Single	35.3	Illiterate	1.9	Under 1Mil	0.6	Man	44.3	Private	0
25-29	21.5	Married	55.6	Elementry 1	0.6	1-2 Mil	23.7	Woman	55.4	Public	131
30-34	20.7	no spouse	2.8	High Schoole	12.1	2-3 Mil	28.1			Free	48
35-39	19.3	Without spouse	1.4	Diploma	33.3	3-4 Mil	23.4			Student	154
40-44	9.9			Masters	44.1	More than 4	17.9			Farmer&Rancher	21
45-49 50-54 55-59 60+	5 2.2 3.9 3			Master and above	8					Unemployed Retired Housewife	72 1.7 14.6
	Age	**number of family members**		**Income Level**		**Education Level**		**Residence**			
Correlation	0.036	-0.147		0.066		0.063		-0.133			
Sig	0.506	0.011		0.241		0.242		0.019			

Table 1: Correlation of the variables of the research

The partial correlation coefficient indicates the strength of the relationship between two variables leading to the elimination of the effect of other independent variables that have been removed. By calculating the partial r between each independent variable and the dependent variable and comparing them, it becomes clear which independent variable is the most accurate predictor of the dependent variable. The above table shows a partial correlation between independent variables and energy consumption.

The most accurate predictor variables	**The significance level**	**Partial correlation coefficient**
social norms	0.000	0.224
Facilitating conditions	0.008	0.162
Institutional and legal conditions	0.047	-0.122
Institutional trust	0.571	0.035
Personal experience of Corona	0.717	0.022
The behavioural process of facing Corona	0.173	0.084

Table 2- Partial correlation coefficients between predictor variables and individual protection behaviours

As can be seen, individual social norms have the strongest net relationship with individual protection behaviours, and in other words, it is the best predictor. In Table 3, first, the correlation test of the main research variables and then the multivariable regression results are shown to explain the variance of the independent variables.

variable	social norms	Facilitating conditions	Institutional and legal conditions		Institutional trust	The behavioral process of facing Corona	The behavioural process of facing Corona
Correlation	0.248	0.137	0.021		0.088	0.162	0.162
sig	0.000	0.010	0.700		0.108	0.004	0.004
		model	**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig**
			B	**Std. Error**	**Beta**		
		Constant	3.312	0.267		12.383	0.000
		social norms	0.40	0.012	0.204	3.401	0.001
		Convenience. Facilitating	0.018	0.011	0.105	1.662	0.098
		Length of stay in one place	-0.010	0.003	-0.225	-3.580	0.000
		Age	0.009	0.003	0.184	2.944	0.004
		Institutional Condition	-0.026	0.012	-0.130	-2.141	0.033
	R=0.221	**R Square =0.049**	**Adjusted R Square=0.046**		**Std. Error of the Estimate=0.50049**		

Table 3: Correlation coefficients between variables

Variable social norms Facilitating conditions Institutional and legal conditions Institutional trust the behavioral process of facing Corona The behavioral process of facing Corona

Discussion

The present study was conducted to investigate the effective factors of compliance/non-compliance with these health guidelines by individuals and the role of various factors in compliance/non-compliance with these health guidelines among the villages of Mazandaran province, so this research tries to answer these two basic questions: What are the preventive behaviours of the villagers towards the coronavirus? And what factors influence these behaviours? The variables of the current research were extracted and analyzed from Rogers' conservation motivation theory.

The findings of the research showed that there was a significant relationship between the variable of type of job and personal protection behaviour in the face of the coronavirus. The findings of the current research showed that people in the freelance work group are probably more protective behaviour than other job groups. They observe a person facing the coronavirus. When different countries were facing the coronavirus pandemic, the occupational exposure of different groups was one of the important and discussed issues. The results of showed [25], that occupational transmission is very important in the spread of infectious diseases, and the characteristics of the coronavirus and its transmission routes may cause a high transmission rate among employees and workers. The owners of government jobs in the village, unlike the owners of independent jobs, have to enter and leave at certain hours. Their level of awareness and the amount of information they should have regarding protective behaviours are communicated to them through health protocols and instructions through the organization, as a result, their self-care in the face of the coronavirus is much more than other occupational groups. On the other hand, another significant issue is job security. The job groups that work in government organizations and offices have higher job security, which is why they pay more attention to their own and others' health as a social responsibility. [26], The meta-analysis results showed that the effect size of employee empowerment and job security with 0.57 and the effect size of job satisfaction and job security with 0.52 are high; Also, the relationship between organizational commitment and job security in the reviewed studies was evaluated as 0.43 and average.

Also, examining the relationship between gender and the level of individual protection behaviour shows the significance of these two variables. Although this negative and inverse relationship is in favor of women. The results of Tan et al.'s research showed gender differences in risk perception, health protective behaviours, vaccine hesitancy, and compliance with contact tracing using a hypothetical viral pandemic. Gender-specific health education that increases awareness of health-protective behaviours may help prevent future epidemics. With the start of the coronavirus pandemic and after a few months, in addition to the efforts of the medical staff to control the rate of illness and death, various branches of science sought to find variables that can influence the rate of adaptation and adaptability, among them the gender variable. It was introduced as an influencing variable on health and self-care adaptations. In addition to social characteristics, research results showed that women have a higher score than men in terms of agreeableness and conscientiousness, and are more willing to comply with a set of their behaviours have care [27],. Some researchers showed a negative and significant correlation between women's self-care in the prevention of corona with stress, anxiety, worry, and fear. Also, age was calculated as an influential variable here, because the self-care of women increased with age, especially during the corona era. [28], Also, the research of [29], regarding the knowledge and behaviours of prevention of COVID-19 and its related factors in the rural population referring to health centers: a cross-sectional study showed that regarding the relationship between gender and Preventive behaviours against COVID-19 that are consistent with the results of our study seem to be because women have more responsibility towards other family members.

Regarding the relationship between marital status and personal protection behaviours in the face of COVID-19, the results of the test showed that this relationship is not significant. No significant difference was observed between being single or married and the level of acceptance of protective behaviours against coronavirus among villagers. [30] showed that married people had more supportive and self-care behaviours than single people. What is important is that the state of marriage in villages is an influencing variable, that the average age of marriage of villagers is usually lower than that of residents of urban areas, although according to statistical yearbooks, the average age of marriage in recent years in Mazandaran province is both among men and among women. There has been an increase among women, but during the period of exposure to the coronavirus, protective behaviour has not been affected by the marital status of villagers in Mazandaran province. Several studies, including [31]

and [32] showed that marriage has a protective effect because married people have more family support and healthy behaviour. The study [33] suggests that health education about COVID-19 among PLHIV should be directed more toward single women under 25 years of age. The reason for the lack of significant difference between single and married people in facing the coronavirus and adopting protective behaviours such as disinfecting hands, wearing masks, and observing social distancing in the villages of Mazandaran province can probably be the lack of awareness of how to protect and self-care people. Different (regardless of their marital status) in facing the coronavirus, especially at the beginning of the disease.

Examining the relationship between age and personal protection behaviour in the face of COVID-19 among villagers, no significant relationship was observed. The results [34] showed the effect of age on increasing protective behaviours during the COVID-19 pandemic. Also, the results [35] showed that age differences in avoiding crowded gatherings and wearing masks remained constant under different health policies but were moderated by psychological variables. The introduction of stricter policies alone was not associated with higher adoption rates of preventive behaviours but moderated the effects of age and risk perception. Hypothetically, it is thought that as the villagers get older, their understanding of personal protection behaviours in the face of COVID-19 should increase because the elderly is generally more inclined to protect themselves due to the fear of disease, the presence of some underlying diseases or death. They have their own. Along with the results of this research, the results [36] showed that the relationship between the age of the respondents and the change in individual behaviour was inconsistent and mostly weak. Older people are less likely to adapt their working conditions, self-quarantine or use disinfectants. However, the possibility of changing behaviour increases with age to maintain distance from other people and reduce personal meetings and contacts.

Examining the relationship between family structure (number of family members) in the face of COVID-19 among villagers, there is a negative but very weak relationship. In other words, as the number of family members decreases, individual protection behaviour increases. It seems that the smaller the number of family members, the more responsible the family members are towards each other. Despite the existence of various incentive systems in the country regarding increasing childbearing, in Mazandaran province, the fertility rate in 1401 was 1.1%. In fact, after Alborz province, Gilan and Mazandaran provinces have the lowest fertility rates [37]. On the other hand, according to the statistics of the secretariat of the National Council of the Elderly in Mazandaran province, the average rate of old age in the country is 4.4 percent, and this rate in Mazandaran province is 49 percent, according to the latest statistics, and this confirms that Mazandaran is one of the leading provinces. It is towards old age (https://snce.ir/?p=16201). Although the average fertility rate in rural areas is higher than in urban areas, Mazandaran province is an exception to this rule because this province faces a kind of "geographical-cultural entanglement" due to the proximity of urban and rural areas, which is why the fertility rate in the city is low. It is not noticeable in rural areas, and therefore, even in villages, individual protection behaviour increases with the decrease in the number of family members. The results [38] emphasize the change in family relationships during the COVID-19 era in such a way that conflict results in a long-term relationship. This result suggests that social distancing during the coronavirus era is related to family distancing because respondents who live with many family members may be at risk of transmission of the coronavirus through social gatherings.

Examining the relationship between education level and personal protection behaviour in the face of coronavirus among villagers showed that there was no significant relationship between these two variables. Although it seems that the level of education is a determining variable, especially among rural people and residents of urban areas, that is, in rural areas that have a lower level of education, the amount of personal protection behaviour that is caused by the awareness of the general public in facing the coronavirus is lower. However, this was not the case in the present study. On the one hand, the economy of the rural community and its economic activities have minimal diversity, and on the other hand, a high proportion of workers are active in basic and very necessary jobs (agriculture, the process of providing food and supplies, etc.). The level of education in the village is low, and most of the educated people migrate. For this reason, the main residents of the villages are mainly small landowners and seasonal workers, and due to the vulnerable economy and no pension, the rural farmers behave even in the conditions of coronavirus. Their personal and preventive protection does not make much difference. The results [39] showed that the level of education of the subjects was the strongest predictor of the structures of protective motivation theory. Also, the results [40] showed that the level of education of the participant has a positive relationship with the practice and face mask technique despite the presence of some diseases.

Some researchers analysed the influencing factors in public health behaviours during the SARS epidemic and found that during the SARS outbreak in China in 2003, the creation of public health behaviours by spatial variables such as urban and Rurality and education level were affected. The health behaviours of rural residents and people with low education levels were weak [41]. Examining the relationship between income level and personal protection behaviour in the face of COVID-19 among villagers showed that there is no significant correlation between income and personal protection behaviour. The results of the research by [42] showed that there was a positive relationship between the unemployment rate and livelihood stagnation. Finally, cluster analysis showed that low-income people in urban and rural areas were subjected to its negative consequences. From the perspective of elderly people's knowledge about pneumonia and other diseases, some scientists have investigated the level of knowledge about pneumonia (pneumococcus) in the elderly and found that the knowledge of pneumonia among people with different levels of education and monthly income levels is different. Elderly people with higher levels of education and monthly income had higher levels of awareness [43]. In the current research, due to the economy of the rural society and its extreme vulnerability to the occurrence of health pandemics, the amount of income is greatly reduced, on the other hand, since the migrations from the village to the city always occur by the young, educated, and men. Therefore, it can be said that the elderly, illiterate, and women form a significant class in rural society, and they usually form a low-income class because they mostly lost their spouses and rely on the government's patronage pass the time.

Investigating the relationship between the length of stay in the place and the personal protection behaviour in the face of Corona among the villagers, there is a weak but negative correlation between the personal protection behaviours and the length of stay in the village. As the length of stay in the village increases, personal protection behaviours decrease.

Examining the relationship between social norms and personal protection behaviour in the face of COVID-19 among villagers showed that there is a significant relationship between these two variables. The current research showed that social norms, which are one of the cultural elements, have direct results in the rural communities of Mazandaran and cause an increase in personal protection behaviours. In the theory of reasonable action and planned behaviour, they assume a scientific chain that connects behavioral beliefs, normative beliefs, and control beliefs to behavioral intention, and behaviours are connected through attitudes, mental norms, and perceived control. The results of the research findings are aligned and consistent with the results of previous research such as [44,45,46].

Examining the relationship between facilities and personal protection behaviour in the face of Corona among the villagers of Mazandaran province showed the significance of these two variables, whatever the facilities and facilitating conditions (the availability of the necessary and effective infrastructures that people need for appropriate behaviour) have which is applied by the government in the face of theCOVID-19 virus,

the more the protective behaviour that people consider, the better will be the research results [47,48] also confirm the positive effect of facilitating conditions on individual protection behaviours.

Investigating the relationship between institutional-legal conditions and personal protection behaviour in the face of coronavirus among villagers showed that there is no significant relationship between these two variables in the villages of Mazandaran province. Some researchers believe that institutional-legal conditions form institutional frameworks. To influence human behaviour [7]. Otherwise, they are not institutionalized. It seems that because the institutional-legal conditions and the facilities are two dimensions of the facilitating conditions, they return to the part of the structures that the government should provide. It seems that the relationship between these two variables should be significant, but it was not significant in the rural society of Mazandaran province. Moreover, in the distribution of variable items of legal institutional conditions, the highest average was related to the item "lack of financial support from the government to the people against Corona". Contrary to the results of this research, the results [49]. Research on the relationship between the factors affecting the perceived effectiveness of the "MorChana" risk assessment mobile application for COVID-19 in Thailand showed that facilitating conditions have a significant relationship.

Examining the relationship between institutional trust and personal protection behaviour in the face of COVID-19 among villagers shows the significance of these two variables. In other words, the higher the level of institutional trust in all its dimensions (scientific duty, competence, honesty, confidentiality, and comprehensive trust) in the government institution and scientific institutions related to COVID-19, the greater their participation in complying with health guidelines and adopting protective behaviours. There will be far more people to confirm the results of this research, and the results [50,51] showed that social capital affects preventive behaviours in two different ways: also, institutional trust and social support have a positive effect on the adoption of preventive behaviours by people.

Examining the relationship between personal experience of Corona and personal protection behaviour in the face of Corona among villagers, there is no significant relationship. It seemed that the more people's personal experience of getting infected with corona disease, the more they would follow the health guidelines. Of course, among the villagers of Mazandaran province, this relationship has not been meaningful, that is, the individual experience of the COVID-19 disease has not been a deterrent to taking personal protective behaviours and following the instructions, which can be attributed to the level of education and awareness. The villagers compared to the city dwellers regarding the severity of the disease and also the low income of the people living in the village due to the existence of an economy dependent on agriculture, animal husbandry, or animal husbandry. The results of this research, the findings [52] research, showed that the analysis of 392 data at the daily level confirmed the positive relationship between the daily news of COVID-19 and daily protective behaviours, which was mediated by the daily anxiety of COVID-19. Furthermore, the mediation effect was significant for participants with direct experience of COVID-19 in Wuhan in 2020 but not significant for those without direct experience in Wuhan.

The theory of planned behaviour focuses on theoretical constructs related to individual motivation factors as factors that determine the probability of performing a certain behaviour. Facilitating factors and conditions, legal, and social norms, have caused the improvement of personal protection behaviours. Meanwhile, the effect of legal conditions has been negative, which can be statistically said that as legal conditions weaken in rural society, the tendency to perform personal protection behaviour increases. The current research showed that social norms, which are one of the cultural elements, have direct results in the rural communities of Mazandaran and cause an increase in personal protection behaviours. It should be seen if it is the same in other provinces, for example, in the south, east, or west. Therefore, it is necessary to use the method of ethnography and participatory observation or unstructured interview in the form of a qualitative approach and identify effective cognitive and attitudinal elements before conducting the survey.

Conclusion

By analyzing the impact of institutional-normative factors on compliance with health protocols in the face of the COVID-19 disease among the villagers of Mazandaran province, we realize that social norms play a prominent role in compliance with health protocols in the face of theCOVID-19 disease.

The results of the analysis showed that the compliance of family members with the health instructions in rural families has a great impact on reducing the epidemic of disease. this issue is especially evident in the village where the spirit of obedience and collectivity of family members is more. What we have found is that the smaller the number of family members and the length of stay in the village, the better and more accurate the compliance with the instructions for the COVID-19 disease. Imposed isolation and a large number of family members will lead to domestic violence and tensions between family members.

Facilitating conditions were raised in the form of two dimensions: institutional-legal conditions and institutional trust. Considering the rural environment of Mazandaran, it should be said that trust is more in friends and acquaintances than in government institutions and organizations, and people do not trust government organizations, media and virtual networks. They don't pay attention and the kinship network in the rural area has performed better to prevent and comply with health guidelines.

Rural women were more successful in complying with health instructions, they felt more social responsibility than other members of their family, and this mental acceptance of responsibility encouraged them to comply with these instructions, this shows that women in rural society can be "health ambassadors" and the protection of individual behaviour in the epidemic of the disease Kovid-19 should be introduced.

Statements about the limitations and opportunities of future research It should be said that the results of the current research are not related to all sections of the rural communities of Mazandaran and the effect of cultural norms on the increase of personal protection behaviours. It should be seen that it is the same in other provinces, for example, in the southeast or the west. Therefore, before conducting the survey, it is necessary to use the method of ethnography and participatory observation or unstructured interview in the form of a qualitative approach and to identify effective cognitive and attitudinal elements.

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