



Meta-Analysis of the Relationship Between Psychological Health and Emotional Intelligence

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Abstract

This research was conducted with the aim of quantitatively combining research in the field of relationship between emotional intelligence and mental health using meta-analysis method. Also, determining the role of variables such as the type of tool used in primary research, the gender and age of subjects on this relationship was another goal of this meta-analysis. According to the entry criteria, 17 primary studies were analyzed. After removing an outlier effect size based on the results of the funnel plot, the summery effect size between these two variables was equal to 0.48. Also, heterogeneity analysis showed the possible role of moderating variables on the relationship between these two constructs. The type of instrument used to measure mental health had a small role in the resulting effect sizes. In relation to gender, it was also found that the summary effect size of the relationship between emotional intelligence and mental health is higher in women than in men. Also, the effect sizes of the relationship between the two mentioned variables increase with the age of the examinees.

Keywords: Meta-Analysis, Emotional Intelligence, Mental Health, Psychological Well-Being.

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Introduction

Mental health is one of the important components of public health. Mental health is the ability to maintain balance in life and resist problems. Nowadays, mental stress is one of the important issues in life. Therefore, paying attention to mental health is very important. Without considering the emotional state of the person, the definition and description of mental health is not correct; Therefore, emotions play an important role in people's psychological health. One of the variables related to mental health is emotional intelligence. Goleman (1995) was the first to propose the concept of emotional intelligence. Emotional intelligence is defined as the ability to understand, evaluate and express emotions, facilitate emotions, think, recognize, experience and analyze and apply emotional knowledge and rational regulation of emotions. Bar-On (1997) suggests model that emotional intelligence includes emotional awareness as well as various skills or characteristics that help a person regulate their emotions and manage stress. In general, emotion regulation skills can be effective in improving psychological well-being components. From a theoretical perspective, emotional intelligence models (such as the Bar-On model) emphasize that components such as emotional self-awareness, impulse control, stress tolerance, and empathy play an important role in maintaining and promoting mental health. In other words, emotional intelligence helps an individual to better understand their own and others' emotions, establish healthier social relationships, and be more resilient to psychological challenges. To explain the relationship between emotional intelligence and psychological health, one can also refer to the cognitive appraisal theory which emphasizes the role of stress appraisal and management processes in mental health. This theory states that people with higher emotional intelligence have a better ability to cognitively evaluate and reconstruct stressful situations, which leads to a reduction in negative psychological consequences.

The first question that this meta-analysis answers is: What is the combined effect size of emotional intelligence and mental health? This meta-analysis also attempts to answer the question: What is the role of moderating variables on the relationship between emotional intelligence and mental health? The results of this study help to summarize the scattered findings in this research situation and open a new perspective for researchers in this field about possible moderating variables. The findings of this meta-analysis also provide the necessary propositions for theorizing in this field, and from a methodological point of view, this meta-analysis is notable as the first comprehensive study in this field in relation to domestic research.

The dispersion of study results highlights the need for a quantitative review of research on the determinants of mental health in order to obtain a relatively comprehensive picture of research findings in the field. This study aimed to combine effect sizes for emotional intelligence and mental health. Meta-analyses have previously been conducted domestically regarding mental health.

Method

In this study, considering the main goal of the research, which is to quantitatively combine research in a field, the meta-analysis method was used. Since most of the early research in this field was correlational and few were causal-comparative, an effect size index of the r type, specifically the Pearson correlation coefficient, was used as an effect size index. Cohen (1988) has provided a general interpretive classification for the significance of effect sizes, where for r effect sizes, values of 0.1, 0.3, and 0.5 indicate small, medium, and large effect sizes, respectively. The statistical population of this meta-analysis is the available scientific articles and theses related to the relationship between emotional intelligence and mental health in SID and IRANDOC databases, which were retrieved based on keywords and defined entry criteria in the searches until August



1402. The inclusion criteria were: research related to emotional intelligence and mental health in terms of antecedent and output variables; Researches published between 1380 and 1402 that are indexed in defined databases; Correlational or causal-comparative researches; Researches should be available online in the form of full-text articles or dissertations. After the inclusion, a number of studies were excluded from further analysis based on the exclusion criteria, which were: studies that did not report one of the necessary information to calculate the effect size; Articles that are taken from theses and their information is collected again; Researches that do not have the necessary sufficiency or have serious methodological weaknesses. According to these criteria, 18 primary studies were selected. In this study, the checklist for primary research specifications by Mesrabadi (2022) was used to collect data. This form is used to record primary research information in meta-analyses, and includes three sections for entering bibliographic information, methodology, and data required to calculate effect size.

Findings

In most meta-analyses of these two areas, the GHQ and Goldberg instruments have been used to measure the mental health index. It should be noted that the GHQ questionnaire was scored negatively according to the negative form of the statements, and positively on the Goldberg scale. This issue was taken into account in the data entry in the present meta-analysis, and the correlation sign of the GHQ questionnaire was aligned with the Goldberg instrument. The correlation values between the two variables ranged from 0.19 to 0.92. One of the assumptions of meta-analysis is the absence of publication bias, which refers to the failure to publish research related to the topic of meta-analysis that has non-significant findings or is inconsistent with the results of previous research. A graphical method (funnel diagram) and a statistical index (safe number of destruction) were used to investigate the publication bias, which is known as sensitivity analysis. An unusual effect size is located on the right side of the original funnel plot, which has caused the shape to be asymmetrical. In the plot after removing an unusual and outlier effect size, it is obtained, which is more symmetrical. Also, based on the Safe Number from Destruction Index, after entering 17 non-significant effect sizes into the meta-analysis, the calculated combined effect size becomes insignificant. Table 1 shows the summery effect sizes of fixed and random effects related to the relationship between emotional intelligence and psychological health. The summary effect size was approximately equal to 0.48, which is significant at the 0.001 level.

Table 1- summery effect sizes of fixed and random effects related to the relationship between emotional intelligence and psychological health

Model	N	ES	Confidence Interval		Z	P
			Lower	Upper		
Fixed	17	.488	.467	.508	39.22	0.001
Random	17	.485	.414	.549	11.72	0.001

Table 1 shows the combined effect sizes of fixed and random effects related to the relationship between emotional intelligence and psychological health. In this table, the combined or summary effect size based on the fixed and random models is 17 effect sizes, and the average overall effect size of the studies conducted in this meta-analysis was approximately 0.48 for both fixed and random models, which are significant at the 0.001 level.

The Q-squared test and the I-index were used to examine heterogeneity. The value of the Q-squared test with 17 degrees of freedom is 137.165 and is significant at the 0.001 level. Therefore, the null



hypothesis of heterogeneity of the studies is confirmed. Given the influence of the Q-index on the sample size, it is necessary to use an index that shows the amount of heterogeneity without the influence of the sample size. This statistic is the I-squared (Higgins and Thomson, 2002). Accordingly, the I-squared was also calculated in this study, and its value was also 33.88, which is according to the Higgins et al. (2002) index. This value indicates high heterogeneity in the studies and indicates that there are other variables that affect the dependent variable and that the dispersion between the effect sizes of the studies is not only due to sampling error. Due to the high heterogeneity in effect sizes, the random model was selected as the meta-analysis model and the combined effect size was considered to be 0.485. Given that the effect sizes are heterogeneous; the next step is to search for moderating variables that can explain the variability in effect sizes.

For this purpose, in the first step, the type of instrument used to measure mental health was considered as a moderating variable. It was found that the effect size of the summary of the initial studies in which the GHQ scale was used was slightly lower than the other two instruments. It was also found that the combined effect size in studies with female subjects was larger than the combined effect size in studies with male subjects. Other results showed that there is a greater relationship between emotional intelligence and mental health at older ages.

Discussion

The first finding of this research, which shows the high relationship between emotional intelligence and mental health, has a strong theoretical and research support in the research literature. High emotional intelligence can prevent psychological disorders. Lack of awareness of emotions and inability to manage emotions is one of the main symptoms in a number of personality disorders. Also, the main finding of the present meta-analysis is consistent with the results of other meta-analyses in this field. Another part of the meta-analysis findings showed that there is a large heterogeneity in the primary effect sizes. To explain the heterogeneity, a set of supplementary analyzes were conducted on the type of mental health measurement tool, gender and age of the subjects in the primary research, and the results showed that the type of health measurement tool can be effective on the effect sizes to a small extent. In relation to gender, it was also found that the summary effect size of the relationship between emotional intelligence and mental health is higher in women than in men. Also, based on a part of the findings of this meta-analysis, it can be concluded that the effect sizes of the relationship between the two mentioned variables increase with the age of the examinees.

First, it is necessary to pay attention to the definition of mental health, which is defined as the full ability to perform mental and physical roles and, more precisely, the ability to adapt to the perspectives of oneself and others and to face the problems of everyday life. According to the components and emphases of both models of emotional intelligence presented by Mayer, Salovey, and Caruso (2004) and Bar-On (1997), it can be predicted that mental health has a strong relationship with emotions and feelings, and that better perception of emotions and management of emotions prevents maladaptive behaviors such as mood and anxiety disorders that have a detrimental effect on mental health. Higher emotional intelligence is associated with a number of psychological dimensions. For example, it has been shown that the relationship between emotional intelligence and optimism leads to improved social relationships. Research shows that people with higher emotional intelligence are more likely to have better moods and are better able to control negative consequences. The practical implications of this meta-analysis emphasize the planning of social-individual interventions effective on emotional intelligence, which is effective in improving the psychological health of people by promoting this component. Also, in terms of methodology, it is necessary to emphasize the role of possible moderating variables in future research.

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