

*Physiology*

## Comparative and Correlative Study of Locus of Control, Assertiveness, Mental Health Status in Active and Non-Active Elderly People

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**ABSTRACT.** The present study attempts to explore the differences in LOC, assertiveness and mental health status in active and non-active elderly people in Razavi Khorasan Province in Iran and also tries to find out how these variables correlate to each other. In this comparative and correlative study 193 (100 active and 93 non-active) elderly people were chosen using random sampling. They completed Ratter's LOC, Goldberg's General health and Alberti and Emmon's assertiveness questionnaires. Data was analyzed using *Pearson's correlation coefficient* and *independent "t" tests*. The findings of the study revealed significant differences between active and non – active people regarding mental health status and assertive behaviour. Active people were more assertive and had better mental health status. No significant difference was observed between these two groups regarding LOC. Either group were internally oriented in terms of LOC. Significant correlation was observed between these variables. Our study adds to the growing body of research on mental health status and factors such as LOC and assertiveness that affect this variable. In view of our findings, we hope that the use of sport and physical activities as means of improving one's mental health status, be more emphasized and recommended by psychologists and mental health experts. © 2013 Bull. Georg. Natl. Acad. Sci.

**Key words:** active and non-active elderly people, assertiveness, locus of control (LOC), mental health.

### 1. Introduction

LOC is a psychological, social learning theory that refers to the extent to which individuals perceive control over their lives, and environment [1]. The term LOC was coined by Rotter during 1960s. LOC, sometimes called control of reinforcement, includes two

dimensions of external LOC and internal LOC. LOC is conceptualized as being inherent in a dynamic bipolar continuum ranging from internal to external, and it represents the tendency to relate success and difficulties either to internal factors such as effort or to external factors such as chance. If individuals in-

cline to observe that reinforcement results from their own behaviour, they are considered to possess internal LOC. If individuals tend to see fate, luck, or powerful others as being responsible for reinforcements than their own behaviour, they possess external LOC [2] rather than internal.

The other variable studied in this research was assertiveness which encompasses various facets and manifestations. Assertiveness is defined as a form of behaviour characterized by a confident declaration or affirmation of a statement without need of proof. Mental health status of the subjects was also studied in this study. Mental health is a state of emotional and psychological well-being in which an individual is able to use his or her cognitive and emotional capabilities, function in society, and meet the ordinary demands of every day life (American heritage dictionary).

In the present study an effort has been made to study whether there are differences regarding the type of LOC and in the rate of assertive behaviour and mental health status in active and non-active elderly people, and if there is a correlation among these variables. To the best of our knowledge, however, there seems to be paucity of research work addressing LOC, assertiveness and mental health status in this population. Thus, the present study seeks to add to the body of knowledge available in this area.

### 1.1. LOC

LOC as the framework of Rotter's social learning theory of personality is defined as a generalized belief about the contingency between one's action and the actual outcome brought about through social learning mechanism [3]. One's LOC may either be internal or external. Rotter [4] defines external and internal LOC as: "The degree to which persons expect that a reinforcement or an outcome of their behaviour is contingent on their own behaviour or personal characteristics versus the degree to which persons expect that the reinforcement or outcome is a

function of chance, luck, or fate, is under the control of powerful others" [4, p. 489].

In the framework of LOC, an internally oriented person is more willing to do actions [5]. Thus, they commit to tasks which are risky, innovative, and difficult [6, 7]. They look for tasks which require personal control [8]. While internals believe in their own abilities, they try to set goals and also control events [9]. Moreover, most of their efforts are for mastering situations [8]. On the other hand, externals escape difficult tasks and situations specifically the ones which require active participation [5]. Externals believe that they do not have the skills to be effective in different situations [10]. In fact, internal individuals believe that they are individually responsible for outcomes; whereas external people believe that outcomes are controlled by something other than luck, chance, or other more powerful beings.

### 1.2. Assertiveness

Assertiveness as a social skill is a construct which has a number of different dimensions, including the ability to express oneself without anxiety or aggression in different situations, see [11]. Assertiveness has also been defined as the process of direct and appropriate communication of a person's needs, wants and opinions without punishing or putting down others [12]. It can be used as an instrument for initiating and maintaining socially supportive relationships and hence enjoying better emotional well-being [13].

Studies have explored the relationship between assertiveness and mental health in adolescence and adults and have found certain variables which influence assertiveness, including LOC [14, 15].

### 1.3. Mental health

Positive mental Wellness is more than just the absence of mental illness. It can be seen as a state of mental health that allows one to flourish and fully enjoy life. Positive or good mental wellness is not something that we are just born with, it is something

that we have to work at and develop. Having positive hobbies, interests and a positive support network around you are just some of the attributes that will help you develop positive mental wellness.

Everyone experiences down times in life. The ability to cope with negative experiences varies greatly from one person to another and, in large part, determines whether people enjoy their lives. There are some factors that affect the mental health of an individual which among them are locus of control and assertiveness. The results of studies have shown a significant positive relationship between LOC and mental health. Frenkle et al. [16] examined "the relationship between LOC and mental health in adolescence and adulthood" and Karayurt and Dicle [17] in a study "the relationship between LOC and mental health status among Baccalaureate nursing students in Turkey" found a significant, positive, moderate relationship between the general health and LOC scores.

Regarding the relationship between assertiveness behaviour, mental health and LOC, the result of study in [18] "assertive behaviour and its relation to anxiety and LOC on undergraduate students" showed a significant negative correlation between assertiveness and anxiety and assertiveness behaviour was positively correlated with internal LOC.

#### 1.4. Elderly people

Older people are generally defined according to a range of characteristics including: chronological age, change in social role and changes in functional abilities. In high-resourced countries older age is generally defined in relation to retirement from paid employment and receipt of a pension, at 60 or 65 years. With increasing longevity some countries define a separate group of oldest people, those over 85 years. In low-resourced situations with shorter life-spans, older people may be defined as those over 50 years. The age of 50 years was accepted as the definition of older people for the purpose of the WHO Older Adult Health and Ageing in Africa project [19]. The mean

score of age of elderly people in this study was ( $x=71$ ,  $SD=1.8$ ) with minimum age of 65 and maximum of 79. Active elderly people in this study had three sessions of exercises (walking) in a week on their own.

#### 1.5. Exercise/Physical Activity and Elderly people

Regular and moderate exercise can cut age declines in half and reduce the risk of all diseases by 50% (Health Canada). Health Canada's Physical Activity Guide to Healthy Active Living for Older Adult. As mentioned above physical activity involvement is considered as beneficial both for physiological and psychological health. In Iranian society an elevated level of physical inactivity has been reported lately. While, the previous studies examining the association between physical activity and psychological health were limited to the young population of university students in Iran, this study concentrated on elderly people.

Elderly people who remain mentally and physically active typically report high levels of wellbeing. In this people internal LOC was predictive of wellbeing [20].

### 2. Measures

#### 2.1. Participants:

In this comparative - correlative study 193 (100 active and 93 non- active) elderly people who resided in a sanatorium participated as statistical sample.

#### 2.2. Instruments

-LOC

Rotter's LOC [3] questionnaire was used to obtain data on subjects' type of LOC. The instrument consisted of 13 items dealing exclusively with the subject's beliefs about the nature of the world. The participants had to choose the statement that clearly described the situation for them as being internal or external concerning LOC. Score range is from 0 to 13. A low score indicates an internal LOC while a high score indicates external LOC.

**Table 1.** Descriptive statistics of variables in active and non-active elderly people

| Variable      | Active |       |                  |                  | Variable      | Non-active |       |                  |                  |
|---------------|--------|-------|------------------|------------------|---------------|------------|-------|------------------|------------------|
|               | M      | SD    | Minimum possible | Maximum possible |               | M          | SD    | Minimum possible | Maximum possible |
| LOC           | 5.247  | 2.842 | 0                | 13               | LOC           | 5.244      | 2.322 | 0                | 13               |
| Assertiveness | 3.28   | 0.77  | 1                | 5                | Assertiveness | 2.95       | 0.71  | 1                | 5                |
| Mental health | 17.417 | 8.970 | 0                | 36               | Mental health | 19.053     | 9.106 | 0                | 36               |

### 2.3. Mental Health

General Health Questionnaire-12 (GHQ-12) [21] is a 12 items, self-administered scale that yields the current experience of a symptom and behavior specifically of psychological distress, on a four point (0-3) liker scale. With the total score of 36. It mainly focuses on the two major areas 1) the inability to carry out normal functions and 2) the appearance of new and distressing phenomena. A score obtained more than 20 on GHQ-12 indicates severe psychological problems and distress.

### 2.4. Assertiveness

This is a standardized psychological assertiveness inventory adapted by Alberti and Emmon [22]. It contains 17 items designed to assess the assertiveness (High and Low assertiveness) experienced by the participants: each item is scored on 0 to 4 points scale reflecting the degree with which the item applies to the participants during the research.

## 3. Statistical Analysis

Statistical analysis was done by using independent “t” test and Pearson’s correlation test [23]. The first statistical analysis to be performed was coefficient alpha to measure the reliability of the instruments. Although the instruments were proven to be reliable and have been used since the mid twentieth century, reliability tests were needed for this study, since the instruments were translated into Farsi, and were used in a different culture at a different span of time. An internal consistency estimate was computed for the three instruments and the alpha value for LOC, assertiveness and mental health were respectively, 0.90, 0.80, 0.83.

### 3.1. Descriptive statistics

Table 1 displays the means and standard deviations of variables for active and non-active elderly people. According to mean scores of variables, elderly people (active and non-active) in this study were more internally oriented in terms of LOC, but either group (active and non – active) elderly people were not in good mental health status, although active people were better than non-active. Active people were also more assertive than non- active ones. For details see Table 1.

### 3.2. Independent “t” test results

Table 2 shows if these differences are significant at the level of  $\alpha=0.05$  between active and non-active elderly people. Regarding the mean scores of assertiveness and mental health ( $p$ -values $<0.05$ ), active people were more assertive and had better mental health status or were less prone to psychological disorders, but there was no significant difference between these two groups regarding the type of LOC ( $p$ -value $>0.05$ ). For details see Table 2.

### 3.3. Correlation results

As it is illustrated in Table 3 there was a negative significant correlation between LOC and assertiveness. It implies that the more internally oriented a person is the more assertive behaviour he or she shows. There was also a negative significant correlation between locus of control and mental health status. It means that people with internal LOC are in better health status, or have less psychological problems and distress. People in this study were internally oriented from LOC perspective. Significant correlation was observed between assertive behaviour

**Table 2.** Comparison of variables in active and non-active elderly people

| Variables     | Group      | N   | Mean   | SD    | “t” test  |                   |         |
|---------------|------------|-----|--------|-------|-----------|-------------------|---------|
|               |            |     |        |       | “t” value | Degree of freedom | p-value |
| LOC           | Active     | 100 | 5.75   | 2.498 | 1.489     | 191               | 0.138   |
|               | Non-active | 93  | 6.31   | 2.554 |           |                   |         |
| Assertiveness | Active     | 100 | 18.97  | 3.34  | 2.24      | 191               | 0.026   |
|               | Non-active | 93  | 17.83  | 3.64  |           |                   |         |
| Mental health | Active     | 100 | 20.516 | 8.970 | 3.459     | 191               | 0.001   |
|               | Non-active | 93  | 25.03  | 9.106 |           |                   |         |

**Table 3.** Statistical Index Variable No. (n) Correlation (r) Significance (p)

| Statistical Index Variable             | No. (n)    | Correlation (r) | Significance (p) |
|----------------------------------------|------------|-----------------|------------------|
| <b>LOC and Assertiveness</b>           | <b>193</b> | <b>- 0.104</b>  | <b>0.001</b>     |
| <b>LOC and Mental health</b>           | <b>193</b> | <b>- 0.373</b>  | <b>0.004</b>     |
| <b>Assertiveness and Mental health</b> | <b>193</b> | <b>0.257</b>    | <b>0.001</b>     |

and mental health status. An assertive person who is using all his or her potential and believes that his or her life is controlled generally by internal forces, may indeed has confidence to explore his or options and implement decisions.

#### 4. Discussion

In this study there was no significant differences between active and non-active elderly people regarding the LOC. Elderly people in this study (active and non-active people) were internally oriented in terms of LOC who believed that their well-being and success in life and profession were achieved through their own abilities and efforts than good or bad luck. Findings in this regard (Elderly people being internally oriented, despite having lower socioeconomic status) was the high point of this study.

The findings of this study also provide evidence that confirmed the significant differences in assertiveness and mental health status in active and non-active elderly people. Comparing assertiveness and mental health status in active and non-active people showed that active people were more assertive, and had a better mental health status than non – active ones. Engaging in regular physical activities other

than inducing physiological and bio-chemical changes in body and flux of enzymes that causes happiness and feeling of satisfaction and relaxation in an individual, can also change the attitude of a person toward himself or herself, others and his or her environment. Furthermore, participation in regular activity has been shown to result in more assertive behaviour. The results of various researches, joining sport activities of the individuals have shown to develop health of body and soul and personality structure. Sport activities also make will-power strong and make the group work easy, and provide solidarity mutually, and improve self confidence, and controls and provide important contribution in learning respect to the others and acts a part in being assertive individual. In this respect, sporting activities can be thought of great importance to assertiveness level of individual [24].

This study also explores the links between LOC with mental health status and assertiveness in active and non - active elderly people. The findings confirmed relationship among these variables. People with internal LOC probably know more about care aspect of health such as weight control, routine check up and have active life style and also have better

adaptation to stressful environment and take better care of themselves [25]. This finding is in line with those of [16] and [26].

In this study LOC also played a significant role in the assertive behaviour of elderly people. This finding (significant negative correlation between LOC and assertiveness) is in line with the findings of Mong [27]. Socially responsible behaviour is something often promoted by internality, individuals who are internally controlled tend to be highly assertive than those with externality of control. The externals believe that the environmental forces determine their life and events around, they blame the environment and could be passive, submissive or aggressive and feel irresponsible of events.

From reciprocal behaviour analysis perspective about the relationship between LOC and the level of self-assertiveness and mental health status of an individual, it can be said that some of the behavioural patterns of an adult is rooted in his childhood. Educational system and cultural patterns in families where children are not allowed to think and express themselves will lead children to compatibility. One of the features of people without self-assertiveness is external LOC which come from love seeking and emotional deficits in their childhood. Because a person who didn't experience caress, does not like himself and such a person does not have good relationship with himself; he needs others to tell him "you are good"; he wants to receive this caress from the outside; that is others control him and he does not have internal LOC.

On the other hand, most of the researchers confirm that autonomy, independence and internal LOC are along with mental health and success in most cases. While too much dependency to the outside controller is the basis of most of mental problems,

such as chronic anxiety, depression, low courage, feeling of inadequacy, addiction, fear, seeking avoidance and family problems.

William and State [28], in a research called "investigating the effects of self-assertiveness level on LOC and health problems" showed that people with high level of self-assertiveness were internally oriented from LOC perspective and had fewer health problems in comparison with those of low level of self-assertiveness.

## 5. Implication

Our study makes two key contributions to the literature on mental health. First contribution this paper makes is that the study conducted on elderly people, while the earlier studies focused on college students and adults. The second contribution is the importance of physical activities on assertiveness and mental health status of people. Our results suggest the use of sport as a mean of enhancing people's mental health.

## 6. Limitations

These results are based on self – reports of elderly people with various backgrounds and from different walks of life. Our result may also be affected by some bias attitude that participants might take toward the variables.

## 7. Conclusion

Our study adds to the growing body of research on mental health status and factors such as LOC and assertiveness that affect this variable. In view of our findings, we hope that the use of sport and physical activities as means of improving one's mental health status, be more emphasized and recommended by psychologists and mental health experts.

## ფიზიოლოგია

## კონტროლის ლოკუსის, თავდაჯერებულობის და ფსიქიკური მდგომარეობის კვლევა აქტიურ და არააქტიურ ხანდაზმულებში

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წინამდებარე ნაშრომი წარმოადგენს კონტროლის ლოკუსის, თავდაჯერებულობის და ფსიქიკური მდგომარეობის შესწავლის მცდელობას ირანის რაზავი ხორასანის პროვინციის აქტიურ და არააქტიურ ხანდაზმულებში. აგრეთვე, ავტორები ცდილობენ დაადგინონ რა ურთიერთ-დამოკიდებულებაა ეს ცვლადები ერთმანეთთან. შედარებითი და ფარდობითი კვლევისას 193 ხანდაზმული (100 აქტიური და 93 არააქტიური) შეირჩა შემთხვევითობის პრინციპით. მათ შეაესეს რეტერის ლოკუს-კონტროლის, გოლდბერგის საერთო ჯანმრთელობის მდგომარეობისა და ალბერტისა და ემმონის თავდაჯერებულობის კითხვარი. მონაცემების ანალიზი ჩატარდა პიარსონის კორელაციის კოეფიციენტის და დამოუკიდებელი «ტ» ტესტებით. აქტიური და არააქტიური ადამიანების გამოკვლევამ მათ შორის მნიშვნელოვანი განსხვავება გამოავლინა ფსიქიკური და თავდაჯერებული ქცევის მხრივ. აქტიური ადამიანები უფრო თავდაჯერებულები არიან და უკეთესი ფსიქიკა აქვთ. ლოკუს კონტროლის თვალსაზრისით ამ ორ ჯგუფს შორის არანაირი განსხვავება არ შეინიშნებოდა, თითოეული ჯგუფი შინაგანად იყო ორიენტირებული. ცვლადებს შორის მნიშვნელოვანი თანაფარდობა აღინიშნა. ჩვენი კვლევის შედეგების გათვალისწინებით ვიმედოვნებთ, რომ ფსიქოლოგები და ფსიქიატრები ყურადღებას გაამახვილებენ სპორტსა და ფიზიკურ აქტიურობაზე და რეკომენდაციას გაუწევენ მათ, როგორც ადამიანის ფსიქიკური მდგომარეობის გაუმჯობესების საშუალებას.

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