



## Relation between Moral Maturity Perceptions and Information Literacy Skills of Undergraduates

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### Author's contribution

The sole author designed, analyzed and interpreted and prepared the manuscript.

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### ABSTRACT

**Aims:** The objective of this research is to specify relation between moral maturity perceptions and information literacy skills of undergraduates.

**Methodology:** The research in a screening model was carried out with the participation of 508 senior undergraduates. Data in the research were collected with the scales of information literacy and moral maturity.

**Results:** It was specified that there was a positive and moderate relation at a level of sub-dimensions of both general and information literacy between moral maturity perceptions and information literacy skills of undergraduates. It was seen that as moral maturity levels of the undergraduates increase, their information literacy skills also increase concordantly. In this sense, it was inferred that as the undergraduates' skills such as knowing the information need, knowing how to reach the information, using the information and the observance of moral and legal regulations in acquiring the information increase, they also mature morally.

**Keywords:** Undergraduate; moral maturity; information literacy; college; student.

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## **1. INTRODUCTION**

Human is a community-residing social being. Thus, an individual should know and fulfill the requirements of being a social being in order to live in good agreement with the society [1]. One of the two significant mechanisms controlling the human behaviors within the society is legal regulations and the other is moral values. Morality is defined as a science of ideal rules managing the human behaviors and as an art of applying these rules in the best way to various situations of life [2]. Concept of morality is generally defined as the whole of principles, rules and practices set forth for improving all human behaviors within the society and relationships with other people [3-2]. Moral maturity is defined as being at the top and competent with regard to moral conscience, consideration, judgment, attitude and behavior and as the whole of moral qualities giving this condition the richest, the most essential and the most satisfactory meaning [4-1]. In this sense, an individual having moral maturity is expected to be a good human who is reliable, responsible, respectful, fair and has self-control and developed ability for empathy and beyond all these to be a good citizen who is conformist and legalist and takes moral values into consideration [5].

Moral maturity requires the internalization, establishment and rooting of moral values in consciences. Therefore, you should not only see moral values as conscience, consideration and judgment, but also turn these values into attitude and behavior consciousness. Changing all these into life habits constitutes the moral maturity [6]. In this sense, Lickona analyses the moral maturity conditions at three dimensions as conscience, moral consideration and moral behavior. According to him; moral behavior shows moral maturity levels of individuals as a result of moral conscience and consideration [7]. Kohlberg states that moral development generally occurs in three stages as pre-conventional, conventional and post conventional. He emphasizes that the majority of people is in conventional level which is the second moral development level with regards to moral maturity level and very few people can reach post-conventional moral maturity level which is the highest moral maturity level [7]. Kant having influence on Kohlberg with his ideas states that individual should evaluate his/ her behaviors according to the universal principles in order to reach the highest level of moral maturity- namely his/ her post-conventional level [7-8]. At

the same time, people learn to separate the "good-bad" or "right-wrong" from each other through social rules, customs and traditions and to take a criterion in line with their own moral principles [9]. It is known that moral maturity guides undergraduates about finding the good or right thing and is not independent from the development of their skills such as self-knowledge, knowing the information needs, reaching the information, configuration and correct use.

Information literacy including the definition of information need, information retrieval, organization, explanation, evaluation and sharing dimensions of individual is a wide field of occupation [10]. According to [11], being an information literate means that one knows ways to reach the information and can explain and properly use the information [12]. State that information literacy consists of basic dimensions such as defining the information need, searching the information, finding the information resources, using the information, reaching and conveying the information, evaluation of the information. Adding information literacy skills to individuals is accepted as a significant step in the development of lifelong learning [13-14]. Prosperousness of individuals is possible through lifelong learning process in our day when the information is in such an intensive and rapid growth [15]. For this reason, higher education institutions should provide the undergraduates with learning skills and habits that they can use during life time while preparing them for their occupation [16]. This is because the inability about using the information resources results from inadequacy of information literacy [17]. In this sense, there are five basic stages in the universities that the undergraduates should follow in the process of being information literate. These are: knowing the information which is required, reaching the information, evaluating the information, using the information and accepting the moral and legal regulations in acquiring the information [18]. A six-stage process recommended by various authors should be known well for reaching the information, configuring the information and understanding correctly the practices. These processes can be listed as definition and meaning of information, collection and organization of information, editing of information, analysis and evaluation of information, interpretation and presentation of information and conveying the information and providing cooperation [10]. On the other hand, they can be listed as defining the information

need, searching the information, finding the information resources, using the information resources, conveying the information and evaluating the information [12].

In this sense, undergraduates coming to university for acquire a profession should have a moral maturity level approved and accepted by the society. In addition to this, undergraduates should index on success considering legal and moral values during this process and be aware of their own abilities, recognize the information need and know how to reach, configure and apply this information. According to the literature review made, although separate studies were made in the fields of moral maturity and information literacy, there was no adequate study on relationship of these two qualities with each other desired for undergraduates and on their interaction. This study was carried out in order to specify the relation between moral maturity perceptions and information literacy skills of the undergraduates.

### 1.1 Research Objective

Objective of this research is to specify relation between moral maturity perceptions and information literacy skills of the undergraduates. Within the scope of this objective, answers of the following questions were sought:

1. What are the moral maturity perception levels of undergraduates?
2. What are the information literacy skill levels of undergraduates?
3. Is there a significant relation between moral maturity perceptions and information literacy skills of undergraduates?

## 2. METHODS

This study was carried out by using relational screening techniques. The relation between moral maturity perceptions and information literacy skills of undergraduates was analyzed by this relational screening technique.

### 2.1 Population and Sample

Target population of the study consists of senior undergraduates from different faculties of Harran University in spring semester of 2014-2015 academic year. There are eight faculties having senior undergraduates in Harran University. Total number of senior undergraduates in these faculties is 3600. In this study, it was aimed to reach 20% of senior undergraduates in each faculty. Thus, population of the study consists of 720 senior undergraduates. Scales used for collecting data in the study were sent to 720 students. 508 ones among the scales returned were evaluated.

### 2.2 Data Collection Tools

Two scales were used in this study with the purpose of collecting data. The first one of these scales is "Information Literacy Scale" developed by Adigüzel [19]. Reliability coefficient of the scale's unique form is 0.92. As for this study, reliability coefficient of the scale was calculated as 0.90. The scale consists of 4 sub-dimensions and 29 items. The second scale used in the study is "Moral Maturity Scale" developed by Şengün and Kaya [4]. Reliability coefficient of the scale being developed was specified as 0.89. As for this study, reliability coefficient of the scale was calculated as 0.99. Scoring of negative items in the scales was made reversely. Ratings and limits relating to rates of both scales developed as five-point likert were given in Table 1.

### 2.3 Data Treatment

Kolmogorov-Smirnov Z test was applied separately to data collected by both of scales in order to specify whether data obtained from the study show normal distribution or not. It was seen that Kolmogorov-Smirnov Z values of "Information Literacy Scale" varied between 3.81 and 5.37 and Kolmogorov-Smirnov Z values of "Moral Maturity Scale" varied between 3.70 and 5.55. These values show that data collected by

**Table 1. Ratings and limits used in the study**

Information literacy scale	Moral maturity scale	
Always	Always	5 (X =4.20–5.00)
Often	Often	4 (X =3.40–4.19)
Usually	Sometimes	3 (X =2.60–3.39)
Sometimes	Rarely	2 (X =1.80–2.59)
Never	Never	1 (X =1.00–1.79)

both of scales is in normal distribution with regards to all variables. Firstly, arithmetic mean and standard deviation values of items in each scale were specified in order to resolve sub problems in the study. Pearson Product-Moment Correlation Coefficient ( $r$ ) was used in the calculation of relations between variables. Additionally, multiple linear regression analysis was made in order to specify dependent variable regression levels of independent variable. In regression analysis interpretation, standardized Beta ( $\beta$ ) coefficients and t-test results regarding their significance were considered.

### 3. FINDINGS AND INTERPRETATION

In this section of the study, findings reached as a result of statistical analysis of data acquired for specifying the relation between moral maturity levels and information literacy skill levels of undergraduates and the interpretation of these findings are included.

#### 3.1 Moral Maturity Perceptions of Undergraduates

Data regarding the moral maturity levels of undergraduates were given in Table 2.

It is seen that arithmetic means of moral maturity perceptions vary between ( $\bar{x}$  =2.81) and ( $\bar{x}$  =3.77) and their general arithmetic mean is ( $\bar{x}$  =3.44). We can say that the moral maturity perceptions of undergraduates forming basis for these findings are mostly positive.

#### 3.2 Information Literacy Skill Levels of Undergraduates

Data regarding the information literacy skill levels of undergraduates were given in Table 3.

It is seen that arithmetic means of opinions regarding the information literacy skill levels of undergraduates vary between ( $\bar{x}$  =2,61) and ( $\bar{x}$  =3,93) and their general arithmetic mean is ( $\bar{x}$  =3,21). It can be said that these findings show sometimes the information literacy skills of undergraduates and these skill levels are high acceptably.

#### 3.3 The Compare Moral Maturity Perceptions with Information Literacy of Undergraduates

Arithmetic mean and standard deviation values were given in Table 4 in order to compare moral

maturity perceptions with information literacy and sub-dimensions of information literacy of undergraduates.

When analyzing comparatively the arithmetic mean of data acquired regarding the moral maturity perceptions and information literacy skills of undergraduates; it is seen that moral maturity perception average of undergraduates is ( $\bar{x}$  =3,44), their information literacy skills average is ( $\bar{x}$  =3,21). As for analyzing the arithmetic mean of sub-dimension of information literacy; it was specified that "defining the information need" was ( $\bar{x}$  =3,20), "reaching the information" was ( $\bar{x}$  =3,17), "using the information" was ( $\bar{x}$  =3,19) and "observance of moral and legal regulations" was ( $\bar{x}$  =3,32). It was seen that while moral maturity perceptions of undergraduates were generally positive, their skill levels regarding the information literacy were sometimes positive. Thus, it can be said that moral maturity perception levels of undergraduates are higher than their information literacy skill levels. When analyzing sub-dimensions of information literacy skill levels of undergraduates, firstly, it was specified that their observance skills of moral and legal regulations for collecting data were higher than other sub-dimensions. It was seen that defining the information was listed as the second, using the information was listed as the third, reaching the information was listed as the last.

Relation between moral maturity perceptions and information literacy skill levels of undergraduates is tried to be specified both generally and sub-dimensionally. Firstly, multiple linear regression analysis results regarding the regression of information literacy skills were given in Table 5.

As seen in Table 5, it is seen that there is a moderate relation between moral maturity perceptions and information literacy skills of undergraduates ( $R$  =,65,  $p$  <.01). Moral maturity perception explains about 43% of total variance in information literacy skill levels of undergraduates. Moral maturity perception ( $\beta$  =,658,  $p$  <.01) predicts positively and significantly the information literacy skills of undergraduates. When binary and partial correlations between moral maturity and information literacy skills are analyzed, it is seen that there is a positive and moderate relation ( $r$  =.65) between moral maturity perception and information literacy skill levels. According to t-test results regarding the significance of regression coefficients, it can be said that information

literacy skills of undergraduates predict at a significant level the variable of moral maturity perception. Multiple linear regression results regarding the regression of skills such as “defining the information need” from the sub-dimensions of information literacy were given in Table 6.

It is seen that there is a moderate significant relation between undergraduates’ moral maturity perceptions and skills of defining the information need ( $R=.60$ ,  $p<.01$ ). Moral maturity perception explains about 36% of total variance in undergraduates’ skills of defining the information need. Moral maturity ( $\beta=.604$ ,  $p<.01$ ) predicts positively and significantly the undergraduates’ skills of defining the information need. According to binary and partial correlation results, it is seen that there is a positive and moderate relation ( $r=.60$ ) between moral maturity perception and

skills of defining the information need. According to t-test results regarding the significance of regression coefficients, it can be said that undergraduates’ skills of defining the information need predict at a significant level the moral maturity perceptions. Multiple linear regression results regarding the regression of skills such as “reaching the information” from the sub-dimensions of information literacy were given in Table 7.

As seen in Table 7, it is seen that there is a moderate relation between moral maturity perceptions and skills of reaching the information of undergraduates ( $R=.67$ ,  $p<.01$ ). Moral maturity perception explains about 45% of total variance in undergraduates’ skills of reaching the information. Moral maturity perception ( $\beta=.672$ ,  $p<.01$ ) predicts positively and significantly the undergraduates’ skills of reaching the

**Table 2. Moral maturity perceptions of undergraduates**

	n	Minimum	Maximum	$\bar{x}$	Ss
Moral maturity perception level	508	2.81	3.77	3.44	.84

**Table 3. Information literacy skill levels of undergraduates**

	n	Minimum	Maximum	$\bar{x}$	Ss
Information literacy skill levels	508	2,61	3,93	3,21	1.01

**Table 4. Numeric values regarding the moral maturity perception and information literacy and sub-dimensions of information literacy**

Variables	n	$\bar{x}$	Ss
1. Moral maturity	508	3,44	,84
2. Information literacy	508	3,21	,53
2.1. Defining the information need	508	3,20	,67
2.2. Reaching the Information	508	3,17	,60
2.3. Using the Information	508	3,19	,63
2.4. Observance of moral and legal regulations	508	3,32	,64

**Table 5. Regression analysis results regarding the regression of information literacy skills**

Variables	B	Sh	$\beta$	T	p	Binary r	Partial r
Constants	-,524	,195		-2,684	,008		
Moral maturity	1,178	,060	,658	19,635	,000	,658	,658

$$FR (1-508)R=385,514, p<.01, R=.658, R^2=.432$$

**Table 6. Regression analysis results regarding the regression of skills of defining the information need**

Variables	B	Sh	$\beta$	t	p	Binary r	Partial r
Constants	,493	,166		2,974	,003		
Moral maturity	,862	,051	,604	17,034	,000	,604	,604

$$FR (1-508) R=290,161, p<.01, R=.604, R^2=.364$$

**Table 7. Regression analysis results regarding the regression of their skills of reaching the information**

Variables	B	Sh	$\beta$	T	p	Binary r	Partial r
Constants	-,145	,170		-,855	,393		
Moral maturity	1,074	,053	,672	20,410	,000	,672	,672

*FR (1-508)R=416,569, p<.01, R=,672, R<sup>2</sup>=,452*

information. When binary and partial correlations are analyzed, it is seen that there is a positive and moderate relation ( $r=.67$ ) between their moral maturity perception and skills of reaching the information. In addition, the value of goodness of fit ( $r^2 = .17$ ) is low, the compatibility between these two features indicate that weak. According to t-test results regarding the significance of regression coefficients, it can be said that the undergraduates' skills of reaching the information predict at a significant level the moral maturity perception. Multiple linear regression results regarding the regression of skills such as "using the information" from the sub-dimensions of information literacy were given in Table 8.

It is seen that there is a moderate relation between moral maturity perceptions and skills of using the information of undergraduates ( $R=.37$ ,  $p<.01$ ). Moral maturity perception explains about 14% of total variance in undergraduates' skills of using the information. Moral maturity perception ( $\beta=.378$ ,  $p<.01$ ) predicts positively and significantly the undergraduates' skills of using the information. When binary and partial correlations are analyzed, it is seen that there is a positive and moderate relation ( $r=.37$ ) between their moral maturity perception and skills of using the information. In addition, the value of goodness of fit ( $r^2 = .14$ ) is low, the compatibility between these two features indicate that weak. According to t-test results regarding the

significance of regression coefficients, it can be said that the undergraduates' skills of using the information predict at a significant level the moral maturity perception. Multiple linear regression results regarding the regression of skills such as "observance of moral and legal regulations" in acquiring the information from the sub-dimensions of information literacy were given in Table 9.

As seen in Table 9, it is seen that there is a moderate significant relation between undergraduates' moral maturity perceptions and skills of observance of moral and legal regulations ( $R=.41$ ,  $p<.01$ ). Moral maturity perception explains about 17% of total variance in undergraduates' skills of observance of moral and legal regulations. Moral maturity perception ( $\beta=.414$ ,  $p<.01$ ) predicts positively and significantly the undergraduates' skills of observance of moral and legal regulations. When binary and partial correlations are analyzed, it is seen that there is a positive and moderate relation ( $r=.41$ ) between their moral maturity perception and skills of observance of moral and legal regulations. According to t-test results regarding the significance of regression coefficients, it can be said that the undergraduates' skills of observance of moral and legal regulations in acquiring the information predict at a significant level the moral maturity perception.

**Table 8. Regression analysis results regarding the regression of their skills of using the information**

Variables	B	Sh	$\beta$	t	p	Binary r	Partial r
Constants	1,436	,202		7,121	,000		
Moral maturity	,571	,062	,378	9,198	,000	,378	,378

*FR (1-508) R=84,609, p<.01, R,378, R<sup>2</sup>=,143*

**Table 9. Regression analysis results regarding the regression of skills of observance of moral and legal regulations in acquiring the information**

Variables	B	Sh	$\beta$	T	p	Binary r	Partial r
Constants	1,193	,205		5,818	,000		
Moral maturity	,621	,061	,414	10,239	,000	,414	,414

*FR (1-508) R=104,837, p<.01, R,414, R<sup>2</sup>=,172*

#### 4. CONCLUSION AND DISCUSSION

The following conclusions were drawn with regards to data collected in the research. It was determined that moral maturity perceptions of the undergraduates were always positive and these undergraduates had high moral maturity perceptions. This condition may result from the undergraduates' opinion about moral values. It was defined that the undergraduates' views regarding the information literacy skill levels were sometimes positive and they felt themselves at medium level in terms of information literacy skills. This conclusion can be evaluated as a result of using the information technologies and adjustment processes of the undergraduates. Considering the sub-dimensions of information literacy, it was determined that the skill levels in the dimension of "observance of moral and legal regulations" in acquiring the information were higher than other dimensions. It was concluded that this dimension was followed respectively by skills of "defining the information need", "using the information" and "reaching the information". It was understood that the undergraduates could not demonstrate the skill in reaching the information in comparison with the skill that they could demonstrate in the observance of moral and legal regulations in acquiring the information. This shows that the undergraduates cannot use the right words for making searches and reaching the resources and cannot make sufficient benefit of right data base.

Conclusions in this study are supported by similar study conclusions. Demiralay [20], specified in the study that information literacy self-efficacy perceptions of the majority of pre-service teachers were at high level. Bayrak [21], concluded that information literacy skills of pre-service teachers were higher at upper class and lower at lower class. Kaya et al. [22] defined that while pre-service teachers had moderate skill in terms of defining the information need, reaching the information and using the information; they had a top skill in terms of the observance of moral and legal regulations in using the information. Gömleksiz et al. [23], determined in his study that pre-service teachers used information resources mostly such as internet, media, book, library, article, competent person and encyclopedia in reaching the information. Sağlam et al. [24], defined that the sub-field in which the information literacy skill levels of research assistants were at the highest was "accepting the cultural, moral, legal and social regulation in using the information", the sub field

in which their information literacy skill levels were at the lowest was "evaluating the acquired information". Moreover, conclusions fitting for our study conclusions were reached in the studies made by Kahyaoğlu [25], Koç & Koşaner [26], Başaran [27], Lupton [28], Argon, et al. [29], for determining the information literacy level of undergraduates and pre-service teachers. As for the moral maturity variable, it was determined in the studies of Kaya and Aydın [30] that undergraduates receiving religious educations had higher religious belief and moral maturity levels. Çekin [31], determined that the pre-service teachers perceive properly the moral maturity concepts and their moral maturity levels were high. Çitemel [32] concluded that the pre-service teachers considered important the universal moral principles and beyond society moral value concepts. Aldemir [33] determined that there were inadequacies in the information literacy skills of senior undergraduates. Özel [34] defined that research assistants had difficulty in the studies regarding the evaluation of the information.

The relation between moral maturity perceptions and information literacy skill levels of the undergraduates was analyzed both general and sub dimensionally. In this sense, it was determined that there was a moderate and positive relation between moral maturity perceptions and information literacy skill levels of the undergraduates. Thus, it was seen that as the moral maturity levels of undergraduates increased, their information literacy skill levels increased. The t-test results of the significance of regression coefficients showed that the information literacy skills of the undergraduates predicted significantly their moral maturity perceptions. On the other hand, it was determined that the moral maturity perception explained about forty two percent of total variance in the information literacy skill levels of the undergraduates.

The relation levels in terms of the moral maturity perceptions and the sub-dimensions of the information literacy of the undergraduates were analyzed. Accordingly, it was determined that there was a positive and moderate significant relation between the undergraduates' moral maturity perceptions and the skill levels of defining the information need. The moral maturity perception explained about one-third of total variance in the undergraduates' skills of defining the information. Thus, according to the t-test results regarding the significance of regression

coefficients, it can be said that the undergraduates' skills of defining the information need predicted significantly the moral maturity perceptions. In this sense, it can be said that as moral maturity levels of the undergraduates increase, their skills of determining properly the information need increase. On the other hand, it was seen that there was a moderate positive and significant relation between the undergraduates' moral maturity perception and skills of reaching the information. The moral maturity perception explains about half of total variance in the undergraduates' skills of reaching the information. On the other hand, the t-test results regarding the significance of regression coefficients showed that the undergraduates' skills of reaching the information predicted significantly the moral maturity perception.

It was determined that there was a positive and moderate significant relation between the undergraduates' moral maturity perceptions and the skill levels of using the information. The t-test results regarding the significance of regression coefficients showed that the undergraduates' skills of using the information predicted significantly the moral maturity perceptions. In this sense, the moral maturity perception explains about one-sixth of total variance in the undergraduates' skills of using the information. On the other hand, it was determined that there was positive, moderate and significant relation between the undergraduates' moral maturity perceptions and skills of observance of moral and legal regulations in acquiring the information. In this sense, the moral maturity perception explains about one-fifth of total variance in the undergraduates' skills of observance of moral and legal regulations in acquiring the information. The t-test results regarding the significance of regression coefficients showed that the undergraduates' skills of observance of moral and legal regulations in acquiring the information predicted significantly the moral maturity perception. Akkoyulu and Kurbanoglu [35] defined in their studies that computer self-efficacy perception and information literacy self-efficacy perception increased together. This finding supported the findings acquired in our study. Lane et al. [36] concluded that self-efficacy performance mediated the academic performance and the self-efficacy in academic environments supported the effort of success. Lombard and Kloppers [37] defined in their studies that enriching the learning environment and practices would increase the student's performances.

It was determined that there was a positive and moderate relation in both general and sub-dimensional level of information literacy between the undergraduates' moral maturity perceptions and information literacy skill levels. According to this conclusion, it was seen that these variables were interrelated and interacted significantly. This shows that as the undergraduates' moral maturity perceptions increase positively, their information literacy skill levels increase concordantly. In this sense, it can be said that as the undergraduates' skills such as knowing the information need, knowing how to reach the information, using the information and the observance of moral and legal regulations in acquiring the information increase, they also mature morally. Thus, the undergraduates should be provided with environments where they will gain behaviors and discourses accepted by the society. Additionally, educational activities to cause to increase information literacy skills should be increased.

The study revealed that the information literacy ski levels of undergraduates were lower than their moral maturity levels. When it is considered that the term "information literacy" is closely associated with the term, "creative", "critical" and "reflective" thinking, it is necessary to provide undergraduates with information literacy ski levels. The study shows that despite intermediate level, there is a relation between the terms "information literacy ski" and "moral maturity". The knowledge and skills related to these two characteristics should be conveyed to candidate teachers in a way that they can positively affect and complement each other.

## COMPETING INTERESTS

Author has declared that no competing interests exist.

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