

The Effect of Fasting on Emotional Intelligence

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ABSTRACT

Introduction: Fasting is one of the most ancient prayers and common among world's various ethnics and nations. Holy Ramadan fasting is conducted every year for one month by Muslims. Helpful effects of Ramadan fasting on human's psychological aspects are being confirmed.

Aim: This research was to examine fasting effect on emotional intelligence.

Materials and Methods: This prospective, self-control, cohort study was conducted from one week prior to till one month after Ramadan month of 2010, on 32 volunteer male students of Shahrekord Seminary enrolled by convenience sampling. Emotional intelligence was evaluated according to 15 subscales using Bar-On questionnaire in three stages (one week prior to,

at the end of, and after Ramadan), and the data were analyzed by repeated measures ANOVA.

Results: The mean emotional intelligence in the three stages was different ($p < 0.001$), and the highest value (125.59 ± 8.51) was obtained in the second stage. Except for independence, in other subscales there were significant differences among the stages ($p < 0.05$), and self-awareness, responsibility, empathy, and stress tolerance increased in the second stage (at the end of Ramadan).

Conclusion: Fasting could be one of the factors influencing emotional intelligence. However, more research is needed on fasting association with emotional intelligence and the underlying processes which affect this association.

Keywords: Empathy, Ramadan, Responsibility, Self-awareness, Stress tolerance

INTRODUCTION

Fasting is one of the most ancient prayers, which has been common among world's ethnics and nations and particularly important in old medicine [1]. The most inclusive and supreme fasting is Ramadan fasting. Islam Prophet (PBUH) said: Fast to remain healthy [2].

Holy Ramadan fasting as one of the main and common orders in all religions is conducted every year for one month by Muslims and study of its effect on different subject areas could be valuable and illuminating particularly in health and psychological terms. In recent decades, several studies have been done, confirming health and physical benefits of fasting [3-7].

For example, positive effects of fasting on daily activities and decreased smoking and caffeine intake have been reported [8]. It has been physiologically confirmed that human body and soul are relaxed while performing religious duties thanks to decreased heart rate, respiratory rate, and artery blood pressure [9]. Decrease in anxiety and depression at the end of Ramadan was reported in studies of Mohammadi et al., and Moshiri [10,11].

Also, the decreased mean energy intake in fasting is associated with increased consciousness and promoted temperament. Neuroendocrine activation due to hunger and mild cell response to hunger stress contribute to the promotion of temperament through increasing neurotrophic

factors [12]. Also a positive, significant correlation was noted between religious beliefs and mental health, hopefulness, and other positive temperament aspects [13]. In a study of the effect of expansion of ontology on activation of emotional hypnotism components, this pattern was demonstrated to cause increased emotional hypnotism [14].

Emotional intelligence could be considered as the newest advancement in studies of emotions and cognition [15] that has a particular status in describing and interpreting the role of emotions and sentiments in human capabilities [16] and includes a set of emotions, social science, and capabilities that reinforce our general strength and lead it to a direction so that we can react to environmental factors and pressures appropriately and cause optimal performance in four domains of self-awareness, social awareness, relationship management and self-management [17,18].

Learning the skills of expressing and managing emotions and the ability to sympathize with others' feelings starts from birth and what children learn in early years of life comprises the basis for formation of their emotional intelligence and this learning continues throughout school, university and all lifetime. It is a skill required for learning in all fields and succeeding in all life aspects [19].

Meyer et al., believed that some protocols like religion contributed to emotional intelligence [20]. Regarding the variations in self-control and delaying immediate needs and

impulse control (eating, drinking, fasted hands and tongue, etc.) caused by Ramadan, individuals are more accustomed to stresses and can control themselves better while being angry and facing stressors. As emotional intelligence is able to change and grow over time, Ramadan is expected to contribute to emotional intelligence and since no study in this regard has been yet conducted, the necessity of conducting this study to determine the effects of Ramadan fasting on emotional intelligence level and its components was felt.

MATERIALS AND METHODS

This prospective, descriptive-analytical study was conducted from one week prior to till one month after Ramadan month of 2010 on male students of a seminary in Shahrekord, southwest Iran. The study protocol was approved at Shahrekord University of Medical Sciences (approval no. 861). Sample study comprised 32 fasted seminary students enrolled per convenience sampling. Because Ramadan month of 2010 coincided with early summer and closing seminary classrooms, the number of male students was only 32 and all of them intended to fast, then the sample size was too small to include any control groups in this study. Informed consent to participate in the study was obtained from all participants. Emotional intelligence scores at one week prior to, the completion of, and one month after Ramadan month were compared.

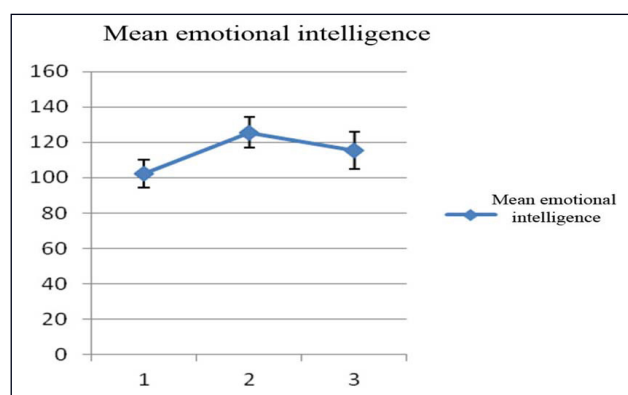
In this study, emotional intelligence measurement tool was Bar-On, the first meta-cultural assessment tool of emotional intelligence. The original version in English consists of 117 items [21]. For Iran context (the Persian version), the original version has undergone some variations such as revision, deletion and combination of some items. As a result, the questionnaire's Persian version consists of 90 items with five-degree Likert scale. This test comprises 15 subscales; emotional self-awareness, assertiveness, self-esteem, self-actualization, independence, empathy, social responsibility, interpersonal relationship, realism, flexibility, problem solving, stress tolerance, impulse control, optimism and happiness. Total score of each subscale is obtained by aggregation of the score of nine items of that subscale and total score of the test is obtained by aggregation of the scores of 15 subscales. To facilitate the comparison of testees' scores in different scales and their scores with other testees' in similar population, crude scores are converted into standard scores. The standard scores which are calculated for each scale and subscale has a mean of 100 and standard deviation of 15 [22]. This questionnaire was tested for validity and reliability in three steps in Iran. The test reliability was examined by Cronbach's alpha and the reliability for total test was reported 91% [23]. In the present study, the reliability coefficient was obtained 89% using Cronbach's alpha.

Also demographic data such as age, number of children, birth order, educational level and seminary grade were registered. The method of gathering data was individual interview which

was done by a trained interviewer (psychologist) in the house or workplace of the testees. The obtained data were extracted, entered into SPSS and were analyzed by repeated measures ANOVA and Pearson and Spearman correlation coefficient to determine the association between emotional intelligence level and demographic data (at significance level of 0.05).

RESULTS

Mean age of participants was 20.74 ± 5.36 years. For the number of children, frequency was as follows: Two-child families 2 (6.25%), three-child families 6 (18.75%) and four-child families 6 (18.75%). The birth order of the participants was as follows: 8 (25%) were the first child, 4 (12.5%) were the second and 9 (28.12%) were the third. One participant (3.12%) had elementary education, 14 (43.75%) had guidance school, 13 (40.62%) had high school education, one (3.12%) had seminary education and three (9.37%) had associate diploma. The students' seminary grade was 1-9. Most ($n=16$) students had seminary grade of 1 and 3 and the least ($n=3$) had seminary grade of 7.



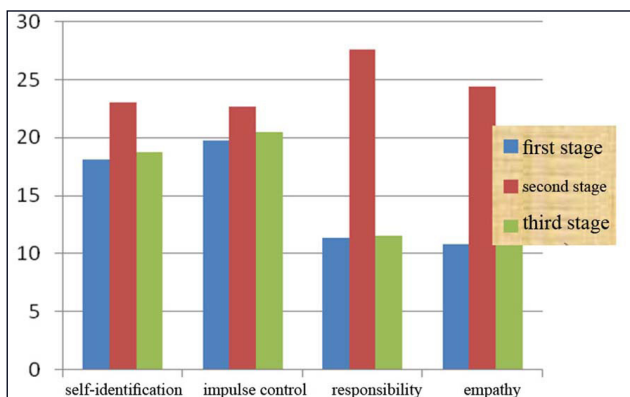
[Table/Fig-1]: Mean emotional intelligence in three stages of the study (one week prior to, at the completion of, and one month after Ramadan)

Repeated measures ANOVA indicated that mean emotional intelligence was different among three stages of the study (one week prior to, during and one week after Ramadan) ($p < 0.001$); accordingly, emotional intelligence increased significantly at completion of Ramadan compared to one week prior to Ramadan ($p < 0.001$), and decreased one week after Ramadan compared to the completion of Ramadan ($p < 0.001$) [Table/Fig-1]. Also, no significant association was noted between the level of emotional intelligence (in three stages) and age, the number of children, birth order and students' seminary grade ($p > 0.05$).

Repeated measures ANOVA was run for 15 emotional intelligence subscales and [Table/Fig-2] shows mean \pm SD of the subscales. According to [Table/Fig-2], except independence, other subscales are significantly different among three stages of the study. Comparison of mean in three stages indicated that there was a significant increase in

Time/ Statistical indices	One month prior to Ramadan (Mean±SD)	At completion of Ramadan (Mean±SD)	One month after Ramadan (Mean±SD)	P (repeated measures ANOVA)
Problem solving	11.31±2.5	11.72±3.07	25.25±3.12	<0.001*
Happiness	17.56±3.11	17.78±1.92	22.65±2.36	<0.001*
Independence	20.47±4.10	20.13±5.11	22.43±4	0.08
Stress tolerance	17.69±3.17	19.59±3.44	21.18±5.05	0.01*
Self-identification	18.13±3.76	23.03±3.92	18.75±3.80	<0.001*
Self-awareness	16.53±2.5	19.06±3.92	21.53±4.57	<0.001*
Realism	19.41±2.65	18.59±4.64	21.34±4.41	0.049*
Interpersonal relationships	12.13±3.9	11.87±3.12	24.06±3.35	<0.001*
Optimism	13.6±2.25	14.03±2.97	27.40±9.08	<0.001*
Self-esteem	12.75±3.17	12.21±2.48	3.88±3.69	<0.001*
Impulse control	19.72±5.55	22.68±3.66	20.46±5.52	0.01*
Flexibility	17.28±2.83	16.84±2.86	21.09±4.81	<0.001*
Responsibility	11.38±2.11	27.59±2.51	11.5±2.5	<0.001*
Empathy	4.78±4.03	24.41±3.78	11.4±3.31	<0.001*
Assertiveness	18.19±3.31	18.18±3.07	22.40±4.69	<0.001*
Total emotional intelligence	102.28±8.01	125.59±8.51	115.59±10.48	p<0.001

[Table/Fig-2]: Descriptive data of emotional intelligence subscales in three stages in the studied individuals



[Table/Fig-3]: Comparison of mean level of self-identification, impulse control, responsibility

self-awareness, impulse control, responsibility and empathy in the second stage of measurement [Table/Fig-2,3].

As [Table/Fig-2] indicates, the subscales of problem solving, happiness, self-actualization, interpersonal relationships, optimism, self-esteem, flexibility, impulse control, responsibility, empathy, and assertiveness increased in the second stage compared to the first, but the increase was not significant. For independence and realism, no statistically significant increase was noted among the first, second and third stages of the study. For stress, a positive significant correlation was noted between the first and second and third stages. For self-awareness, a positive significant increase was noted in all stages of the study.

DISCUSSION

Emotional intelligence is the ability to monitor, express, apply, and manage emotions in self and others [15]. Learning the skills of monitoring starts from early years after birth and continues throughout all lifetime [19]. Individuals enjoy various levels of emotional intelligence. A proportion of this capacity is intrinsic and other proportion is the outcome derived from experiences and could be promoted by effort, exercise, and experience [24].

In this study, mean level of emotional intelligence increased significantly in the second stage (completion of Ramadan month) compared to the first (one month prior to Ramadan) and the third step (one month after Ramadan). Accordingly, emotional intelligence increased at the completion of Ramadan and this increase continued after Ramadan. Comparison of mean subscales of suicide, impulse control, responsibility and empathy represented that fasting contributed positively to these four components, as highlighted by Islamic references.

Ramadan fasting causes increased self-identification, stress tolerance, responsibility and empathy, which is consistent with different studies in which Ramadan fasting had a positive significant effect on increased self-esteem, promoted psychological stress, decreased anxiety and stress, and improved social function [8,25-30]. Faramarzi et al., demonstrated that the basis of belief in God in working, self-awareness, and religious experiences (doing benevolent and humanitarian works) could affect the awareness of one's and others' emotional intelligence and bring about his/her cultivation and growth [31]; therefore, spiritualities affect domains of emotional intelligence, and could improve it.

Undertaking religious practices like prayer, fasting, and other Islamic worship causes some mental relaxation by directing attention toward God, which in turn could contribute to cultivating oneself, coping with anxiety and reducing mental disorders, and hence, improve mental health. Therefore, fasting could be highlighted as one of the positive effective factors on mental health, with emotional intelligence as one of its subdivisions.

Learning such as inclination to spiritual principles while fasting particularly in spiritual milieu of Ramadan could cause increase in individuals' abilities and skills in any classes and provide the context for improving emotional intelligence. According to Bar-On, emotional intelligence could grow, change, and be corrected over time [32]. Holy month of Ramadan influences the fasters in terms of cognitive behavioral therapy because they find out some epistemological and cognitive variations in their self through participating in religious ceremonies and reciting prayers and Quran, and delay biological and carnal impulses through fasting; therefore, fasting could be effective on behavioral dimension including impulse control, responsibility improvement, etc.

Since, a large proportion of emotional intelligence could be acquired, these components could be enhanced by development and implementation of effective training programs. However, theoretical conceptualization of emotional intelligence throughout fasting needs further research. Therefore, it is recommended to study the components of emotional intelligence with consideration of the factors such as culture, education, and ethnic local sub-cultures. In addition, since there is a lack of fundamental research on emotional intelligence in Holy Ramadan, then religious, cultural, social, and family variables should be addressed in future studies of emotional intelligence.

A precise conclusion concerning the association between fasting and emotional intelligence, and underlying processes influencing this association needs further research. Generally men and women do not enjoy equal levels of emotional intelligence and women seem to be different from men in emotional reactions; therefore, similar study on other samples is recommended as the limited sample population and the type of study restrict the generalization and interpretation of the findings and etiological attribution of studied variables.

CONCLUSION

As some dimensions of emotional intelligence such as self-identification, stress tolerance and empathy improved through fasting in the present study, and positive contribution of fasting to self-esteem, psychological status, problem-solving and decision taking, self-control and social functioning has been already confirmed, then Ramadan fasting is recommended to mitigate behavioral problems.

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