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# Analysis of the Effects of Housing Quality on Health (Physical and Mental) of Villagers (Case Study: Villages of Shandiz District in Binaloud County)

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## Abstract

**Purpose**- Quality and living conditions of humans are heavily reliant on their housing. A suitable shelter will prevent illness and damage to a large extent and plays a crucial role in promoting people's mental and physical condition. This study seeks to analyze and evaluate the effects of improving the quality of housing on promoting the physical and mental health of villagers.

**Design/methodology/approach**- This is an applied research that adopts a descriptive-analytical method. The main data collection instrument is a questionnaire. The studied area is Shandiz district in Binaloud County, Khorasan Razavi Province. The statistical population of this research consists of 11 villages, which according to 2017 Census accommodated 5921 households. The sample size was estimated at n=190 using the Cochran formula with an error of 0.07%. Data gathering tool comprised interview, field questionnaire and observation. The questionnaire items were designed based on a Likert scale. For the analysis of data, descriptive and inferential statistics (Pearson correlation test, single sample t-test and regression) were used in the SPSS software. The villages were ranked by WASPAS analysis (the weighing in WASPAS analysis is based on entropy).

**Findings**- The results of Pearson correlation test showed that the quantitative (0.549), physical (0.513), the socio-cultural (0.505), and the environmental (0.522) dimension were significantly correlated with mental- psychological health. With regard to the physical health, there was only a direct and weak relationship with the physical dimensions (0.149). As for the health variable, the quantitative (0.651), physical (0.623), socio-cultural (0.605) and environmental (0.596) dimensions had a strong direct relationship, meaning that as dimensions of the quality of housing improves, the health of villagers is affected and their physical and mental health is promoted. The results of pathway analysis showed that among independent variables (quantitative, physical, socio-cultural and environmental variables) the quantitative dimension had the highest effect on dependent variable (physical and mental health) with a value of 0.564.

**Practical implications**- According to the results, improving the quality of housing will promote the mental and psychologic health of villagers.

**Originality/value**- Selecting a suitable rural housing model can definitely yield positive outcomes for promotion of health standards both in physical and mental dimensions.

**Key words**- Rural environment, Mental and physical health, Housing quality, Rural areas, Shandiz District.

**Paper type**: Scientific and Research.

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## 1. Introduction

As a safe and suitable shelter, housing has undergone a host of social, economic, political, cultural and religious changes over time and has been subject to disparate patterns. On the other hand, it can be regarded as a capital good and a social value that can reinforce sustainability of the community and alleviate social harms (Fazelnia, Taghdisi & Mulla Novrouzi, 2014). Among these changes of pattern, there have been enormous changes in the quality of materials, design, and architecture and quality standards, which have directly influenced the living conditions of inhabitants, along with parameters such as the mental health of people. Given the nature of the village and its social, economic, cultural and geographical contexts, the villagers have a particular internal and physical organization with respect to the type of residence and diversity of lifestyle. Moreover, the rural environment represents a coherent environment with an architecture that fits with the landscape. However, today housing and this environment have been the subject of growing changes, either due to new construction or the rehabilitation and renovation of villages (Ghasemi Ardhayi & Rustamalizadeh, 2012). Housing plays a crucial role in family stability, social and economic growth, improvement of safety, promotion of culture and spiritual tranquility of family members (Asayesh, 1996: 67 quoted from Fazlali, Pourtaheri & Roknoddin Eftekhari, 2017). Therefore, environmental psychologists have adopted a variety of direct and indirect perspectives to study the effects of the physical environment on human behavior and his sense of well-being (Saegert & Winkel, 1990). Those features of the environment that directly influence mental health include congestion and density of space, noise pollution, air conditioning quality, building lighting, etc., which, in addition to exerting direct and indirect effects on an individual's physical condition, can influence his mental health. For example, high density in residential environments leads to reduced social support of house members, which in turn exacerbates psychological distress (Evans, 2003). In addition to mental health, the built environment coupled with health factors such as separation of spaces, management of clean water and air conditioning can also have an undeniable impact on health. Meanwhile, housing represents the most important built environment where humans spend a significant part of their life. In today's world, housing and shelter have overshadowed many aspects of human life. In addition to the economic aspect of housing, which consumes a part of the household's monthly income, it is linked to a diversity of psychological and social outcomes. It can provide a sense of security and comfort while spurring fundamental transformation in the field of social relationships, among other things. (Maleki & Sheikhi, 2009). The psychological analysis of human behavior in relation to the physical environment in the context of the psychology of the environment has prompted psychologists to look at the effects of the physical environment on human behavior and health (Tabatabayan & Tamanayi, 2012). The epidemiologic findings exhibit a strong correlation between housing status and its health effects on human health. On the other hand, many studies suggest that overall improvements in housing conditions can wield a significant impact on health promotion, especially mental health (Golpaygani, Khanjani, N. & Zeidabadi, 2013).

In the meantime, rural spaces are no exception to this rule. Housing, as the pillar of rural texture, reflects the quality of places and environments, the impact of economics and livelihoods, traditions and conventions governing rural communities, so that success in this field largely depends on the recognition of this quality (Sartipipour, 2012). The basic functions of rural settlements as bio-centers are to meet the basic needs of life, including place pf residence, activity and employment, communication with others, collective life, education, rest and comfort (Saeidi, 2010). Regarding the linkage between housing and other economic, social, and health dimensions of its inhabitants, any planning for the improvement of rural housing in Iran should take this connection into account and obtain exhaustive information from the geographical areas of Iran (Raheb, 2014). Planning based on a profound perspective can promote the health status of villagers, which is seen as a public good and defined as "complete physical, psychological, economic and social well-being" (Hemmati, Sadeghian & Sabeti, 2013). Although people spend a considerable portion of their life in a built environment called house, they are not aware of the direct impact of environmental factors and other houses in the neighborhood on physical and

mental health, especially psychological stress (Tabatabaiyan & Tamannaei, 2012). Considering that awareness of health indicators is one of the key dimensions of quality of life (Mohammadi, Ahmadi, Fathi Ashtiani, Zadfallah & Ebadi, 2013), identifying the effects of housing quality on mental health and well-being of the public, especially villagers, and promotion of a healthy life is essential. Shandiz district in Binaluod town represents one of the areas where a significant share of its housing has been renovated and rebuilt in recent years pursuant to the implementation of rehabilitation plans, improved quality of housing standards and the growing demand of villagers. Therefore, the primary question of the research is "Is there a relationship between the health of villagers in rural areas of Shandiz district and their housing quality? And "Is there a difference between villages in terms of the quality of housing and psychological and physical health? This paper attempts to answer these primary questions based on documentary studies and field observations.

## 2. Research Theoretical Literature

Throughout the history of human life, especially in recent decades, the ever- increasing population growth has brought to the fore the issue of housing as a major economic and social issue. Meanwhile, access to affordable housing is of paramount importance for all urban and rural households, especially the poor and vulnerable strata of the society, who usually reside in rural areas (Ghadermarzai, Gemini, Jamshidi & Cheraghi, 2013). The shift of attention to rural areas and the attempt to revitalize and renovate the rural texture in its modern form (that is, the first experiences of the rehabilitation and rebuilding of old textures in cities and villages) began in the 1870s with the works of Hoosman in Paris. In general, the initial steps to revitalize and renovate old textures in cities, and consequently villages, should be sought in the efforts of European countries (Anabestani & Javanshiri, 2014). Globally, the quality of housing (for example rural housing) is evaluated with a variety of indicators such as: 1) desirable housing structure; 2) housing strength; 3) security; 4) safety, comfort and accessibility of residents to physical facilities in the neighborhood (comfort, convenience and health); 5) access to the nature and open green space; 6) Supply of facilities and equipment (essential housing infrastructure), and 7) proximity of the house to relevant land uses. In this context, the type of materials used in the construction of rural house is directly associated with the strength, safety and security of housing (Riyahi, Hajipour & Khoroghosloo, 2015). In Iran, in the years following the Islamic revolution, government policies to support agriculture, provide infrastructural services and invest in boosting manufacturing in villages have brought about economic, social and cultural changes, and subsequently physical changes in the villages on the one hand, and have paved the way for realization of rural planning and acceptance of new responsibilities, on the other hand (Quarterly Journal of Agricultural Promotion and Rural Development, 1991). The rural housing in Iran and interventions made to address relevant problems face a huge challenge in the course of implementing the "Special Plan for Rural Housing Improvement" between 2006 and 2008. The said project began with the selection of SENIOS consultants in each province of Iran. Advisors drafted rules and regulations for designing patterns that were in agreement with the climate, culture and livelihoods of each province. In many cases, there was an obvious reluctance on the side of villagers to adopt suggested patterns. In some cases, the designer's unawareness of rural mentality regarding the desired housing resulted in improper planning and stance about the aforementioned mental image (Zargar & Hatami Khanqahi, 2014).

What underlines the necessity of physical planning is the disorganized physical condition of rural areas and the undesirable quality of rural housing. The major problems in rural areas and the infrastructures required to deal with these deficiencies are the lack of a wastewater and surface water system, absence of essential networks and welfare services, increasing use of motor vehicles, failure to maintain agricultural land use, vulnerability of buildings and housing and damages inflicted by natural disasters (Pourtaheri, Ruknoddin Eftekhari & Abbasi, 2012). Additionally, since human societies, especially in the current age, are rife with various sources of stresses, a proper housing can provide a shelter for relaxation, revitalization and peace of mind, relieving mental and physical exertion of daily work, or preparing individuals psychological for further work (Pourmohammadi, 2015).

Environmental planners and researchers in the United States joined forces to establish decent living habits for the people in 1960s. Failing to account for

physiological, safety and psychological needs of people in the design and construction of residential spaces such as Pirot, Igve located in St. Louis, which led to the demolition of more than 43 residential complexes and 11 floors, sent out a serious warning to them. (Mahdavi Adeli, Doorkheez & Saeed, 2013). Upgrading and improving the quality of rural housing, building durable rural housing, preserving the identity of the domestic architecture in rural housing, considering the aesthetic aspect of rural landscape, constructing housing that meets the demands of villagers, adapting the housing structure with requirements of the today's life, shifting from the approach aimed at providing shelter for villagers to the one that seeks to develop rural housing, constructing green housing (Beyti, 2012), developing and promoting rural renovation initiatives and designing a suitable model, preparing the ground for an integrated and comprehensive development in villages and empowering villagers to participate in civil construction activities are the main objectives of this plan (Rezvani, 2011). They represent an effective step towards promotion of the mental health of villagers. In fact, given that humans (villagers) spend most of their time in indoor spaces (house), the house conditions and its construction or renovation style can wield huge influence on mental health. The place where people spend most of their daily hours (buildings or private houses) play a vital role in shaping their health and well-being. The people's health also has serious implications for the national economy of a country, so that people's residence, as healthy workforce, is one of the pillars of a dynamic economy. An unhealthy individual, far from being a producer, is unable to take care of himself or his relatives, and often ends up as an economic and security burden in society.

Health is a multidimensional concept, embracing diverse dimension including social (Wesali, Sam Aram, Esmaeili Tawil & Rasouli, 2016), economic, environmental, and psychosocial and physical aspects. For this reason, various definitions have been proposed for health, all of which emphasize the balance and integrity of the body and soul. People who are mentally healthy have several characteristics including: 1- self-acceptance and self-appreciation; 2- communication with others; 3- Fulfillment of the life needs and healthy expression of emotions (Tothounchi, Samani & Zandi Qashqaii, 2012). According to the World Health Organization (WHO), health is the state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

In the charter of the World Health Organization, access to the highest standards of health is one of the fundamental rights of every human being regardless of his race, religion, political beliefs, economic conditions or social status (Rahimi, 2010).

In Webster's dictionary, health is defined as the condition of being sound in body, mind, or spirit, especially freedom from physical disease or pain. Avicenna posited that health is the nature or state in which the body organs function normally, which is the antithesis of disease (Mohseni Tabrizi & Navabakhsh, 2016). The World Health Organization also underscores three physical, psychological and social dimensions. Physical or biological health describes the proper functioning and optimal state of each body organ in perfect harmony with the rest of the members. According to the definition of the US Department of Health and Human Services, mental health refers to the state of successful functioning of mental processes, efficient activities, effective relationships with people, the ability to adapt to changes and new conditions (Samiei, Rafiee, Amini Rarani & Akbarian, 2010).

Elsewhere, the concept of mental health involves an inner sense of wellbeing, belief in one’s elf-efficacy, self-reliance, competition power, and self-actualization of intellectual and emotional potentials. Of course, given cultural differences, it is not possible to provide a comprehensive definition of mental health. A person who is mentally healthy can handle problems in a reasonable manner while havin a sense of satisfaction with life (Salimi, Azad Marzabadi & Abedi Darzi, 2010). Mental health is of paramount importance in that it is associated with the promotion of individual and social performance (Sadeghi, Zareipour, Akbari & Khan Beigi, 2011)

Different schools of thoughts have strived to explain how people perceive their behavior in the environment or in relation to the environment. The most important of these schools, which have wielded a profound impact on environmental and design theories, are Gestalt Psychology, the Comprehensive and Transactional Psychology, and Gibson's Ecology (Optic) Psychology (Matlabi, 2011). Gliem argues that human health depends on

the level of control not only on one's physical body, but also one social environment. Therefore, illness and health are shaped in accordance with our environment's desires and expectations as well as the degree of our compatibility with this environment (Farahmand, Khatami Sarvi & Mohammad Hasani, 2016). Over the past few decades, the relationship between social indicators and mental health has received growing scholarly attention. These indicators include life satisfaction, social support, social skills, family, parenting styles, social capital, quality of life, marital affairs (Feizi, Mesrabadi, Mohammadian & Agh Atabay, 2015). From the point of view of the Iranian authorities, the social health indicators are: absence of poverty, violence, sex discrimination, unemployment and ethnic-racial discrimination, population growth control, equality before the law, observance of the human rights charter, compulsory and free education until the end of the middle school, access to health services, security and freedom of speech, a sense of life satisfaction, insurance coverage for all people, fair distribution of incomes, and the legitimacy of government (Noorbala, 2011). Considering health as a concept influenced by a complex set of biological, psychosocial, cultural, economic, religious and environmental factors, it should be acknowledged that health is no longer the sole concern for medical practitioners, and it has received growing attention of all social scientists, sociologists and psychologists (Riyahi, Verdinia & Pourhossein, 2010). Experts from the World Health Organization have defined mental health as the ability to establish interactive and coordinated relationship with others, modify and amend the individual and social environment, and resolve conflicts and personal preferences in a logical and fair manner, arguing that mental health is not merely the absence of mental illness, but it reflects the capability to respond to a wide range of life experiences in a flexible and meaningful way (ibid., 87). According to WHO, in addition to the variables of age, gender, inheritance, lifestyle, local social structure, other factors such as the workplace and the individual's habitat, as well as the general socio-economic and cultural environment are involved in determining the health status of individuals. In other words, health is placed within a wide-ranging network of variables, and it is difficult to pinpoint their exact position as that may be the causes or the effect of other variables (Bani Fatemeh, Alizadeh Aghdam, Shahamfar & Abdi. 2014). Fiesa and Gootma (2005), in a study titled "a health function for sub-Saharan Africa," based on the Grasman's theoretical model, incorporated the social, economic, and environmental factors as inputs of the production system in the function (Bayati, Akbarian, Kavoussi & Sadraei Javaheri, 2012). According to the studies, the factors influencing the mental health of women and men and the impact of these factors may vary, so that only an econometric study would be able to reveal such distinctions (Mohammad Nejad & Ahmadi, 2014). Today, health outcomes have adopted a wider perspective and special attention has been allocated to determinants of non-medical health. This issue has also been reflected in the WHO definition of health. The WHO examines health systematically, defining it as a state of complete physical, mental and social well-being and the absence of disease along with the access to the highest standard of health available without any cultural, social, economic, or political discrimination. (Anabestani & Behzadi, 2013).

In 1992, the United Nations Health and Development Conference on the Health of Humans and the Residential Societies stated that all countries must meet the criteria for improving the quality of life and health by creating a safe and healthy environment, avoiding crowded residential areas, reducing air pollution, ensuring the availability of clean water and high quality environment and promoting the safety of working environments for all social groups (Tajdar, Rafiyan, M. & Taghvaei, 2010). Therefore, designing each residential unit in the village requires a comprehensive review of the geographic, climatic, biological and livelihood conditions of the rural community, population structure and rural construction system. Further, standards of designing rural homes, and most importantly, the effects of housing on the physical and psychological health of the villagers must be taken into account. This would be a time-consuming and costly endeavor, and calls for a thorough recognition of different dimensions of the villagers (Shafaei & Madani, 2011). For this reason, some countries have changed their approach to the conceptualization of health in recent years. The old approach was concentrated on diseases, while the new approach underscores health, performance and well-being. There are divergent views on space and the concept of health, because health can have a variety of medical, social, economic, psychological, and other dimensions (Hezarjeribi & Mehri, 2012).

According to the above, there is a significant relationship between health and the residence of human beings. Life in poor areas is associated with aggravated health conditions, so that life in undeveloped rural areas

is detrimental to health. In a study in Canada, Lolande sets forth four determinants of health: genetic and biologic factors; factors related to the lifestyle and behaviors; environmental factors such as housing, air pollution, and health services. The place of residence, as an indicator of socioeconomic status, is linked to health status. Elsewhere, the social model considers health as a set of factors associated with socio-economic, cultural, housing, and employment grounds (Sheikh 2009, p. 56, quoted from AFrakhteh & Afkar, 2012). Therefore, the role of housing policies in creating a healthy environment and therefore promoting individual health can be approached from two viewpoints. Firstly, providing a suitable residential environment, improving the health conditions in terms of light, space, ventilation, cooking, etc. Secondly, primary services and facilities in the residential area can be provided through comprehensive planning, which facilitates access to these centers (Pourmohammadi, 2015). The following figure shows the factors influencing the physical and mental health. As can be seen, the built environment is one of the major elements shaping the quality of physical and mental health (Figure 1).

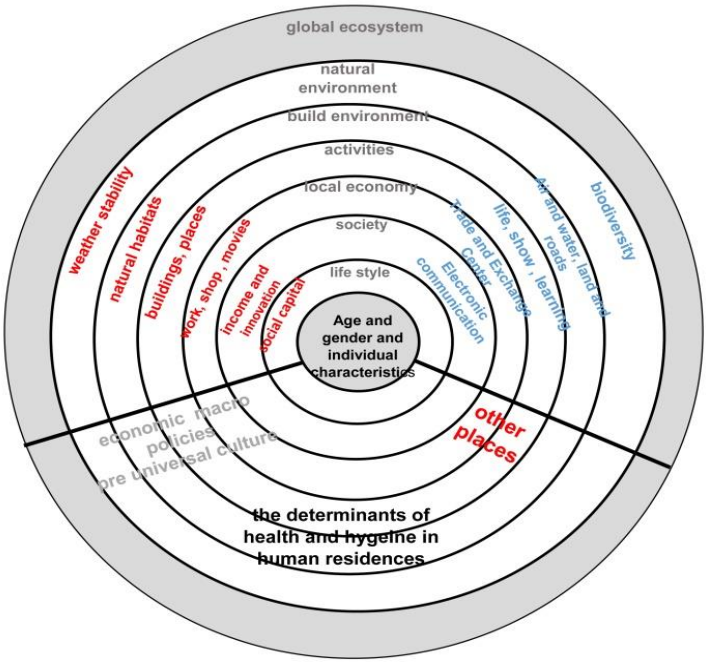


**Figure 1. Different layers of factors influencing physical and mental health**
(Source: Nastaran and Mirzai, 2014:43)

According to Locorbozie, both physical and mental needs of humans must be met with the spatial organization of housing, because decent and proper housing is an indicator of social welfare, whereas bad and poor housing begets adverse consequences such as deprivation, illness, and corruption of the youth (Boshagh, Seydaei & Jomeini, 2011) and compromises the health of the community. In recent decades, various theories have been set forth in this regard, including Ulrich's theory of stress reduction, according to which natural landscapes can have a soothing effect on stress and tension. Nonetheless, not only some landscapes are unable to mitigate tensions, but they can engender further stress and tension (Azamati & Zarghami, 2012). Chicago school represents a long-established tradition in urban sociology. Although it provides sociologists with crucial elements for analyzing social issues in the city, it clearly fails to consider important concepts such as gender and health. In contrast, the Los Angeles School offers new ideas and views about modern urban realities. This is a location-based approach and addresses key concepts such as health, contending that location has important ramifications for health and well-being (Garousi & Shamsuddini, 2014).

According to Moss and Dick, four indicators contribute to the establishment of therapeutic environments: body, home environment, extensive relationships and nature. In other words, besides all factors, the built environment including housing and residence can exert a great impact on health. Much like the human body, the home

environment has therapeutic features in physical and emotional states, especially cleanness, absence of harsh noises, a sense of control (which is engendered by the private space), security and comfort (by utilizing the elements of nature). According to psychological principles, the house design should not be too complicated and obscure, as it causes unnecessary tension and stress, or too simple and uniform, as it induces boredom and ultimately sensory deprivation (Saffarinia, 2011) (Figure 2).

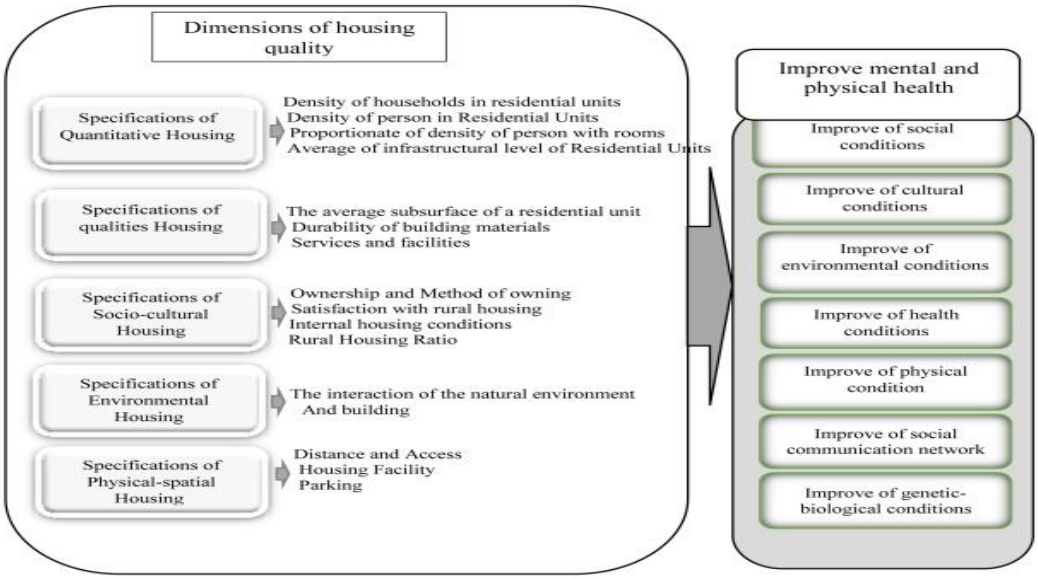


**Figure 2. The Conceptual Model of Research: The Effects of Housing Quality on Mental and Physical Health**

There is a growing body of research on mental and physical health of the villagers and the effects of various physical dimensions with each addressing the issue from a particular perspective; however, few studies have explored the effects of rural housing quality as a built environment on health status of inhabitants. Therefore, in the review of literature, we will discuss a number of studies that have explored the variables of this research (Table 1).

**Table 1. Previous Research on the Quality of Housing and its Impact on Health**
(Source: Research findings, 2018)

| Researcher | Findings |
|---|---|
| Bagheri/Azemati 2009 | Designing local green landscapes , Planning Urban Walkways, Constructing dense sections with residential, commercial and official zones, performing urban intermediate plans in the open spaces and free lands, Increasing the residents' physical and visual access to the nature by designing nature's art, Preparing socio-cultural and Commercial opportunities and entertainments in the section , Decreasing Automobile usage by equipping with public services such as local schools, developing public vehicle, promoting quality of public spaces in the local sections in proportionate to the users have considered as the stable approaches to promote public health and security in the urban environments. |
| Emamgholi 2013 | There is a significant relation between human's general health and physical environment. As There is bilateral relation between human and environment, Either Architecture Quality effects on general health or people with better general health satisfy Architecture Quality more. |
| Garousi & Shamssoldini 2014 | The cases that can expect the residents' health level : urban risks, access to urban facilities, Social Interactions and confrontation, responsibility against the zone and residents |
| Jahandar Lashaki & Ebrahimzadeh 2015 | Residing adjacent to green landscapes causes to increase mental health during time. In spite of high building, green lands decrease improper mental effects. |

**Table 1.**

| Researcher | Findings |
|---|---|
| Evans 2003 | The role of developing the min models is how the constructed environment can effect on mental health. It is possible that some people may be vulnerable in the constructed environments because focus of the poor and race minority isn't a random distribution in the weak environment and it is necessary to attend concept of high risk health environment. |
| Oswald & Werner Wahl 2004 | Among mental aspects of house, satisfaction and control related to beliefs and house meaning have been considered that lead to the results related to direct health such as mental and physical diseases, applied limits and the results related to indirect health such as satisfaction and welfare. Environment and Health will be affected on future dynamism |
| Wells & Harris 2007 | Social Support to construct these people's house causes to improve Psychological Distress and stress because of the relation between house quality and mental health. |
| Kim 2010 | Neighborhood in the constructed spaces relates to the depression as it is decreased by increasing social relations in the quarter and it is increased by disordering in the quarter. The results suggest there are negative effects of a deprived quarter on depression and positive and negative relations between quarter forms and depression. |
| Fussell and Lowe 2014 | Decreasing Interventions and instability policies in housing and prioritizing mental health have decreased anxious and stress in the people. |
| Keall et al 2010 | House Quality has played important role in the health, safety and stability. Therefore, it is vital for public development to be assessed the health satisfactorily. Assessment can lead to improve housing by strong housing policies such as informing the consumer about housing bazaar and housing quality. International cooperation and standardizing assessment of approaches play important role in increasing housing quality. Therefore, some local factors such as weather, geography, culture, costumes and problems related to the buildings, constructional laws should be considered by assessing the approaches. |
| Archer 1t al 2016 | It has been emphasized on taking a balanced approach about housing and solving problems of providing new house and recognizing importance of housing to preserve health, education and economy officially. Increasing amount of new buildings can improve general statue of housing. But it is necessary to be a balanced and comprehensive strategy to solve the problems and improve the poorest housing statue. Also, effective approaches should be taken to use national finance correctly to provide housing needs, preserve the health, education, entrepreneurship, economic investment to promote the older houses. |
| Border 2011 | Conditions of amortized house effect on the health negatively. Health and Treatment Services spends 600millions pond. It leads to improve social section of housing but in 2008, less than 50 % of rent houses has been considered private. Councils have performed private sections together with local sections/ financial source successfully. But it is worried about future conditions of stocks of private housing section because the stocks have not been inserted in the new plan and it can lead to bad results on the health. As there are many central and local offices and departments in the housing, then it needs to coordinate between these groups and comprehensive leading to help local responsibilities to improve house availability. |
| Wilkinson 1999 | The Weak Health leads to Homelessness, people who are in the weak health statue aren't able to provide their required house. Also, more unemployment increases risk of homelessness and the weak health is as result from homelessness. Also, people who live in the shared homes expose infectious diseases more. For two groups, the weak health leads to the weak individual health and the weak diet causes to decrease immunity against diseases. |

A cursory look at the results of these studies reveals that they have chiefly focused on the impact of the quality and desirability of housing on promoting health and reducing stress and mental illness. However, most studies have focused on the environment and housing and its association with mental health with few examining physical health. In addition, most studies have been set in urban contexts and rural areas have been largely neglected.

## 3. Research Methodology

### *3.1 Geographical Scope of the Research*

According to the goals of the research, a survey research method based on the questionnaire was adopted. In this descriptive-analytical research, first indicators and variables related to the quality of housing and physical and mental health are identified based on library studies and the theoretical framework. The variable of health, as the dependent research variable, was quantified in

form of two dimensions and seven indicators and the quality of housing, as the independent variable, was quantified in form of 4 dimensions and 16 indicators. Accordingly, the indices and variables of the research can be organized in two forms: indicators of housing quality and physical and mental health indices in rural areas (Table 2).

**Table 2. Research Indicators**

(Source: Safarinia, 2011; Garousi & Shamsuddini 2014; Bokharayi, Sharbatian & Tavafi, 2015, Mashayekhi, Sardoe, Amiranipour & Derini, 2016; Afrakhteh & Afkar, 2012; Moradi, Bustani & Hematifar, 2012; Pourgafar Maghfrati & Pourramazan, 2016; Anabestani et al, 2016; Ghadiri Massoum, Aligholizadeh Firoozjayee & Mehrali Tabar Firouzjayee, 2014)

| Variable | Dimensions | Indicator | Components |
|---|---|---|---|
| Health (dependent) | Indicators of Mental and Physical Health | Social | Value of emission , security sense, welfare sense, happiness and security , social support, keeping identity, individual behavior such as stability, adaptability, tolerance, control of anger, social level, marital status, marital affairs, social skills, individual recognition, social credit, socio-economic statue, leadership |
| | | Cultural | Hygienic Information, relations , life control, life style and behaviors |
| | | Environmental | Environmental relaxation, life style, security, welfare on the quarter, satisfaction of weather |
| | Indicators of Physical Health | Hygienic | Resistance against diseases, amount of effecting by the diseases, number of patients in the house, number of times of affecting in a year |
| | | Physical | Physical disabilities, Physical actions and the old |
| | | Infrastructural | Rural health insurance, access to the physician, satisfaction of insurance and hygienic services |
| | | Genetic-biologic | Age, gender , hereditary attributes |
| Housing Quality (Independent) | Specifications of Quantitative Housing | Density of households in Residential Units | Sufficiency and shortage of number of available Residential Units related to the available households |
| | | Density of person in Residential Units | Average number of person in the residential Units |
| | | Proportionate of density of person with rooms | Welfare sense, independence sense of persons in the Residential Units |
| | | Average of infrastructural level of Residential Units | Average level of the Residential Units- average useful spaces of the Residential Units- area of yard |
| | Physical Dimension of housing infrastructure | Durability of construction materials | Qulitative and durability of construction materials |
| | | Technical standards and constructional engineering | Technical standards and constructional engineering |
| | | Services and facilities | Social welfare and relaxation aspects of the housing- Welfare Facilities include piping, electricity, telephone, bathroom, kitchen, emergency door |
| | | Neighborhood of housing utilities | Observing neighborhood of usable spaces related to the housing, satisfying location of different usable spaces |
| | | Housing Architecture | Conformity of architecture with cultural conditions, climatic comfort in architecture, Common Beauty on the housing architecture |
| | | Components and ordering of rural housing parts | Present of reception room, bedrooms, sanitary room, open kitchen, work room |
| | | Amount of Distance and Accessibility | Distance from the main road, distance from city, accessing to other places and required services |
| | Socio-cultural Specifications | Satisfaction of general conditions of the rural housing | Satisfaction of the household from the new architecture, Satisfaction of location, Satisfaction of residential area and number of rooms |
| | | Ownership | Method of owning residential units , owner, rent, title deeds |
| | | Conformity with cultural conditions of household and society | External awareness, separating the parent room from child room, closed kitchen |

**Table 2.**

| | | | |
|---|---|---|---|
| Housing Quality (Independent) | Natural Environment Specifications | Interaction of natural environment and building | Effect of climatic variables on the rural housing, Conformity of the housing with climate and weather, security against natural disasters, Observing spatial neighborhoods in the house (sanitary services from the kitchen,…) |
| | | The housing pollutions | Neighbors' noise pollution (odor, air pollution, insects |

### *3.2. Methodology*

Shandiz district in Binalud town, Khorasan Razavi province, was selected as the study area. The statistical population of the study consisted of 11 villages located in Shandiz district. According to 2016 Census data, the selected villages accommodate 5921 households. Given the number of households in selected villages, the sample size was estimated at n=190 according to the Cochran formula with an error of 0.07%. However, since there is a huge difference between the number of households in villages, first a fixed number (a minimum of n=10 samples) was considered as the basis for all villages, and then the remaining values were calculated in proportion to the share and size of each village (Table 3).

**Table 3. Sample villages, number of households, population**
(Source: Statistical Center of Iran, 2016)

| Name of Village | Name of district | Household | Population | Sample |
|---|---|---|---|---|
| Shandiz | Sarasiab | 437 | 1439 | 16 |
| | Farahabad | 122 | 417 | 12 |
| | Veyrani | 1353 | 4698 | 28 |
| | Chaheshk | 1004 | 3317 | 24 |
| | Fiyani | 73 | 229 | 11 |
| | Dehno | 321 | 1023 | 14 |
| | Hesarsorkh | 501 | 1627 | 17 |
| | Chah Khase | 266 | 875 | 14 |
| Abardeh | Zoshk | 582 | 1836 | 18 |
| | Abardeh Olia | 1004 | 3177 | 24 |
| | Garakhk | 258 | 742 | 13 |
| Total | | 5921 | 19380 | 190 |

Data gathering instrument comprised interview, field questionnaire and observation. The questionnaire consisted of closed-ended items rated on a Likert scale. The validity of the questionnaire was assessed based on content validity and the views of rural planning expert and necessary corrections were made accordingly. Also, the reliability of the questionnaire was determined by Cronbach's alpha test (0.86). Finally, after completing the questionnaire and collecting data, descriptive and inferential statistics (Pearson correlation test, single sample t-test and regression) were used to analyze data in SPSS software. Also, to rank the villages in terms of mental health and quality of life indicators, the WASPAS analysis (the weighing in WASPAS is based on entropy analysis) was used.

## 4. Research Findings

### *4.1. Descriptive Findings of the Research*

Of all respondents, 59.8% were male and 40.2% were female. The mean age of the respondents was 40.15 years old (45.1%). As for the marital status, 86.9% of respondents were married and 12.3% were single. According to the household size, 76.6% of the households were made of 2 to 5 and 2.5% made of 1 and 2 people. Most respondents had high school education (29.1%). In terms of employment, the majority of respondents were self-employed (35.2%) and only 2% were livestock breeders. With regard to the ownership, most participants were the owner of their house (60%). As far as the housing construction is concerned, 3.7% of the buildings were constructed by indigenously supplied materials, 56.1% by non-indigenous materials and 39.8% by a combination of both. In Table 4, the mean of the studied villages in terms of health and housing quality is shown. In the case of physical, mental and physical health, the highest mean value belonged to Hesar-e-Sorkh village (3.00 and 3.61, respectively). As for the quantitative, physical and environmental dimensions of housing, the highest value was related to Chahshak village (3.79, 3.84 and 3.66, respectively). Also, in three quantitative, physical and environmental dimensions, the highest average belonged to the village of Chahshak, especially because the housing and facilities of the Chahshak village are new and constructed in accordance with modern

standards. Therefore, the quality of housing in this village is higher than other villages. As for the socio-cultural dimension, the largest mean belonged to Virani village (3.84), which is due to the migration of villagers to towns or other places, as well as the construction of villas by city dwellers, which are used as a sort of resort for weekends and holidays. Consequently, the fact that many urban residents commute this village has significantly changed the socio-cultural context of the village.

**Table 4. Mean of research variables for villages studied**
(Source: Research Findings, 2018)

| Village | Housing quantity Dimension | Physical Dimension | Socio-cultural Dimension | Environmental Dimension | Mental and Physiological Health | Physical Health |
|---|---|---|---|---|---|---|
| Veyrani | 3,479 | 3,607 | 3,842 | 3,294 | 2,779 | 3,451 |
| Dehno | 3,206 | 3,250 | 3,407 | 3,067 | 2,746 | 3,413 |
| Garakhk | 2,779 | 3,319 | 3,415 | 3,000 | 2,543 | 3,464 |
| Zoshk | 2,514 | 3,025 | 3,200 | 3,020 | 2,655 | 3,450 |
| Abardeh Olia | 3,017 | 3,315 | 3,427 | 3,088 | 2,448 | 3,480 |
| Hesarsorkh | 3,092 | 3,493 | 3,407 | 2,867 | 3,003 | 3,619 |
| Farahabad | 3,505 | 3,829 | 3,778 | 3,160 | 2,623 | 3,452 |
| Chah Khase | 3,213 | 3,293 | 3,594 | 3,188 | 2,514 | 3,317 |
| Chaheshk | 3,796 | 3,848 | 3,722 | 3,564 | 2,385 | 3,306 |
| Sarasiab | 3,299 | 3,631 | 3,439 | 2,982 | 2,617 | 3,481 |
| Fiyani | 3,121 | 3,481 | 3,474 | 3,169 | 2,618 | 3,336 |
| Total | 3,184 | 3,463 | 3,519 | 3,127 | 2,630 | 3,434 |

Before conducting the analytical tests, the Kolmogorov-Smirnov test was used to evaluate the normality of variables. Accordingly, all data were in the range of -1.96 and +1.96 with a significance level of greater than 0.05. Therefore, in all indicators and variables had normal distribution. Therefore, parametric tests were utilized for data analysis.

In the first step, a single-sample t-test was used to examine the average quality of housing and the mental and physical health of villagers. In this test, the mean of research indices and variables was measured with a hypothesized mean of (3). The results indicate that the actual mean of the total respondents' views is larger than 3 for the dimensions of the quality of housing and physical health and below 3 for the dimension of mental and psychological health.

According to the significance level of all dimensions (less than 0.05), the quality of housing and health were significant in all dimensions and could be generalized to the entire society. However, according to the t-statistic, the upper and lower limits of all dimensions, except for the mental and psychological, are positive, reflecting the desirable dimensions of the quality of housing and health in the view of villagers (Table 5).

**Table 5. The Mean of Housing Quality and Mental Health Dimensions of Villagers (Single Sample T Test)**
(Source: Research Findings, 2018)

| Indicators& Variables | Exegesis T | Average | Standard Deviation | Significant Amount | Average Difference | 95% Confidence Interval of The Difference | |
|---|---|---|---|---|---|---|---|
| | | | | | | Lower | upper |
| Housing Quantitative Dimension | 4,13 | 3,24 | 0,81 | 0,00 | 0,24 | 0,13 | 0,36 |
| Housing Physical Dimension | 11,26 | 3,50 | 0,61 | 0,00 | 0,50 | 0,41 | 0,58 |
| socio-cultural Dimension | 13,63 | 3,58 | 0,59 | 0,00 | 0,58 | 0,50 | 0,66 |
| Housing Environmental Dimension | 3,85 | 3,17 | 0,62 | 0,00 | 0,17 | 0,09 | 0,26 |
| Mental and Psychological Health | -11,95 | 2,65 | 0,40 | 0,00 | -0,35 | -0,40 | -0,29 |
| Physical Health | 22,51 | 3,43 | 0,26 | 0,00 | 0,43 | 0,39 | 0,47 |

### *4.2. The relationship between health dimensions and the quality of housing*

In the next step, Pearson correlation test was used to investigate the relationship between health and housing quality dimensions. The results suggest that the

quantitative (0.549) physical (0.513), socio-cultural (0.505) and environmental (0.522) dimensions have a positive and significant relationship with mental-psychological health.

As for the physical health dimension, there is only a direct but weak relationship with the physical dimensions (0.149). In the case of health variable, there is a strong, direct relationship with quantitative (0.651), physical (0.623), socio-cultural (0.605) and the environmental (0.596) dimensions. That is, as the quality of housing quality improves, it exerts a positive effect on the health of villagers and contributes to the improvement of their mental and physical environment (Table 6).

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**Table 6. Relationship between Health Dimensions and Housing Quality Dimensions**
(Source: Research Findings, 2018)

| Housing Quality dimensions | | quantitative dimension | Physical dimension | Socio-cultural dimensions | Environmental dimensions |
|---|---|---|---|---|---|
| mental and psychological health | Pearson Exegesis | 0,549 | 0,513 | 0,505 | 0,522 |
| | Significant Amount | 0,00 | 0,00 | 0,00 | 0,00 |
| Physical health | Pearson Exegesis | 0,112 | 0,149 | 0,116 | 0,054 |
| | Significant Amount | 0,125 | 0,040 | 0,111 | 0,460 |
| Health dimension | Pearson Exegesis | 0,651 | 0,623 | 0,605 | 0,596 |
| | Significant Amount | 0,00 | 0,00 | 0,00 | 0,00 |

### *4.3. The effects of housing quality on the health of villagers*

The multivariate regression was used to study the effect of "quality of housing on the health of villagers". In the regression analysis, quality of housing is the independent variable and the health of villagers is the dependent variable. As shown in Table 7, the adjusted coefficient of determination is 0.54, which indicates the power of the independent variable's dimensions in explaining the variance of the dependent variable. That is, the independent variable explains 54% of variations in the dependent variable, and the rest of these variations (46%), known as squared error, are influenced by variables outside the model. Also, the Durbin–Watson statistic (1.17) confirms the independence of the residuals.

**Table 7. Correlation, adjusted coefficient of determination, and standard error estimation**
(Source: Research Findings, 2018)

| Correlation Value | Modified Coefficient of Determination | Standard Error of Evaluation | Watson Camera |
|---|---|---|---|
| 0,73 | 0,54 | 0,53 | 1,17 |

As shown in Table 8, the regression value for this model is 6.54 and the residual value is 5.66. Since the sum of squared residual is smaller than the sum of the regression squares, the model has high power in explaining variations of the dependent variable. In this model, the F-value is equal to 53.49 with a significance level of 0.000, which is smaller than 0.05, meaning dimensions of the independent variable can explain variations of the dependent variable to a large extent; therefore, the null hypothesis regarding the insignificance of the regression model is rejected with 99% confidence interval and the research hypothesis about the positive effect of the quality of housing on physical and mental health of villagers in the villages is confirmed. That is, higher quality of rural housing will improve physical and mental health of villagers.

**Table 8. Sums of squares, degrees of freedom, mean squares and significance level of regression**
(Source: Research Findings, 2018)

| | Total Squares | Freedom Rate | Average of Squares | F | Significant Level |
|---|---|---|---|---|---|
| Regression | 6,54 | 4,00 | 1,64 | 53,49 | 0,00 |
| Balance | 5,66 | 185,00 | 0,03 | | |
| Total | 12,20 | 189,00 | | | |

According to Table 9, the beta value of this model is 0.25 for quantitative dimension, 0.20 for the physical dimension, 0.18 for the socio-cultural dimension and 0.23 for the environmental dimension. Accordingly, the quantitative dimension has the highest effect on physical and mental health of the villagers. Therefore, larger area of housing will reduce density, and improve quantitative characteristics of the villagers' housing. It also promotes the mental and physical well-being of the villagers as the economic life of the villagers is heavily reliant on their housing.

**Table 9. Non-standardized regression coefficient, T-statistic and significance level of regression**
(Source: Research Findings, 2018)

| | Non-standardized Regression Coefficient | Standardized Regression Coefficient(ß) | Exegesis T | Significant Level of Regression |
|---|---|---|---|---|
| Fixed Coefficient | 1,78 | | 19,92 | 0,00 |
| Quantitative Dimension | 0,08 | 0,25 | 3,16 | 0,00 |
| Physical Dimension | 0,09 | 0,20 | 2,63 | 0,01 |
| Socio-cultural Dimension | 0,08 | 0,18 | 2,45 | 0,02 |
| Environmental Dimension | 0,09 | 0,23 | 3,46 | 0,00 |

Given that the regression test only examines the direct effects of the independent variable on the dependent variable and indirect effects are not taken into account, we used path analysis method, which calculates the direct, indirect and overall effects of the independent variable on the dependent variables (Table 10).

**Table 10. Calculating the indirect effects of independent variables on the main dependent variable**
(Source: Research Findings, 2018)

| Variables | Indirect Effects on the dependent Variable |
|---|---|
| Quantitative | 0,043 = (0.18) × (0,239)<br>0,032 =(0,23) × (0,6) × (0,239)<br>0,040 = (0,23) × (0,177)<br>0,030 =(0,23) × (0,6) × (0,457) × (0,485)<br>0,039 =(0,18) × (0,457) × (0,485)<br>0,030 =(0,23) × (0,270) × (0,485)<br>0,097 = (0,20) × (0,485)<br>0,314 = (0,097) +(0,030) + (0,039) +(0,030) + (0,040) +(0,032) + (0,043) |
| Physical | 0,063 =(0,23) × (0,6) × (0,457)<br>0,082 = (0,18) × (0,457)<br>0,062 = (0,23) × (0,270)<br>(0,063) + (0,082) + (0,062 = (0,207) |
| Socio-cultural | (0,6) × (0,23 =(0,138 |
| Environmental | - |

The results of pathway analysis show that among all independent variables (quantitative, physical, cultural, social and environmental), quantitative dimension had the highest effect on dependent variable (physical and mental health) with a value of 0.646% (Table 11).

**Table 11- Direct and indirect effects of four dimensions of housing quality on the mental and physical health of villagers.**
(Source: Research Findings, 2018)

| Sustainability Dimensions | Direct Effects | Indirect Effects | Total |
|---|---|---|---|
| Quantitative | 0,25 | 0,314 | 0,564 |
| Physical | 0,20 | 0,207 | 0,407 |
| Socio-cultural | 0,18 | 0,138 | 0,318 |
| Environmental | 0,23 | 0 | 0,23 |

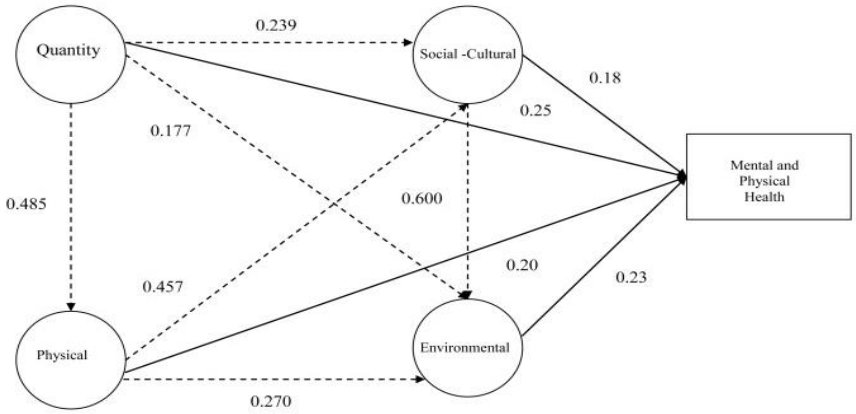


**Figure 3. Direct and indirect effects of four dimensions of housing quality on the mental and physical health of villagers.**

Based on the results of the pathway analysis, it can be argued that the quantitative dimension has the greatest effect on the level of mental and physical health. In fact, it is the most important factor influencing the mental and physical health of the villagers (Figure 3).

### *4.4. Prioritizing the studied villages in terms of the quality of housing and mental and physical health of villagers*

The WASPAS technique was employed to prioritize the studied villages in terms of housing quality and mental and physical health. The WASPAS model is one of the most popular integrated models that can be highly effective in complex decision makings, and yields results of high accuracy. The Weighted Sum Model (WSM) is one of the best-known decision-making models used for solving multi-criteria problems. In the weighted aggregated sum product assessment (WASPAS) model, a hybrid criterion has been used to determine the ultimate significance of each item. In this hybrid criterion, an equal share of WSM and WSP is utilized for final assessment of items. The results of model prioritization in the housing quality variable show that Chahshak, Farah Abad and Virani villages have the highest quality of housing, and the villages of Hesar-e Sorkh, Virani and Dehnou have the highest physical and mental health among all villages under study (Table 12). Also, as shown in Figure 4, the quality of housing and the health of villagers in the Zoshk, Hesar-e Sorkh and Chahshak is higher than other villages. Accordingly, in two villages of Zoshkh and Hesar-e Sorkh the health status is higher than the quality of housing, mainly because they are far from the city. As for the Chahshak village, the quality of housing is higher than their health status. The reason is that in recent years, due to the inflow of urban residents to Chahshak village in search of a second house, there has been a construction boom, which has in turn contributed to the quality of housing in this village.

**Table 12. λ, Qi and rank of each of the studied villages with regard to indicators of quality of housing and mental health**

(Source: Research Findings, 2018)

| Village | The Housing Quality | | | The mental and Physical Health | | |
|---|---|---|---|---|---|---|
| | λ | Qi | Rank | λ | Qi | Rank |
| Veyrani | 0,752 | 0,323 | 3 | 0,757 | 0,316 | 2 |
| Dehno | 0,766 | 0,295 | 7 | 0,759 | 0,312 | 3 |
| Garakhk | 0,795 | 0,275 | 10 | 0,776 | 0,293 | 8 |
| Zoshk | 0,812 | 0,255 | 11 | 0,767 | 0,304 | 4 |
| Abardeh Olia | 0,780 | 0,288 | 9 | 0,784 | 0,284 | 10 |
| Hesarsorkh | 0,773 | 0,292 | 8 | 0,741 | 0,340 | 1 |
| Farahabad | 0,749 | 0,326 | 2 | 0,770 | 0,301 | 5 |

**Table 12.**

| Village | The Housing Quality | | | The mental and Physical Health | | |
|---|---|---|---|---|---|---|
| | λ | Qi | Rank | λ | Qi | Rank |
| Chah Khase | 0,768 | 0,300 | 5 | 0,777 | 0,288 | 9 |
| Chaheshk | 0,732 | 0,345 | 1 | 0,788 | 0,275 | 11 |
| Sarasiab | 0,760 | 0,306 | 4 | 0,770 | 0,300 | 6 |
| Fiani | 0,774 | 0,298 | 6 | 0,769 | 0,299 | 7 |

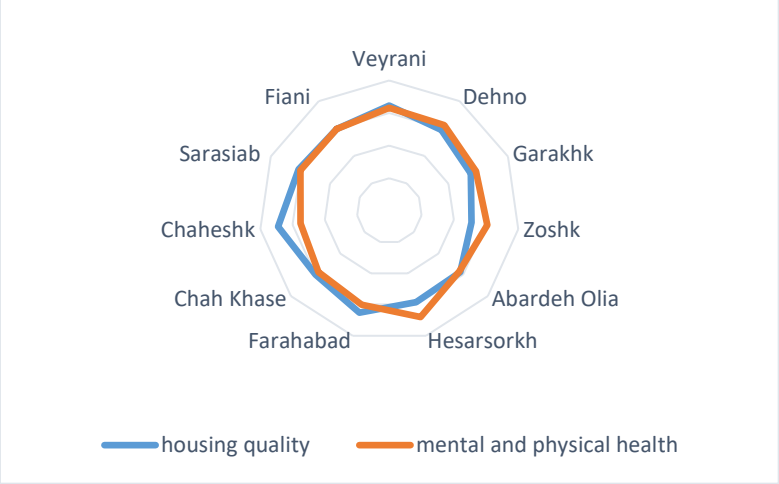


**Figure 4. Qi value of each of the studied villages in the indicators of quality of housing and mental health**

## 5. Discussion and Conclusion

In the history of human life, especially in recent decades, with increasing population growth, housing has emerged as a major economic and social issue. Meanwhile, access to affordable housing for all urban and rural households, especially poor and vulnerable groups of the society, which are usually living in rural areas, has gained prominence. Given the nexus between housing and economic, social and health and dimensions of its inhabitants, any planning for the improvement of rural housing in Iran have to pay meticulous attention to this link and gather exhaustive information about the geographical area of Iran.

Therefore, the results of this study exhibit the huge impact of housing quality on the mental and physical health of villagers, which indicates the desirability of the quality of housing and the health dimensions of the villagers. Also, the relationship between dimensions of health and the quality of housing, considering the significant level, reveal that there is a significant relationship between these two variables and can be generalized to the whole society. Based on the results of the regression, the adjusted coefficient of determination is 0.54, which reflect the power of the independent variable in explaining the variance of the dependent variable. That is, the independent variable can explain 54% of the variation of the dependent variable. Further, considering that the regression test only investigates direct effects of the independent variable on the dependent variables and the indirect effects are ignored, we used pathway analysis to take indirect effects into account as well.

The results of pathway analysis suggested that among all independent variables (quantitative, physical, socio-cultural, and environmental) the quantitative dimension had a highest effect on the dependent variable (mental and physical health. The studied villages were further analyzed in terms of the quality of housing and physical and mental health using the WASPAS technique. The results show that villages of Chahshak, Farah Abad and Virani have the highest quality housing, and the villages of Hesar-e Soarkh, Virani and Dehnou have the highest quality in terms of physical and mental health.

Considering that improving the quality of housing promotes the mental and physical health of the villagers, on the other hand, and provides a reliable source for inspiration for residents to improve the quality of life on the other hand, investment in this

field can be seen as one of the most important policies of rural management and health and.

Undoubtedly, a clear understanding of the status quo and existing potentials in various dimensions is vital to implementation of quality improvement projects. Therefore, the following points should be considered in the program aimed at improving the quality of housing:

- Housing should be built in compliance with the social class in a bid to preserve the local identity of its inhabitants.
- The availability of affordable housing and its location in terms of distance from the main road and the city to access health care services will have a huge impact on physical health of individuals.
- Given that people spend a large portion of their time in houses, the quality of housing can produce a sense of delight, vitality and safety in people, which in turn contributes to promotion of adaptability, patience and tolerance.
- Given that members of a family learn the first basic social skills in their home environment, the quality of housing and its desirability influence the ability of the family members, their social credibility and mutual emotions.

The results of this study are in agreement with the literature. Imamgholi (2013) discusses a two-way relationship between environmental architecture and general health. The study of Jahandar Lakshaki & Ebrahimzadeh (2015) exhibits that living in green space for a long time improves mental health and is crucial to reinforcing the components of mental health. Bagheri & Azamati (2009) concluded that the design of sustainable urban neighborhoods can improve the general health of citizens by promoting the quality of urban spaces and residential areas. This relationship has also been confirmed by Fussell & Lowe (2014) and Evans (2003), who reported the reduction of stress and anxiety as a result of housing interventions and policies aimed at the promotion of mental health. The findings of Kim (2010) and Thomas et al. (2013) also stress the impact of quality of the built environment and its relationship with psychosocial risk factors. The results of this study underscore the importance and necessity of implementing rehabilitation plans to promote mental health.

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# تحلیل و بررسی اثرات کیفیت مسکن بر سلامت (جسم و روان) روستاییان (مطالعهٔ موردی: روستاهای بخش شاندیز شهرستان بینالود)

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## چکیده مبسوط

### ۱. مقدمه

مسکن به عنوان سرپناهی امن و مناسب در گذر زمان و در برخورد با شرایط و ویژگی های اجتماعی، اقتصادی، سیاسی، فرهنگی و مذهبی دستخوش تغییر و دگرگونی می گردد و الگوهای متفاوتی را می پذیرد، در مقابل خود نیز می تواند به عنوان کالای سرمایه ای و یک ارزش اجتماعی باعث پایداری جامعه و کاهش آسیب های اجتماعی گردد و در اثنای این تغییرات در الگو، تغیرات زیادی به لحاظ کیفیت مصالح، مواد، طراحی و معماری و استانداردهای کیفی را تجربه نموده است که این تغییرات به صورت مستقیم بر فعالیتهای زیستی و معیشتی ساکنان آن و همچنین بر عواملی مانند سلامت روانی و بهداشتی آنها اثرگذار می باشد. روان شناسان محیطی به گونه ای مستقیم و غیرمستقیم از دیدگاه های مختلف به بررسی تأثیرات محیط کالبدی و ساخته شده بر رفتار انسان و حس تندرستی وی پرداخته اند. آن دسته از ویژگی های محیط ساخته شده که به طور مستقیم بر سلامت روان اثر گذارند شامل ازدحام و تراکم در فضا، آلودگی صوتی، کیفیت تهویه هوا و میزان نورگیری بنا و نظایر آن می شود که علاوه بر تأثیرات مستقیم و غیرمستقیم بر شرایط جسمی فرد، می تواند بر سلامت روانی وی نیز اثر بگذارد. به طوری که یافته های اپیدمیولوژیک وابستگی بالایی بین وضعیت مسکن و اثرات بهداشتی آن بر سلامت انسان را نشان می دهد. با توجه به اینکه آگاهی از شاخصهای سلامت یکی از مهمترین ابعاد سازنده کیفیت زندگی می باشد، شناسایی اثرات کیفیت مسکن بر سلامت روانی و بهداشتی عموم مردم، خصوصا روستاییان و ارتقاء یک زندگی سالم ضروری است. دهستان شاندیز از توابع شهرستان بینالود یکی از مناطقی است که بخش قابل توجهی از مساکن آن در سالهای اخیر از طریق اجرای طرحهای بهسازی و ارتقای کیفیت استانداردهای مسکن و همچنین توسط خواست خود روستاییان، بازسازی و نوسازی شده است. این دهستان دارای ۳۰ نقطه روستایی است که ۱۱ روستای سرآسیاب، فرح آباد، ویرانی، چاهشک، فیانی، دهنو، حصار سرخ، چاه خاصه، زشک، ابرده علیا وگراخک، روستاها انتخاب و مورد مطالعه قرار گرفته است. مطالعه حاضر به دنبال تحلیل و ارزیابی اثرات بهبود کیفیت مسکن بر ارتقای سلامت جسمی-روانی روستاییان ساکن در این منطقه می باشد.

### ۲. مبانی نظری تحقیق

در تمام دوران حیات بشر، مخصوصا در دهه های اخیر با توجه به افزایش رشد جمعیت، مسکن از مسائل مهم اقتصادی و اجتماعی افراد بوده و هست. در این میان دسترسی به مسکن مناسب برای همه خانوارهای شهری و روستایی، مخصوصا اقشار ضعیف و آسیب پذیر جامعه، که معمولا قشر وسیعی از آنها در روستاها زندگی می کنند، از اهمیت زیادی برخوردار است. طراحان و پژوهشگران زیست محیطی در دهه شصت میلادی در آمریکا انگیزه های بسیاری در جهت همکاری با یکدیگر در جهت ایجاد سکونت گاه های مناسب زندگی مردم احساس کردند. عدم توجه به نیازهای فیزیولوژیک، ایمنی و روانی مردم در طراحی و ساخت فضاهای مسکونی چون «پیروت، آیگوه» در واقع در سنت لوئیز آمریکا که منتهی به تخریب

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بیش از ۴۳ مجموعه ساختمانی و ۱۱ طبقه گردید، هشداری جدی و قابل توجه به آنها بود. توجه به مناطق روستایی و تلاش برای بهسازی و تجدید حیات بافت رو ستا به شکل امروزی در جهان، به عبارتی اولین تجارب احیا و بازسازی بافت فرسوده شهرها و روستاها در دهه ۱۸۷۰ میلادی با اقدام های هوسمان در شهر پاریس آغاز شد. به طور کلی اقدام های اولیه پیرامون احیا و بهسازی بافت فرسوده شهرها و به تبع آن روستاها را باید در کوشش های کشورهای اروپایی جستجو نمود. در کشور ما، در چند ساله بعد از انقلاب سیاست دولت در زمینه حمایت کشاورزی و عرضه خدمات زیر بنایی و سر مایه گذاری های تولیدی در روستاها، از سویی موجب پیدایش تحولات اقتصادی، اجتماعی-فرهنگی و به تبع آنها تغییرات فیزیکی در کالبد رو ستاها شد و از سویی دیگر راه را برای تحقق برنامه ریزی های رو ستایی هموار نموده و این مناطق را آماده پذیرش مسوولیت های جدید کرد.

## ۳. روش تحقیق

با توجه به هدف تحقیق، روش تحقیق به صورت پیمایشی از نوع کاربردی، مبتنی بر پرسشنامه و نوع پژوهش هم به صورت توصیفی-تحلیلی می باشد. روایی پرسشنامه از طریق اعتبار محتوا و با نظر کار شناس برنامه ریزی رو ستایی برر سی شد. همچنین جهت پایایی پرسشنامه از آزمون آلفای کرونباخ استفاده گردید که ۰/۸۶ به دست آ مد. در ن ها یت برای تجز یه‌وتحل یل داده ها از آ مار توصیفی و استنباطی (آزمون همبستگی پیرسون، تی تک نمونه‌ای و رگرسیون) در نرم‌افزار SPSS و برای رتبه‌بندی روستاها از لحاظ شاخص‌های سلامت روحی و روانی و کیفیت مسکن، از تحلیل واس پاس (وزن دهی مورداستفاده در تحلیل واس پاس آنتروپی می‌باشد) استفاده شده است.

## ۴. یافته‌های تحقیق

نتایج آزمون همبستگی پیرسون نشان می دهد که بعد کمی با آماره ۰٫۵۴۹، بعد کالبدی با آماره ۰٫۵۱۳، بعد فرهنگی- اجتماعی با آماره ۰٫۵۰۵ و بعد زیست محیطی با آماره ۰٫۵۲۲ با سلامت روحی – روانی رابطه ای مثبت با شدتی متوسط و معنادار دارد. در بعد سلامت جسمی هم تنها رابطه معنادار بین بعد کالبدی با آماره ۰٫۱۴۹ می باشد که نوع رابطه مستقیم و ضعیف می باشد و در متغیر سلامت بعد کمی با آماره ۰٫۶۵۱، بعد کالبدی با آماره ۰٫۶۲۳، بعد فرهنگی- اجتماعی با آماره ۰٫۶۰۵ و بعد زیست محیطی با آماره ۰٫۵۹۶ دارای رابطه ای مستقیم با شدتی قوی می با شد بدین معنی که هر چه ابعاد کیفیت مسکن بهبود یابد بر سلامت رو ستاییان هم اثر مثبت می گذارد و سلامت آنها در زمینه های روحی و جسمی بهبود می یابد. نتایج اولویت بندی مدل در متغیر کیفیت مسکن نشان می‌دهد که رو ستاهای چاهشک، فرح آباد و ویرانی دارای با کیفیت ترین مسکن و روستاهای حصار سرخ، ویرانی و دهنو نیز از لحاظ سلامت روحی و جسمی سالم تر از سایر روستاها می‌باشند.

## ۵. بحث و نتیجه گیری

نتایج حاصل از تحلیل داده ها بیانگر این است که کیفیت مسکن به میزان ۰/۵۴ درصد بر متغیر سلامت موثر است. بررسی اثرات غیر مستقیم با استفاده از تحلیل مسیر پرداخته شد که نتایج نشان داد در کل از میان متغیرهای مستقل (کمی، کالبدی، فرهنگی- اجتماعی و زیست محیطی) بعد کمی بیشترین اثر را بر متغیر وابسته (سلامت روحی و جسمی) داشته است. با توجه به اینکه بهبود و ارتقای کیفیت مسکن باعث بهبود سلامت روحی و جسمی رو ستاییان می شود از سویی دیگر منبع قابل اتکایی برای اقناع و تحریک ساکنان در جهت ارتقای کیفیت زندگی می باشد می‌توان سرمایه گذاری در این راستا را از مهمترین سیاستگذاری‌های مدیریت روستایی و سلامت و بهداشت تلقی نمود.

**کلمات کلیدی:** کالبد روستایی، سلامت روانی و جسمی، کیفیت مسکن، نواحی روستایی، بخش شاندیز.

**تشکر و قدرانی**

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