

# The Effects of the Health Literacy levels of Academic Staff in Sports Sciences on the Healthy Life Awareness levels

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## ABSTRACT

This study aimed to examine the effect of the health literacy of academics working in the field of sports sciences on awareness of healthy life. The sample of the study consisted of Turkey Sports Sciences Association members and the 224 sports scientists [n: 67 (29.9%) females and n: 157 (70.1%) were males] with different titles. The "Health Literacy Scale", which consists of 25 items and 4 sub-dimensions (access to information, understanding information, appraisal/evaluation, and application/use) developed by Aras and Bayık Temel (2017), and the "Healthy Life Awareness Scale" developed by Özer (2019) and consisting of 15 items and 4 sub-dimensions (socialization, responsibility, change, and nutrition) was used as data collection tools. According to the results of the research, it was determined that the health literacy and awareness of the healthy life of the participants were at a high level. Additionally, it was concluded that the practice/use sub-dimension affected the socialization, responsibility, change, and nutrition sub-dimensions and the responsibility sub-dimension of the appraisal/evaluation sub-dimension and the change sub-dimension of the access to information sub-dimension. As a result, it was determined that health literacy explained socialization by 12%, responsibility by 21%, change by 35%, and nutrition by 22%. This result showed that health literacy was an important variable in explaining to healthy life awareness.

**Keywords:** Lifestyle, mental health, sports sciences, academician.

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## INTRODUCTION

Global developments in many areas around the world have led to the emergence of several concepts and paradigms. Humankind's desire to live healthy has become more and more important in recent years. One of the key concepts leading to this goal is health literacy. The development of the digital world and its spread to the masses also contributed to the development of the concept of literacy (Güngör & Kurtipek, 2020). When the definition of the World Health Organization is examined, health literacy is stated as the expression of "social and cognitive skills that determine the motivation and ability of an individual to reach and understand information about health and to use this information in a way that improves his/her health" (Nutbeam, 1998). The level of health literacy in a society is very important. Because more effective use of existing limited healthcare opportunities depends on the level of health literacy. In societies with sufficient health literacy, the individual will prevent the workload by applying to a health institution at the right level in line with his problem. However, they will gain maximum benefit by establishing better quality communication with doctors in conveying their own health problems (Nutbeam, 2000). Considering an individual with a low level of health literacy, it is, unfortunately, difficult for him/her to analyze and interpret any health-related material. In this case, it causes states to provide health services to the public at a higher cost. Therefore, it can be stated that as the level of health literacy increases, such costs will decrease (Kickbusch, Wait, Maag, 2005).

It is thought that one of the factors affecting the health literacy of the individual is the level of awareness. What is at stake here is awareness; is a situation of creating a subjective reality by experiencing past experiences. It is to be able to evaluate the present moment with experience by

overcoming the influence of the past (Germer, Siegel, & Fulton, 2005). Positive attitudes and behaviours of individuals towards innovation also contribute to this process (Kurtipek & Güngör, 2019). It is possible for individuals who follow and evaluate innovations to take actions that can increase their awareness level in line with the subject they are interested in. Therefore, the effect of awareness can be mentioned in the realization of the idea of individuals to continue their lives in a healthy way and to change their lifestyle against diseases (Özer & Yılmaz, 2020). For this reason, it can be said that the individual's ability to lead a healthy life and protection from diseases depends on the development of healthy lifestyle behaviours (Ertop, Yılmaz & Yurdagül, 2012).

Health literacy is a behavioural condition. Behavioural characteristics can often affect some cognitive processes. When the literature is examined, there are studies showing that health literacy is related to various cognitive parameters (Deniz, Öztas & Akbaba, 2018; Hergenç, 2011; Kahraman, Karagöz, Yalman & Yusuf, 2018; Ugurlu & Akgün, 2011; Zarcadoolas, Pleasant & Greer, 2005). When handled in cognitive processes on their own, it may lead to the emergence of different behavioural parameters. For example; A physician who smokes must have information about the harms of smoking, but this may not make a difference in performing the relevant action. For this reason, revealing the relationship between health literacy and healthy life awareness representing a cognitive feature will contribute to researchers in making sense of individuals' attitudes and behaviours on the subject.

Academics working in the field of Sport Sciences are expected to have a certain level of awareness about health due to both being role models in society and being close to the relevant field. When the relevant literature is examined, it has not been encountered to find a study directly involving academics as a sample and on

awareness of healthy life. However, there are studies in the literature that contribute to the field (Doğan & Çetinkaya, 2019b; Dinesh, & Bharti, 2020; Duzen, 2018; Jena, & Mahanti, 2014; Kurtipek, Güngör, Esentürk & Tolukan, 2020; Topçu, Saraçlı, Dursun & Gazeloğlu, 2012; Tergek, Ekici, Tüzün, Aydoğan, Güven & Daşkapan, 2013; Salleh et al, 2010). Therefore, this research is important because it brings depth to the relevant literature and explains the health literacy and wellness awareness of academicians working in the field of sports sciences. In this context, the aim of the present study is to determine the effect of the health literacy levels of academics working in the field of sports sciences on their awareness of healthy life.

## METHOD

**Research Model:** In this study, which examined the relationship between the health literacy of academics working in sports sciences and their awareness of healthy life, the relational screening model was used. Relational survey models were research models that aim to determine the presence and/or degree of co-change between two or more variables (Karasar, 2013).

**Sample group:** The sample of the study consisted of Turkey Sports Sciences Association members and the 224 sports scientists with different titles (67 (29.9%) females and 157 (70.1%) were males). The data were collected with an online platform for the purpose of the study. Besides, convenience sampling method was used among purposeful sampling methods. It was determined that there was no missing or error in the data obtained and all of them were used within the scope of the research. 67 of the participants (29.9%) were lecturers, 15 (6.7%) were Ph.D. lecturers, 40 (17.9%) were research assistants, 4 (1.8%) were Ph.D. research assistants, 54 (24.1%) Assist Prof., 36 (16.1%) Assoc. Prof., and 8 (3.6%) Full Prof. works with the title. The average age of the participants participating in the study was determined as  $40.5 \pm 9.81$  (24-69 age range).

**Data Collection Tools:** Personal information form, Health Literacy, and Healthy Life Awareness Scale were used in the study.

**Health Literacy Scale:** The scale developed by Aras and Bayık Temel (2017) consists of 4 sub-dimensions and 25 items in total. There was no reverse coded item on the scale. Moreover, as the score obtained from the scale increases, the level of health literacy also increases. The sub-dimensions of the scale were access to information, understanding information, appraisal/evaluation, and

application/use, respectively. The Cronbach Alpha coefficients obtained from the original form of the scale sub-dimensions were specified as .71, .79, .66, .62 respectively, and .92 for the total scale. The Cronbach Alpha coefficients obtained for scale sub-dimensions and scale total for this research were .82, .79, .86, .80, and .93, respectively.

**Healthy Life Awareness Scale:** Healthy Life Awareness Scale developed by Özer (2019) consisted of 4 sub-dimensions and 15 items. The scale did not include any negative items and the high score indicated that the awareness of healthy life was high. The sub-dimensions of the scale were socialization, responsibility, change and nutrition, respectively. Cronbach Alpha coefficient was for the entire scale .80, for sub dimensions .70, .71, .74, and .61, respectively. However, the test-retest reliability coefficient was .85. For this research, for scale sub-dimensions and scale total. 85, .79, .84, .82 and .88, respectively.

**Data analysis:** In order to determine whether the data set used in the study fulfilled the normality assumption, the significant result of the Shapiro-Wilk test was examined and the skewness and kurtosis values were taken into consideration. These values for the measurement tools used in the study were between -1.5 and +1.5. This showed that the data were distributed normally (Tabachnick & Fidell, 2013). Normality and linearity assumptions were taken into account in order to determine whether the data set was suitable for regression analysis. A linear relationship was found in the scattering diagram obtained. With this result, it can be stated that the data set satisfied the assumptions of multiple linear regression analysis. Pearson Product Moment Correlation Coefficient (r) was used to determine the relationship between variables in the study. Multiple linear regression analysis was used among health literacy and healthy life awareness variables. Besides, the mean scores obtained from the scales were described by using descriptive statistics. The analyses used in the research were carried out through SPSS 22 Package Program and Excel Database. The significance level was taken as  $p < .05$  and  $p < .01$ .

## RESULTS

In this section, the findings obtained by analyzing the data from the research group were shared.

Table 1. The mean scores participants received from the Health Literacy Scale

| Variables                               |                           | N   | Min. | Max. | $\bar{X}$ | S.D. |
|---|---------------------------|-----|------|------|-----------|------|
| Sub-dimensions of Health Literacy Scale | Access to Information     | 224 | 3.20 | 5.00 | 4.52      | .48  |
|   | Understanding Information | 224 | 2.43 | 5.00 | 4.36      | .52  |
|   | Appraisal / Evaluation    | 224 | 1.50 | 5.00 | 4.38      | .60  |
|   | Application / Usage       | 224 | 1.80 | 5.00 | 4.25      | .63  |
| Total Score of Health Literacy Scale    |                           | 224 | 2.56 | 5.00 | 4.37      | .49  |

The average score obtained by the participants from the total score of Health Literacy Scale = 4.37, the access to information sub-dimension = 4.52, from the understanding information sub-dimension = 4.36, from from the appraisal / evaluation sub-dimension = 4.38, and from the application / usage sub-dimension = 4.25.

**Table 2.** The mean scores of participants received from the Healthy Life Awareness Scale

| Variables                                      |                | N   | Min. | Max. | $\bar{X}$ | S.D. |
|--|----------------|-----|------|------|-----------|------|
| Sub-dimensions of Healthy Life Awareness Scale | Socialization  | 224 | 1.75 | 5.00 | 4.13      | .71  |
|  | Responsibility | 224 | 2.00 | 5.00 | 4.39      | .55  |
|  | Change         | 224 | 3.00 | 5.00 | 4.51      | .45  |
|  | Nutrition      | 224 | 1.00 | 5.00 | 4.03      | .82  |
| Total Score of Healthy Life Awareness Scale    |                | 224 | 2.60 | 5.00 | 4.29      | .47  |

When Table 2 was examined, the average score was obtained by the participants from the change sub-dimension = 4.51, from the responsibility sub-dimension = 4.39, from the socialization sub-dimension = 4.13, from the nutrition sub-dimension = 4.03, and from the total score of Healthy Life Awareness Scale = 4.29.

**Table 3.** Investigation of the relationship between variables using the Pearson Correlation Analysis

| Variables | Atl   | UI    | A/E   | A/U   | S     | RES   | CH    | NUT |
|-----------|-------|-------|-------|-------|-------|-------|-------|-----|
| Atl       | 1     |       |       |       |       |       |       |     |
| UI        | .62** | 1     |       |       |       |       |       |     |
| A/E       | .60** | .73** | 1     |       |       |       |       |     |
| A/U       | .44** | .56** | .68** | 1     |       |       |       |     |
| S         | .17** | .22** | .28** | .33** | 1     |       |       |     |
| RES       | .34** | .34** | .43** | .39** | .42** | 1     |       |     |
| CH        | .49** | .44** | .51** | .48** | .28** | .68** | 1     |     |
| NUT       | .21** | .28** | .33** | .47** | .47** | .44** | .36** | 1   |

\*\* p < .01; Atl: Access to Information; UI: Understanding Information; A/E: Appraisal/Evaluation; A/U: Application/Usage; S: Socialization; RES: Responsibility; CH: Change; NUT: Nutrition

When Table 3 was examined, a positive and low-level relationship was found between access to information with socialization, responsibility, and nutrition. A moderate positive relationship was found between access to information and change. While a positive and low-level relationship was determined between understanding information with socialization, responsibility, and nutrition, a moderate positive correlation was found between change and understanding information. A positive and low-level relationship was found between appraisal/evaluation with socialization and nutrition. A moderate positive correlation was found between appraisal/evaluation with responsibility and change. While a positive and low-level relationship was determined between application/usage with socialization and responsibility, a moderate positive relationship was found between change and nutrition.

**Table 4.** Multiple regression analysis results related to predicting healthy life awareness

| Variables                 |                | Standardize $\beta$ | Standard error | Critical Rate | p    | R <sup>2</sup> |
|---------------------------|----------------|---------------------|----------------|---------------|------|----------------|
| Access to Information     | Socialization  | -.06                | .12            | -.05          | .95  | .12            |
| Understanding Information |                | -.01                | .13            | -.11          | .90  |                |
| Appraisal/Evaluation      |                | .11                 | .13            | 1.02          | .30  |                |
| Application / Usage       |                | .26                 | .09            | 3.06          | .002 |                |
| Access to Information     | Responsibility | .12                 | .09            | 1.57          | .11  | .21            |
| Understanding Information |                | -.02                | .10            | -.29          | .77  |                |
| Appraisal/Evaluation      |                | .25                 | .09            | 2.48          | .01  |                |
| Application / Usage       |                | .18                 | .07            | 2.20          | .02  |                |
| Access to Information     | Change         | .27                 | .06            | 3.82          | ***  | .35            |
| Understanding Information |                | -.01                | .07            | -.07          | .94  |                |
| Appraisal/Evaluation      |                | .17                 | .07            | 1.88          | .06  |                |
| Application / Usage       |                | .24                 | .05            | 3.27          | ***  |                |
| Access to Information     | Nutrition      | -.01                | .13            | -.09          | .92  | .22            |
| Understanding Information |                | .04                 | .15            | .39           | .69  |                |
| Appraisal/Evaluation      |                | -.01                | .14            | -.04          | .96  |                |
| Application / Usage       |                | .45                 | .10            | 5.54          | ***  |                |

\*\*p < .05

When the analysis results were examined, a statistically significant effect was determined on the relationship between application/use and socialization ( $\beta_4=.26$ ;  $p<.05$ ). It was concluded that access to information, understanding information, and appraisal/evaluation did not have a significant effect on socialization, ( $\beta_1=-.06$ ;  $p>.05$ ;  $\beta_2=-.01$ ;  $p>.05$ ;  $\beta_3=.11$ ;

$p>.05$ ). A statistically significant effect was found in the relationship between appraisal/evaluation, and application/use and responsibility, ( $\beta_7=.25$ ;  $p<.05$ ;  $\beta_8=.18$ ;  $p<.05$ ). It can be stated that access to and understanding information did not have a significant effect on responsibility, ( $\beta_5=.12$ ;  $p>.05$ ;  $\beta_6=-.02$ ;  $p>.05$ ). A statistically significant effect was found in the relationship between

access to information and application/use with the change, ( $\beta_9=.27$ ;  $p<.05$ ;  $\beta_{12}=.24$ ;  $p<.05$ ). It can be stated that understanding and appraisal/evaluating information does not have a significant effect on change, ( $\beta_{10}=-.01$ ;  $p>.05$ ;  $\beta_{11}=.17$ ;  $p>.05$ ). A statistically significant effect was determined on the relationship between application/use and nutrition, ( $\beta_{16}=.45$ ;  $p<.05$ ). It was seen that there was no statistically significant effect on the relationship between access to information, understanding information, and appraisal/evaluation with nutrition.

When the Squared Multiple Correlations ( $R^2$ ) value seen in Table 4 was examined; it can be said that 12% of socialization, 21% of the responsibility, 35% of change, and 22% of nutrition were explained by access to information, understanding, appraisal/evaluating information and Application/Usage.

## DISCUSSION AND CONCLUSION

The study aimed to determine the effect of participants' health literacy on their awareness of healthy life. In addition to this, the mean points obtained were expressed to describe the current situation. Moreover, the level of relationship between scale totals and sub-dimensions was determined.

It was known that healthy lifestyle behaviours affect the quality of life of individuals and that positive results were obtained in this sense (Güngör, Yılmaz & İlhan, 2019). It was thought that health literacy should be examined in order to increase the quality of life. When the mean score that the participants got from the health literacy scale was examined, it can be stated that the health literacy level was at a high level. From this point; it can be said that participants had abilities such as being able to recognize healthy foods and health-threatening factors, obtaining information about any disease if needed, be able to explain the information on the medicine boxes, understand the importance of healthy choices like sport, and be able to discuss medical information and treatment options. When the relevant literature was examined, it was seen that the number of studies aimed at revealing the health literacy of academic staff was very few. Barutcu & Duzen (2019) found that academic staff had a high level of health literacy. On the other hand, Doğan and Çetinkaya (2019a) reported a result that conflicting this research and determined that academicians' health literacy was at a low level. According to the results of the related study, it was seen that 28.8% of the participants had a sufficient level of health literacy. It was possible to say that studies in different sample groups gave similar results to the related study. (Haun, Patel, French, Campbell, Bradham, Lapcevic, 2015; Morrison, Brousseau, Brazauskas & Levas, 2015). Therefore, it was important in terms of presenting clear results with the increase of studies examining the health literacy level of academicians.

Following health advice throughout life improves the quality of individuals' life (Loef & Walach, 2012). Also, it was known that healthy lifestyle behaviours affect reducing the risk of premature death (Ford, Bergmann, Boing, Li & Capewell, 2012). Therefore, awareness of healthy life was seen as an important concept when it came to public health. When the study results were examined, it can be stated that the participants had a high level of awareness of

healthy life. The academicians working in the field of sports sciences had a grasp of the health components due to their fields, the inclusion of subject-related courses in the curriculum and transmitter roles can be shown among the reasons for this result. Another result obtained from the research was that the application/usage affected socialization, responsibility, change, and nutrition; it was concluded that the responsibility of appraisal /Evaluation and access to information affected change. Therefore, it was determined that the apply/use feature explained socialization as 12%, apply/use, and valuation/signification features explained responsibility as 21%, access to the information, and apply/use feature explained change as %35, apply/use feature explained nutrition %22. When the relevant literature was examined, there was no study examining the effect of health literacy on healthy life awareness. However, there were studies on health literacy (Baker, 2006; Berkman, et al., 2011; Nutbeam, 2008; Sorensen, et al., 2012; Wolf, Gazmararian, & Baker, 2005). In almost all of the related studies, it was stated that the health literacy feature contributes to public health with its different elements. Therefore, it can be stated that the results of the present studies were consistent with this research. With these results, it was possible to state that health literacy was one of the features that explain healthy life awareness. When the results of the study were considered features like gain information about diseases, understand treatments, medical prescriptions, and the importance of a healthy lifestyle, recognize the side effects of medical options helps to explain issues such as describing a change in health, understanding the symptoms of the disease, taking into account the effects of emotions and thoughts on health, and having a healthy and balanced diet. Therefore, increasing the level of health literacy in society was seen as an important step in preventing health problems that may occur. Also, it was suggested to raise awareness by organizing activities in schools to increase health literacy starting from younger age groups.

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