

## Investigating the Relationship between Moral Intelligence and Happiness in Rehabilitation Students

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### Abstract

**Aims:** one of the essential needs of every human being is happiness, and moral intelligence is related to emotions and intellect, and moral behaviors depend on integrated emotions, intuition, and argument. In addition to transferring knowledge and skills, promoting ethical values is also one of the tasks of the universities.

**Instrument & Methods:** In this descriptive study, 120 undergraduate students in the fields of speech therapy (n=41), physiotherapy (n=40), and optometry (n=39) were included by random sampling and filled out the Oxford Happiness and Moral Intelligence Questionnaire. Data were analyzed using Pearson, independent T, and ANOVA tests by SPSS 21 software.

**Findings:** The mean scores of moral intelligence and happiness were  $52.65 \pm 7.85$  and  $51.77 \pm 12.41$ , respectively. There was a significant weak relationship between moral intelligence and students' happiness ( $r=0.41$ ;  $p \leq 0.001$ ). There was a significant difference between moral intelligence according to marital status ( $p < 0.05$ ). There was no statistically significant difference between moral intelligence and happiness scores in terms of other demographic variables.

**Conclusion:** Moral intelligence of rehabilitation students of Mashhad University of Medical Sciences was at a low level and their happiness was above average. No significant difference was observed between ethical intelligence and happiness in the students. The findings can be considered in education, research, and management.

### Keywords

Ethics [<https://www.ncbi.nlm.nih.gov/mesh/68004989>];  
Intelligence [<https://www.ncbi.nlm.nih.gov/mesh/68007360>];  
Happiness [<https://www.ncbi.nlm.nih.gov/mesh/?term=Happiness>];  
Students [<https://www.ncbi.nlm.nih.gov/mesh/68013334>];  
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## Introduction

One of the essential natural desires and psychological needs of human beings, which is important for people's health, is the feeling of happiness and vitality [1,2]. For this reason, in positive psychology, instead of emphasizing the identification and study of psychological deficiencies, the emphasis is on recognizing and promoting the positive aspects of human beings [3]. Lyoubomirsky considers happiness to be the experience of feeling happy, joy, as well as having a sense of well-being and worth of one's life [4]. Happiness can be considered as a degree of quality of life [5]. Happiness is not a kind of evaluation and judgment of people about themselves and their lives imposed on them by the outside; it is an inner state that is influenced by positive emotions [1]. A happy person has a good feeling, enjoys life activities, has a calm inner world, accepts her/his weaknesses, and is stable in the face of problems. Happiness also makes people more eager to perform social activities and interactions [6]. Today, one of the concerns of human society is to identify and develop the rules of right and wrong ethical behaviors among human beings. Therefore, a new concept has been proposed as moral intelligence [7]. The term was first developed by Borba (2005) in psychology.

Borba has defined moral intelligence as the capacity and ability to distinguish right from wrong, have strong moral beliefs, apply them, and behave in the right direction [8].

Lennick & Kiel argued that moral intelligence includes four components of honesty, responsibility, forgiveness, and compassion. The principle of integrity means creating harmony between the beliefs and actions of individuals. The principle of honesty means creating harmony between the beliefs and actions of individuals. Indeed, doing what we know is right and saying the right thing at all times. The principle of responsibility means accepting actions and their consequences, as well as mistakes and failures. The principle of forgiveness includes being aware of one's faults and mistakes, as well as forgiving oneself and others. The compassion principle means paying attention to others [9]. Studies have shown that addressing the components of moral intelligence is essential at different levels of individual and social life, and the quality of the dimensions of moral intelligence should be considered as an effective and basic structure in strengthening a healthy and moral society [7]. Moral intelligence is related to emotions and intellect, and also moral behaviors are related to integrated emotions, intuition, and reasoning [10]. Moral behaviors also depend on integrated emotions, intuition, and reasoning [10]. Since there is a logical relationship between the structures of moral intelligence and happiness, it seems that these two concepts are related to each other. If there is a strong and directional relationship, one of the concepts can

be used to reinforce the other, and strengthening the moral intelligence and happiness of students as a future generation of society is one of the important tasks of the university. There is a relationship between happiness with emotional intelligence [2] and moral intelligence with life satisfaction in the elderly [11]. In a study on measuring the relationship between moral intelligence and happiness in veterinary, technical, engineering, and literature students, it was emphasized that this relationship can be different based on the field of study [12]. Also, this relationship was positive and significant in athletic students of Tabriz universities [3] and participants in the study of Pourjamshidi *et al.* [1]. Paying attention to learning factors of moral performance and mental health of students is an important task of the university, and students of rehabilitation sciences face many professional challenges that can affect their happiness and moral intelligence. Therefore, the level of moral intelligence and happiness and their relationship with these students should be examined and evaluated to promote these concepts in the students. This study aimed to determine the level of moral intelligence and happiness and their relationship with rehabilitation students of Mashhad University of Medical Sciences, Iran in 2019.

## Instrument and Methods

This descriptive-correlation study was cross-sectional. Data were collected from September to November of 2019. The sample size was determined to be 115 based on the alpha 0.05 and beta 0.20 (80% strength) and using the study of Mehrju *et al.* [3] and sample size in the correlation studies [13]. 120 first- to fourth-year undergraduate students in the fields of speech therapy (n=41), physiotherapy (n=40), and optometry (n=39) of Mashhad University of Medical Sciences were included in this study by two-stage sampling. Each class was designated as a cluster, and 11 people were randomly selected. Research tools were demographic information, Moral Intelligence Questionnaire, and Oxford Happiness Inventory. Moral Intelligence was developed by Lennick & Kiel in 2005 with 40 items. The items were divided equally among the 10 components of moral intelligence, including cohesion, honesty, courage, confidentiality, accountability, self-control and self-restraint, service to others, kindness, citizenship behaviour, and understanding of one's spiritual needs. Each component has 10 items. The 10 components were also divided into 4 dimensions including honesty, responsibility, forgiveness, and compassion. The method for scoring each item is based on the 5-points Likert scale (never=1, rarely, sometimes, most of the time, all the time=5) [9]. In this questionnaire, each respondent receives a total score between a minimum of 40 and a maximum of 200, and in the end, the final score of moral intelligence will be a score between 20 and 100. The score of 90-

100, 80-89, 70-79, and 69 indicates the great, very good, good, and poor levels. The validity of the Persian version of this tool has been confirmed by Khosravani *et al.* [14]. Cronbach's alpha coefficient test was calculated to be 0.88 in this study. The questionnaire has 29 questions and consists of 7 sub-tests including self-concept, life satisfaction, psychological preparation, aesthetic-cognitive feeling, self-efficacy, and hope. The participant's answer to each item has 4 points with a value of zero to 3. The normal score of the test is 40-42 [15]. The content validity of the tool was confirmed by 7 experts; the Cronbach's alpha coefficient in this study was calculated to be 0.90. Data were summarized using SPSS 21 software and descriptive statistics (mean, standard deviation, and percentage). Data normality was investigated using Kolmogorov Smirnov. The relationship between moral intelligence and happiness variables was analyzed by Pearson correlation test and comparison of mean scores in terms of demographic information by independent T and ANOVA test. The study plan was approved by the ethics committee of Mashhad University of Medical Sciences with the ethics code IR.MUMS.REC.1398.214. Confidentiality of information, voluntary participation in the study,

ethics of publishing in reading and writing the article were considered.

## Findings

In this study, the mean score of students' moral intelligence was  $52.65 \pm 7.85$  and at a low level. The mean score of happiness was  $51.77 \pm 12.41$  and was above average. Most of the participants in the study were women and had a history of participating in a professional ethics course. There wasn't a significant difference between the mean scores of students' moral intelligence and happiness in terms of demographic variables including age, gender, grade point average and native or non-native student, marital status, history of passing the ethics unit, semester, and field of study. The score of moral intelligence in married people was higher than single people, which was statistically significant ( $p < 0.05$ ). There was no statistically significant difference in happiness score according to marital status (Table 1). There was a significant poor correlation between moral intelligence scores and their happiness ( $r = 0.41$ ,  $p \leq 0.001$ ). The relationship between moral intelligence, happiness, age, and grade point average has been listed in Table 2.

**Table 1)** Average scores of participants' moral intelligence and happiness according to their demographic characteristics

Variable	Number (%)	Moral intelligence				Happiness			
		Mean±SD	Test statistics	df	p.	Mean±SD	Test statistics	df	p.
<b>Field of Study</b>									
Speech therapy	41 (34.2)	54.12±1.40	F=1.09	2	0.34	42.15±11.10	F=1.22	2	0.30
Physiotherapy	40 (33.3)	51.93±6.57				50.00±13.40			
Optometry	39 (32.5)	51.83±7.76				51.10±12.59			
<b>Semester</b>									
1	30 (25)	52.07±9.60	F=1.69	3	0.17	52.73±13.92	F=0.35	3	0.79
3	29 (24.2)	50.88±6.07				52.34±11.29			
5	30 (25)	52.30±5.73				49.76±11.66			
7	31 (25.8)	55.20±8.90				52.25±12.96			
<b>Marital status</b>									
Married	17 (14.2)	55.23±5.37	T=1.47	118	0.04	54.88±6.89	T=1.71	38.46	0.09
Single	103 (85.8)	52.22±8.13				51.26±13.06			
<b>Gender</b>									
Female	82 (68.3)	52.80±8.15	T=0.31	118	0.75	51.74±12.26	T=0.04	118	0.96
Male	38 (31.7)	52.31±7.26				51.84±12.90			
<b>Being a native</b>									
Yes	60 (50)	52.53±7.81	T=0.16	118	0.87	53.12±10.78	T=1.18	11.39	0.24
No	60 (50)	52.76±7.95				50.43±13.82			
<b>Passing ethics course</b>									
Yes	64 (53.3)	53.54±7.63	1.33	118	0.18	50.94±11.79	T=0.79	118	0.43
No	56 (46.7)	51.63±8.04				52.73±13.13			
<b>Total</b>	120 (100)	52.65±7.85				51.77±12.41			

**Table 2)** Correlation of moral intelligence and happiness with the age and grade point average of the participants

Variables	Mean $\pm$ SD	Maximum	Minimum	Moral intelligence		Happiness	
				p	r	p	r
Age	20.63 $\pm$ 1.44	24	18.00	0.18	0.12	0.61	0.04
Grade point average	17.26 $\pm$ 1.55	19.99	13.70	0.38	0.09	0.01	0.24
Moral intelligence	51.77 $\pm$ 12.41	77.00	18.00	<0.001	0.41	-	1
Happiness	52.65 $\pm$ 7.85	76.00	35.50	<0.001	0.41	-	1

## Discussion

The level of moral intelligence of rehabilitation students of Mashhad University of Medical Sciences was at a low level. Different results have been obtained in some previous studies that have examined the level of moral intelligence in students of health sciences. The moral intelligence of the students has been reported to be poor in one study [16] and good in some other studies [17, 18]. Another study evaluated the level of moral intelligence in nursing students [19]. There is a professional ethics course in the curriculum of some health sciences disciplines, whereas this course has been added to the curriculum of rehabilitation since 1397, and the students participating in this study did not pass the professional ethics curriculum. Moral intelligence increases with education, and it seems that the addition of this lesson compensates for this weakness to some extent. It is also suggested to perform further studies to determine interventions to enhance moral intelligence in students. This finding should be considered by education planners and policymakers in rehabilitation schools. No significant difference was observed in the level of moral intelligence in terms of age, gender, grade point average and native or non-native of the student, history of passing the ethics unit, semester, and field of study which it's in accordance with the findings of previous studies [17, 19-21]. In this study, married students had higher moral intelligence. It is consistent with the study by Jahanian *et al.* [22]. Dealing with cohabitation issues leads to new life experiences which is effective in increasing moral intelligence. The limitation of sample size for this finding reduces its credibility. More valid results can be obtained by performing studies with purposeful design, more accurate statistical tests, and eliminating confounding. In a study in Pakistan (2019), a significant relationship was found between genders with moral intelligence so that the moral intelligence of female students was higher than males [20]. In another study comparing the moral intelligence of medical and nursing students, the moral intelligence of medical students and final year students was higher than nursing and junior students, respectively [17]. Bauch & Rucinski showed a difference between moral intelligence levels in men and women [23]. Different findings of studies on the relationship between demographic information can be due to the design of studies and insufficient sample size. Therefore, it is suggested to design specific studies to investigate the relationship between moral intelligence and students' demographic characteristics. The happiness of students in this study was reported to be higher than average. High levels of happiness in students can be a strong point for their education. These results are to be expected taking into account the low age of the students. In this study, none of the demographic variables were related to students' happiness scores.

In Yaghoubi *et al.*'s study, no relationship was observed between the demographic variables and happiness [26]. In another study that examined and compared happiness in students of technical universities and theology students, the happiness level in theology students was reported to be higher than in technical universities [5]. The difference between the spirit and atmosphere of technical universities and seminaries can be effective in interpreting this finding. In general, due to the lack of evidence, more accurate studies seem useful with appropriate designs to examine the relationship between demographic information and happiness. In this study, a poor significant relationship was observed between moral intelligence and happiness. This finding was consistent with the study of Mehrju *et al.* in athletic students of Tabriz universities [3], Nouri Motlagh *et al.* in veterinary, technical, engineering, and literature students [12]. However, this relationship has been reported as moderate and significant in the study of Pourjamshidi *et al.* [1]. This finding shows that the two concepts of moral intelligence and happiness are not strongly related to each other and planning to promote each of these concepts in rehabilitation students should be conducted separately. Lennick *et al.* mentioned that emotional self-efficacy training is effective in increasing moral intelligence, and awareness is considered as the first step in the path of stable and coherent action [27]. Pierce & Bekoff consider commitment very effective in ethical behaviors and believe that justice, empathy, forgiveness, trust, altruism, social tolerance, and honesty are widespread among people with high moral intelligence. Today, the identification and development of right and wrong rules of behavior among human beings have become one of the concerns of human societies [28]. Ngammuk believes that higher education institutions should gradually teach moral qualities to students so that students can make good choices in moral situations [29]. Moral intelligence is a strategic capital for human beings, and its promotion is a prerequisite for moral leadership [14].

## Conclusion

The moral intelligence of rehabilitation students of Mashhad University of Medical Sciences, Iran was at a low level and their happiness was above average level. The two concepts of moral intelligence and happiness in these students were not related to each other. According to the findings of this study, attention should be paid to rehabilitation students in teaching professional ethics. In the research, explore the effective interventions on increasing the level of moral intelligence, and in the management, the policy makers' attention to the findings of this study will be useful in professional planning and policymaking.



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**Conflicts of Interests:** There is no conflict of interest to declare.

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