Assessment of Gonabad people's needs and its relationship with their demographic factors

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Abstract
Measuring needs hierarchy theory based on Maslow model is a suitable way for application in various human academic disciplines. The purpose of this study was measuring Gonabad people's needs and their relationship with demographic factors. This study was conducted on 850 Gonabad residents aged 15 years and older. They were selected according to the stratified sampling method and sample size proportion. Required data for Maslow's needs such as physiological, safety, belonging to group, Esteem and self-actualization needs collected using a researcher-made valid and reliable questionnaire. The data were analyzed using t-test, ANOVA and the linear regression model. In this study, 59% of participants were males and the rest were females. Participants' mean age and standard deviations were 35.39 and 14.27 respectively, ranging from 15 to 96 (3.50). In this study, it was cleared that participants' biological needs had a significant relationship with age, gender, education, occupation and income. Also need to group supporting had a significant relationship with gender, education, marital status, household size and income. In the end, self-actualization needs with age, gender, occupation, education, residency history, marital status and number of children had a significant relationship. It appears that demographic factors are very effective for determining true needs of people based on Maslow's hierarchy of needs.

Keywords: Assessment, Demographic, Hierarchy, Need

Introduction

During the past century, Iranian society has undergone huge developmental changes. Advances in science and technology have affected people's lifestyles. Development of the media and information technologies has changed the simple nature of communities into complex ones. According to Buri, extensive population growth as well as people's high residency coefficient in a certain area has

changed the amount and type of people's economic, social, cultural, physical and mental needs [1].

The term "need" signifies desire and want, or a sense of shortcoming and discontentment from the existing gap between the present state and the desired state of things. Or it is a sense of shortcoming and endeavor to overcome it. [2]. Need is a concept with different meanings in different contexts. [3]. In folk culture, the term "need" is used to refer to money or any other donations and charities intended to satisfy a deficiency [4]. Maslow believes that needs are in form of hierarchy. In other words, needs are organized in a specific order. When the first need is met, other needs in hierarchy are met respectively. In other words, the main immediate result of providing a need is that its dominance diminishes or is satisfied so that, he can attend to the other aspects of his life and pursue other goals [5]. Accordingly, human desires and basically human behavior is affected by unsatisfied needs [2].

Maslow's hierarchy of needs theory is a high perspective and important theory in field of human needs and motivations. This theory has been discussed, analyzed and applied in various human academic disciplines, including psychology, sociology, political sciences and organizational behavior and management [2]. Need assessment based on Maslow's needs theory provides a comprehensive understanding of the hierarchical state of people needs with different demographic factors (gender, age, education, class…) in future this bank information may be a suitable source for executive performances in local and national areas. Need assessment is often carried out through collecting data from a representative sample from the community or group whose needs are being assessed [6].

According to Maslow's theory, needs placed at the base of the pyramid should be met before those placed at the top [7]. Because of Maslow high important and its application in western countries, it seems that application of this model was also favorable in Iran. Therefore, it is necessary grade people's needs based on a suitable standard method and for this reason; we should know the people's needs [8].

On the other hand, since understanding and analyzing needs are associated with different motives, every society has to identify its current needs and plan for meeting of them and own survival [9]. Maslow placed these needs in a hierarchy of 5 classes from the bottom to the top [10, 11]. So our purpose in this study was measuring hierarchy of Gonabad people needs and their relationship with demographic factors based on Maslow theory. Gonabad city, with 10000 Km^2 areas, is located in the south of Khorasan-Razavi province at 260 kilometers far from Mashhad. It is positioned at an eastern longitude of 46-57 to 27-59 and northern latitude of 30-34 to 34-54 and has a warm and dry climate. Gonabad is the borough town of the township. According to a 2006 census, before the Independence of Bajestan district, Gonabad population was 110,135. But in 2006, its population was 80783 persons. This city has 2 districts and 4 rural districts. Changes in its population distribution have been symmetrical, that means, population distribution in urban and rural areas had a similar trend. Only in recent years urbanization rate was higher than ruralization rate.

Method

In this cross-sectional study, all Gonabad residents of 15 and over the age of 15 were studied. The sample size was measured as 850 participant. Participants were selected according to a random systematic method. First, a list of urban residents of Gonabad was extracted from the municipal files of the participants and health centers. To reach a fixed sampling interval, the total number of population was divided by sample size and then a number was randomly chosen between 1 and the number of sampling interval as the first participant; the rest of the samples were selected by adding the interval number to the last number as the next to the last participant. Gonabad city was chosen as the researchers were native and intended to

identify their people's needs and submit the results to the authorities of the city in order to solve the problems of the city as they could. Generally, over the entire time this study was being conducted, the township's ruralization rate was decreasing while its urbanization rate was on rise [12]. Data collection tool was a researcher-made questionnaire consisting of two parts. The first part contained questions on participants' biological needs according to Maslow's hierarchy of needs, and the second part was about their demographic information. The questionnaire was first prepared by Allen Chapman [13] and was extracted by the researchers from credible sources. This questioner was translated from English to Persian and then was translated to English. For removal of differences between them, researchers examined its validity and reliability. The questionnaire contained 10 questions for each of Maslow's 5 areas of needs, and each question was written on a 4-point Likert scale of responses of "very much", "rather a lot", "little" and "very little". At the end of each area or 10 questions, an open question was provided for the participants to make comments and suggestions, if any. Each option was assigned a score from 4 (very much) to 1 (very little). Participants' mean score in each area was then calculated.

Content and face validities were used for validation of the questionnaire. A total of 50 questionnaires were randomly distributed among different people and their comments were obtained and used by the researchers in their meetings for the purpose of evaluating, revising and modifying the questionnaire. The test-retest method was used to assess the questionnaire's reliability; for this purpose, first, 20 participants completed 20 questionnaires twice at an interval of two weeks. The Interclass Correlation Coefficient (ICC) was eventually found to be 0.82. Following the questionnaire analysis, certain questions were eliminated, some were combined together and integrated and some were added. At the end, the final version of the questionnaire was approved in a meeting among the authors and was then prepared for duplication.

Volunteered interviewers were a group of health workers and students of Gonabad universities; they were familiarized with the interviewing procedures and completion of questionnaire and practical objects of this study was trained by researchers during a training workshop. Interviewers also received an interviewing manual and a guideline that researchers had prepared for further explanation on questions and for replicating the concepts of the questions used in the questionnaire. So that they could easily refer to it for resolving any problems they or the responders might encounter.

Questionnaires were completed through interviews with person or during visits residence place of participants. Interviewers were asked to study of research purpose, and then signet the agreement forms. In changing life place or absenting from home during all three visits, the interviewers should again visit absent case or follow other purposes listed in the questioner. The questionnaires were to be completed within two weeks and handed to the responsible person, who would first examine their satisfactory amount and would then return them to the interviewer in case they required modifications. As the final step, the completed questionnaires were handed over to the researchers for the data analysis.

Data were analyzed by t-test, Tukey test; Anova and linear regression model were used for data analysis. The present study was conducted following the approval of the Research Council of the Social Development and Health Promotion Research Center (SDHPR) and the Research Council of Gonabad University of Medical Sciences of Iran. Ethical principles were respected during data collection, analysis and their reporting. Total participants accepted study purposes and assured about protection of themselves private data and this information were used only for public reviewing as a generalized final report,

Results

Data obtained from 750 completed questionnaires were analyzed in the present

study (response rate: 95.7%). Participants' mean age (standard deviation), duration of residency and household size was 35.92 (14.27) years, 26.06 (16.14) years and 3.50 (1.41) people respectively.

Table 1 *Distribution of demographic characteristics of the participants*

Demographic variables	Size	Percent
Sex		
Male	443	59.15
Female	306	40.85
Marital Status		
Single	138	18.4
Married	589	78.5
Divorced	7	0.9
Widow	15	2.1
Literacy status		
Illiterate		
Rather literate (primary school)	19	2.5
Average literacy (Guidance	118	15.8
school)	375	50
Higher education(over diploma)	238	31.7
Job status		
Governmental	145	19.5
Self-employed	269	36.3
Student	90	12.1
Housewife	197	26.5
Jobless	24	3.3
Others	17	2.3
Children size		
No children	244	32.5
1-2 Child	277	36.9
3-4 Child	159	21.2
More than 4 Children	70	9.4
Monthly outcome		
Less than 200.000 Tooman	141	19.2
200.000 to 500.000	401	54.6
500.000 to 1000.000	162	22.1
1000.000 to 2000.000	29	4
More than 2000.000	1	0.1

Table 1 shows the distribution of demographic characteristics of the participants after analyzing the data in 6 areas. The numbers of male participants (59.15%) were more than females (40.85%) in this study and the most of participants were married (78.5%). From literacy status the most (50%) participants had

an average level of education. Some other results were also obtained from the study such as the followings:

Considering the physiologic needs of Gonabad people based on Maslow hierarchy of needs, it seems that these needs are in a good and proper status with having a house or shelter for over 72% of the participants. The greatest safety needs pertained such as fear of natural disasters (56%), demophobia (54%), stress and anxiety (33%), and the smallest safety needs pertained to the sense of peacefulness in life (14%), feeling at risk in public (20%) and feeling at risk in general (26%), respectively.

For the third question regarding Gonabad residents' need for belonging to a group and receiving affection, a relatively satisfactory status was discovered. The greatest need in the area of belonging to a group pertained to the need for friends' help in solving problems (67%), encouraging others (72%) and receiving encouragement from others (78%), and the smallest needs pertained to having multiple friends (96%), mutual friendship between the individual and their family (96%) and having problems in connecting with others (18%), respectively.

From esteem or respect point of view or the 4th need, Gonabad population status is in a proper status and about 80% of the participants are satisfied with their life here in and only 20% of the populations are not fully satisfied with it. In self-actualization need, the status is rather proper and well. The most (53%) had their education based on their ability and had promoted in life as themselves claimed. About 72% of the participants said that follow education and improving it in their city and it means that all conditions and convenient were available there.

Table 2 shows the mean scores of the participants in five areas (level) of Maslow's needs.

The results showed that people were generally in good standing place and status in terms of their need for self-actualization, although the need for pursuing education and making

Table 2 *Mean and standard deviation of the participants' scores in five areas of Maslow needs*

Needs area(level)	Sample size	Mean	SD (±)
Physiological	750	31.71	6.48
Safety	750	29.13	5.15
Belongingness and love to group	747	33.24	4.89
Esteem Needs	747	33.23	5
Self-actualization	748	30.62	5.32

progress in life were more noteworthy, which matched the discussed areas of need to esteem or respect.

Results of the variance analysis test showed significant relationships between participants'

marital status and their mean scores for the third area (need to belonging a group), the fourth area (need to respect) and the fifth area (need to self-actualization). Considering the analysis, the Tukey test showed a difference

Table 3 *Mean scores of participants in five areas of Maslow needs and its relationship with their marital status*

Needs area(level)	Marital status	Size	Mean	SD (±)	Significant level
physiological	Single	138	32.16	7.012	
	Married	589	31.70	6.336	0.200
	Divorced &Widows	22	29.50	6.487	
Safety	Single	138	29.12	5.362	
	Married	589	29.19	5.065	0.320
	Divorced &Widows	22	27.50	6.155	
Belongingness and love to group	Single	137	32.93	4.908	
	Married	587	33.42	4.820	0.013
	Divorced &Widows	22	30.41	6.021	
Esteem Needs	Single	137	33.07	4.842	
	Married	587	33.40	4.947	0.034
	Divorced &Widows	22	30.64	5.973	
Self-actualization	Single	137	31.58	5.033	
	Married	587	30.49	5.271	0.019
	Divorced &Widows	22	28.64	7.326	

between the mean scores obtained from the married participants comparing with divorced and widowed in the 3rd and 4th areas of needs and between the mean scores obtained by the single participants with others in the 5th areas of needs.

In general some other results can be drawn from the study that, as one gets older, he is faced with a reduced income and greater expenses that have the effect of increasing his biological needs. Nevertheless, an increasing need for self-actualization is an expected outcome of older age. These needs often increase once people hit their middle ages.

Results of the Tukey test showed that, in the first area, a significant difference existed between

the mean scores obtained by the corporate workers compared to those involved in other occupations; for the mean scores obtained by the housekeepers and the students were significantly higher compared to the corporate workers. Meanwhile, there were no significant differences between the mean scores obtained by the housekeepers versus the students, and the mean scores of the self-employed versus the unemployed.

Results of the simple linear regression test showed a significant inverse relationship between the subjects' number of children and their scores in the self-actualization area. In other words, as participants' number of children increased, their mean scores in the

self-actualization area significantly reduced. These results indicated the greater need for self-actualization in people with a larger number of children. Results of the simple linear regression also revealed a significant relationship between household size and participants' mean scores in the first and third areas; the mean scores obtained in these areas increased significantly as household size increased. Therefore, it can be argued that biological needs and the need for belonging to a group reduced with increasing household size. According to results, there was a significant relationship between the participants' history of residency in Gonabad and their need for self-actualization; that is, the longer their residency, the less significant their need for self-actualization. According to findings presented in the previous table, the higher the participants' income, the higher their mean scores in the third to fifth areas was. There was a significant relationship between participants' mean scores in the second to fourth areas and their level of income.

The sixth and last question studied in the present research was whether there is a relationship between the biological and safety needs as well as the need for belonging to a group, for respect and for self-actualization in Gonabad residents and their demographic factors (age, gender, marital status and socio-economic status). The following results are an answer to this question.

Discussion

In the present study, that showed Gonabad residents' biological needs in a favorable state in general and no significantly particular problem exists in the area; were the same and in agreement with the results obtained by Shahnam Arshi et al. [14] and Dehestani [15]. These findings showed that, in terms of hygiene, clean air and healthy water, residents of Gonabad did not have any particular needs, which was as expected given the proper hygienic conditions, the township's small size and the lack of traffic and harmful pollutants. Perhaps because of the low incomes, high costs of living and healthcare expenses, people felt they needed to work harder and thus the amount

of pressure imposed on them has led to their intensified need for more sleep and rest. The second question dealt with Gonabad residents' safety needs; results showed that their status of safety needs was also relatively favorable but lower compared to their biological needs. These results are also in line with results obtained by Shahnam Arshi et al [14].

According to these results, it seems that people's safety needs are more affected by the incidence of natural disasters in this region, which include earthquakes, heavy winds and dust storms for the most part. However, results showed that the source of such fears is not merely external, and internal fears mixed with anxiety are more common, especially social anxiety that has influenced people's safety needs most of all.

For the third question regarding Gonabad residents' need for belonging to a group and receiving affection, a relatively satisfactory status was discovered. These results are in agreement with results of the studies conducted by Arshi et al [14], Kar [16], Dehestani [15], and also Hersey Paul & Blanchard [17].

These findings revealed a satisfactory status for people's interpersonal relationship, parents' relationship with each other, parent-child relationship and children's relationship with each other, and the absence of any problems in the connection way with others; thus their needs in this area are reduced. However, it appears that people's expectations from their interpersonal relationships are not quite met, especially when it comes to asking for help from others and receiving encouragement from them as well as oneself encouraging them. Status of the need to respect was the fourth question studied in the present research, which yielded the following results. The need for respect in Gonabad residents was met relatively favorably. The greatest need in the area of respect pertained to the need to succeed, self-efficacy in work (20%) and life (18%) respectively and the smallest needs in this area pertained to the need to respect others (5%), value others (5%) and respect oneself (7%), respectively. This finding was

confirmed by results of the studies conducted by Kar [16], Keshtkaran et al [18] and Hersey Paul & Blanchard [17].

The fifth question in the present study was concerned with the self-actualization status in residents of Gonabad, which also happened to be relatively favorable. The greatest need in the area of self-actualization pertained to the need to pursuing education to the promotion of personal capacity (47%), the desire to be an inventor or discoverer (45%) and making progress to the promotion of personal capacity and aptitude (35%), and the smallest needs in this area pertained to caring for progress both at work and in life (5%), attempts at uncovering one's own abilities [16%] and helping others improve [17%]. These findings were in agreement with results obtained by Kar [16].

Results of the linear regression showed significant relationships between age and biological needs as well as between age and the need for self-actualization; in other words, as the participants' age increased, their scores in the area of biological needs and their need for self-actualization decreased. These results were also in agreement and the same with results of the study conducted by Keshtkaran et al. [18], but were in discordance with results of the study by Mohebzadegan [19].

In relation to gender, significant relationships were discovered between gender and the mean score obtained in all areas except the second one (i.e. safety needs). That is to say, women's mean score in all the four areas were significantly higher than the men's. Results of the present study were in line with results obtained by Mohebzadegan [19], but in discordance with results obtained by Keshtkaran et al. [18]. This finding implies that the need for safety, belonging to a group, respect and self-actualization is lower in women than in men.

Results of the variance analysis test revealed significant relationships between participants' marital status and their mean scores in the third (need for belonging to a group), fourth (need for respect), and fifth (need for self-actualization) areas. The Tukey test showed differences in the mean scores obtained in the third and fourth areas by married subjects and others (divorced and widowed), and the mean scores obtained in the fifth area of needs by single subjects and others. Based on this finding, it can be concluded that married couples have a lower need for belonging to a group and for respect compared to singles and others (divorced and widowed). It appears that marriage, having a spouse and thus the deep bond between the couple, and its subsequent outcomes, play an important role in satisfying people's need for respect and belonging to a group. Results showed that as the level of education increased, the mean scores obtained increased in all the areas expect in the first one. According to results of the one-way ANOVA, there is a statistically significant difference between participants' mean scores and their level of education. Tukey's post hoc test showed that the differences observed pertained to the mean scores obtained by the illiterate and low-literate subjects, in the first area; to the mean scores obtained by the illiterate and low-literate compared to the moderately or highly educated, in the second area; to the mean scores obtained by the illiterate compared to the rest, in the third area; and finally to the mean scores obtained by the highly educated compared to the rest, in the fifth area. These findings were in discordance with results of the study by Mohebzadegan [19]. Results obtained revealed that there is a reduction in the five areas of need (expect for the biological needs) as one's level of education increases. Given the significant difference observed between the illiterate and the low-literate compared to the highly educated regarding this tendency, this lack of need is probably associated with it being met in educational settings as well as the change in beliefs, interests and attitudes. This matter becomes more important when we consider findings obtained on the participants' concerns about furthering their education and the need to progress and succeed. Perhaps such needs find the chance to develop when people reach higher academic levels.

As for occupation, the lowest mean

score obtained in all areas pertained to the unemployed. The ANOVA results revealed a significant relation between participants' occupation and their mean scores in all the studied areas.

In the third and the fourth areas, the mean scores obtained by the corporate workers, the housekeepers and the students were significantly different compared to the mean scores of the self-employed and the unemployed. Meanwhile, the mean score obtained by the self-employed was significantly different compared to every other occupation except for the unemployed.

In the fifth area, the mean score of the corporate workers differed significantly compared to the self-employed. The mean score of the self-employed also differed significantly compared to all those with other occupations except the unemployed. These results are in accordance and agreement with results of the studies conducted by Arshi et al [14], Gowel [20], Mohebzadegan [19] and Keshtkaran et al. [18]. These findings revealed that the unemployed had greater needs in all the five areas compared to the employed ones. In agreement with Gowel's study [20], it can be asserted that different occupations are followed by different needs and that occupation probably affects people's ranking of their needs. It is natural for the unemployed to have greater needs and to feel more shortcomings in this respect, since being unemployed potentially causes financial problems that affect the person's biological needs and safety needs given his concerns about work and belonging to a group, and also given the possible challenges this condition poses to interpersonal relationships, in particular, to establishing deep emotional relationships (marriage), and how it leads to dissatisfaction with oneself (need for respect); this finding is in agreement with findings of the study by Shahanian & Yusefi [21], but, it is in discordance with the study by Janbozorgi et al. [22]. It is no surprise though, since not all studies are supposed to agree with each other. Furthermore, the hierarchy of needs in all studies is not necessarily based on Maslow's model and it was never Maslow's intention to claim this hierarchy is applicable to all cases. He believed this hierarchy to be a typical model holding true in most cases [23]. In fact, certain studies have considered needs beyond the ones pointed out by Maslow. In another study, Shojaee highlighted other human needs that are not clearly visible in Maslow's pyramid of needs and that are also beyond the scope of needs assessed in the present study [24]. The difference in the second and third areas pertained to the low-income and the moderate-income participants while in the fourth area, it pertained to the low-income and the high-income participants. This finding revealed that as one's income increased, the need for belonging to a group and self-actualization also decreased. Results of the present study were in agreement with results obtained by Rassolizadeh in his study on veterans regarding the relationship between income, pressure and mental health leading to self-actualization [25].

Conclusion
It appears that, in determining people's true needs based on Maslow's hierarchy of needs, taking demographic information into consideration can be helpful for understanding the current status of needs and the ideal status. In the present study, the greatest and the smallest mean scores for needs happened to pertain Maslow's third area of need (need for belonging to a group) and his second area (safety need), respectively.

According to these findings, it is recommended that authorities make greater efforts to introduce necessary strategies for furthering help for providing living expenses, especially in the area of healthcare and stress and anxiety reduction (collectively and conditionally), and for providing a context for an encouragement and appreciation culture and appreciation of others, and for increasing opportunities for employment and education in order to people progress and solidify their self-satisfaction. Some problems that Gonabad people faced with them are related to particular nature and geography of the region, such as flooding, drought and particularly earthquake. This can

effect on residents desire to stay in the region for a longer time.

The recommendations is included:

- Based on these findings, it is recommended that a data bank be designed for recording the status of the five needs in Gonabad residents; then, authorities and specific organizations should review it so that solutions can be found for meeting the needs and improving their status.

- In order to primary and biological needs to be met, long-term loans with suitable interest rates should be provided by the banks across the city. The third: In order to meet, improve and elevate the biological and spiritual needs of Gonabad residents, various programs should be devised by public organizations and institutions as well as non-governmental organizations.

- To make people aware of their rights and activate them to say their demands by good and proper advertising ways so that, they be able to claim their rights when it seems necessary and to take timely action on them.

- Organizations' public relations department should be more active to empathize on public rights and problems related to it. Access to internet should be facilitated in order for certain helpful websites to become useful. Some of study limitations were different ranges of age, social class and education level of the participants. Lack of standard questioners in this field, and designing researcher-made questionnaire according to Maslow's hierarchy of needs were from other study limitations. Other problem was scattering geographical distribution of residents in Gonabad and their immigration to other parts of the country, change of address and unwillingness to cooperate halfway through the research, which made the researchers' work more challenging.

Contributions

Study design: ARA, JT, ZSH, VA
Data collection and analysis: ARA, AA, ZSH, SA, VA
Manuscript preparation: ARA, AA, ZSH, VA, SA, JT

Conflict of interest

"The authors declare that they have no competing interests."

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