The Relationship between Social Intelligence and Interpersonal Forgiveness with Happiness According to the Moderating Role of Difficulties in Cognitive Emotion Regulation in Female-Headed Households

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Abstract

Introduction: Women’s happiness represents a vital role in the performance and health of the family. The present study aimed to investigate the mediating role of difficulties in cognitive emotion regulation in the relationship between interpersonal forgiveness and social intelligence with happiness in female-headed households.

Method: The study was a cross-sectional study that included 261 female-headed households, which were selected by the convenience sampling method. The research instrument included the Oxford Happiness Inventory (OHI), Tromsø Social Intelligence Scale (TSIS), Interpersonal Forgiveness Measurement Questionnaire (IFMQ) and Difficulties in Emotion Regulation Scale (DERS). Analysis of the data involved both descriptive and inferential statistics including mean, standard deviation, Pearson’s correlation, and path analysis.

Results: A significant, direct, and positive relationship was observed between social intelligence and happiness. The relationship between difficulties in cognitive emotion regulation with happiness was significant, direct, and negative. There was no direct and significant relationship between interpersonal forgiveness and happiness. Difficulties in cognitive emotion regulation had a mediating role in the relationship between social intelligence and interpersonal forgiveness with happiness.

Conclusion: The results of this study indicated the importance of the mediating role of difficulties in cognitive emotion regulation in the relationship between social intelligence, interpersonal forgiveness, and happiness.

Keywords: Happiness, Social Intelligence, Forgiveness, Cognitive Emotion Regulation, Women

Introduction
Many women throughout the world are the head of household for a variety of reasons. They are responsible for the family ways and means, besides their maternity, surveillance, and supporting roles. These women confront many challenges inside and outside the family, in terms of economical [1], mental, emotional and physical aspects [2]. Social, gender, and cultural discriminations, labor market inequalities, and sometimes lack of social supports are factors causing anxiety, depression, and other health problems for female-headed households. These all negatively affect their mental health and happiness.

Happiness is recognized as a broad mental concept with elevated levels of positive emotions, life satisfaction, and low levels of negative emotions [3]. Happiness is achieved when the activities of people’s lives are most convergent with their values, abilities, and efficiency in various fields and they are committed to these values and abilities [4]. Studies show that the presence or absence of emotional (mental) stress, particularly within urban...
life, greatly affects happiness. Stress, anxiety, feelings of fatigue and exhaustion, and depression are common for female-headed households. Numerous studies have shown that several factors (e.g., social, personal, psychological, environmental, etc.) are influencing happiness [5].

Emotion regulation is a factor that affects happiness. Cognitive emotion regulation positively affects social adjustment and the ability to establish healthy relationships with others and hence a sense of happiness. Emotion regulation is a factor influencing social functioning. People who fail to regulate their emotions have some difficulties in understanding and accepting emotions and the ability to develop a behavioral adjustment when encountering issues and obstacles. Pandey et al. [6] believe that anxious people and those with mood disorders make a great attempt to regulate their deep emotions, but this leads to intensification and resistance to unwanted emotions. People who can regulate their emotions can establish better relationships with others and experience greater welfare.

Forgiveness is an inherent feature that implies forgiving and giving love to someone who has made a mistake or has demonstrated a negative sentiment [7]. Some studies indicate the predictive role of forgiveness in emotion regulation [8]. Ashkani et al. [9] believe that forgiveness improves the physical, mental and spiritual health and also relationships in individuals. People who fail to forgive themselves and others experience more anger and depression [9]. Maltby [10] believes that happiness can be assumed to be the ultimate appearance of satisfaction, and if forgiveness is a reflection of human power and positive thinking, then it is expected to have a positive relationship with happiness. Contrarily, Batik et al. [11] reported that forgiveness has little predictive power for mental happiness; for more explanation, they stated that the relationship between forgiveness and happiness may be related to other mediating variables such as self-esteem and loneliness. Saricam and Adam Karduz [12] also found a positive relationship between forgiveness and happiness. They believe that forgiveness leads to the development of a positive and satisfying mental experience through social support.

Social intelligence is one of the factors associated with happiness and effective interpersonal relationships [13]. Social intelligence is the full capability to perceive, evaluate, and express emotion, the power of understanding emotion, and the ability to accept it to facilitate cognitive and adaptive activities [14]. Social intelligence seems to be the first step to enter the community, build an adaptive relationship, and manage targeted behavior to ensure group sustainability. Callea et al. [15] showed a positive relationship between emotional intelligence and happiness. Also, Aminpoor [16] revealed a positive and significant relationship between social intelligence and happiness. Tkach and Lyubomirsky [17] reported that positive relationships with others and a sense of social support are predictors of happiness.

A leading factor in developing a person's happiness is the process of interacting with the surrounding. According to Buss [18], people develop happiness by overcoming barriers and building close relationships. Social intelligence explains how effective a person can identify and understand the emotions of others and is able to accompany them, which in turn helps to develop a positive and effective relationship. On the other hand, the presence of efficient and effective interpersonal relationships improves social support, and a person with high social support often feels more satisfied. Fata et al. [19] believe that social intelligence gives a person added ability to manage stress and helps them to suffer less from anxiety and depression and consequently has a positive effect on their happiness and mental health.

Given the importance of family in the early breeding and education of children and adolescents and with the leading role of happiness in the family health and function, this study is meant to evaluate the role of emotion regulation in the relationship between happiness with emotional intelligence and interpersonal forgiveness among the female-headed households.

Method

The research design was causal-correlational with a field type. The statistical population of the study consisted of all the female-headed households in Ahvaz city in 2019. The convenience sampling method was used to select the sample group. To this end, three questionnaires were firstly selected and clarified for the participants. The interviewer completed the questionnaires through interviews by being present in the city and different regions of the city as well as primary interviews with female vendors. The participants were ensured that their information would remain strictly confidential. A total of 300 questionnaires were distributed and 261 were analyzed following the elimination of incomplete questionnaires.

The following tools were used in this study:

**Oxford Happiness Inventory (OHI):** The Oxford Happiness Inventory (OHI) was at first developed by Argyle et al. [20]. The questionnaire is constituted of 29 questions and measures life satisfaction, happiness or enjoyment, self-esteem, relaxation, control, and efficiency. Each component has four options where questions 24, 17, 14, 9, 8, 6, 5, and 3 are intended for life satisfaction, questions 29, 26, 23, 22, 21, 19, 2 and 1 are intended for happiness or pleasure, questions 28, 25, 16, 13 and 7 are intended for self-esteem, questions 18, 15, and 12 are intended for relaxation, questions 27, 11, 10 and 4 are intended for control, and question 20 is intended to measure efficiency. Scores range from 29 to 116. Higher scores represent higher happiness. Scores range from 1 to 4. Argyle and Lu [21] assessed the reliability of this questionnaire using Cronbach's alpha for 347 participants and reported a reliability coefficient of 0.90 for it. Alipoor and Noorbala [22] reported Cronbach's alpha coefficient of 0.93 for this questionnaire.
**Tromso Social Intelligence Scale (TSIS):** This scale is which is constituted of 21 questions, has been designed by Silvera et al. [23]. It measures the individual social intelligence and its subscales (social information processing subscale, social awareness subscale, and social skills subscale). A 7-point Likert scale is used for scoring, including strongly agree, somewhat agree, slightly agree, no idea, slightly disagree, somewhat disagree, and strongly disagree. Questions 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, and 21 are reversely scored. Based on Rahimi and Eftekhari [24], the validity of the questionnaire was 0.79, the reliability was 0.91 (21 questions), the social information was 0.84 (8 questions), and the social skills was 0.81 (6 questions) for, indicating the high reliability of the questionnaire. In Khalegkhah's research [25], the reliability of this questionnaire was 0.81 using Cronbach's alpha. In the present study, the Cronbach's alpha coefficient was 0.87 for this questionnaire.

**Interpersonal Forgiveness Measurement Questionnaire (IFMQ):** This scale has been developed by Ehteshamzadeh et al. [26]. It consists of 25 items - 12 items to measure the first factor (reconnection and control over revenge), six items to measure the second factor (control over resentment), and seven items to measure the third factor (realistic understanding). Ehteshamzadeh et al. [26] worked with 400 students from Ahvaz University (237 females and 163 males) to develop and validate this scale. To score this scale, an overall score is achieved for interpersonal forgiveness and three scores for its subscales. In this questionnaire, scores “full disagreement” (1) and “full agreement” (4) are intended for items 19, 20, 21, 22, 23, 24, and 25, whilst the remaining items are scored conversely. They also reported Cronbach's alpha of 0.75 and the reliability of 0.90 for this questionnaire, which are acceptable.

**Difficulties in Emotion Regulation Scale (DERS):** The Difficulties in Emotion Regulation Scale (DERS) was first developed by Gratza and Roemer [27]. The initial scale of difficulties in emotion regulation was a self-report 41-items measurement formulated to clinically assess difficulties in emotion regulation. The answers range from 1 to 5 on a Likert scale. One (1) means rarely (0-10%), 2 means sometimes (11-13%), 3 means half of the cases (36-65%), 4 means most of the cases (66-90%) and 5 means almost always (91-100%). One question was excluded because of its low accordance with the sal, and four questions because of low factor loading or dual-factor loading on two components. Thus, from among the initial 41 items, 36 items were eventually included in the assessment. This questionnaire has six components including rejection of emotional responses (questions 11, 12, 21, 23, 25, and 29), difficulty in performing targeted behaviors (questions 33, 26, 20, 18, and 13), difficulty in control impulse (questions 27, 24, 19, 14, 3, and 33), lack of emotional awareness (questions 34, 17, 10, 8, 6, and 2), limited access to emotion regulation strategies (questions 36, 35, 31, 3, 28, 22, 16, and 15), and lack of emotional clarity (questions 4, 5, 7, 9, and 1). Questions 7, 6, 2, 1, 8, 10, 17, 20, 22, 24, and 34 adopt a reverse scoring strategy. Higher scores mean more difficulty in emotion regulation. The scale has an overall score and six sub-scores for each component. The internal consistency is 0.93 for questions and over 0.80 for each of the components [27]. Mohammad et al. [28] reported the reliability to be 0.91 (for the whole questionnaire) and 0.84, 0.84, 0.86, 0.7, 0.84, and 0.57 (for its components) using Cronbach’s alpha. Besharat et al. [29] also reported the internal consistency of 0.92 and reliability of 0.87 for this questionnaire. In this study, the reliability of 0.88 was achieved for the whole questionnaire using Cronbach's alpha.

Data were analyzed by descriptive and inferential statistics such as mean, standard deviation, minimum and maximum scores, and Pearson correlation coefficient. Cronbach’s alpha coefficient was calculated to determine the reliability and validity. The skewness and kurtosis were utilized to specify the data normality, and the path analysis was used to assess the proposed model. SPSS Amos was further used for analyzing the data. The significance level of the research was considered to be $\alpha=0.05$.

**Results**

Descriptive statistics including mean, standard deviation (SD) and the correlation matrix of the research variables are summarized in Table 1.

The results of the Pearson correlation coefficient revealed a positive significant relationship between all the variables (p $<0.01$) (Table 1). An initial proposed model to explain happiness based on social intelligence, interpersonal forgiveness, and difficulties in cognitive emotion regulation is illustrated in Figure 1.

The Root Means Square Error of Approximation (RMSEA = 0.42) showed that the initial model required modification. To this end, the non-significant relationship between interpersonal forgiveness and happiness was removed. Figure 2 shows the final model in which the root means square error of approximation (RMSEA = 0.07), $\chi^2/d.f. = 2.17$ and CFI= 0.99, indicated a good model fit (Table 2).

![Table 1. Mean, Standard Deviation, and Pearson Correlation Coefficients among Key Study Variables](image)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean (SD)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Happiness</td>
<td>78.62</td>
<td>29.39</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Social intelligence</td>
<td>92.65</td>
<td>35.39</td>
<td>0.43**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3. Interpersonal forgiveness</td>
<td>69.00</td>
<td>20.01</td>
<td>0.38**</td>
<td>0.57**</td>
<td>1</td>
</tr>
<tr>
<td>4. Difficulties in cognitive emotion regulation</td>
<td>101.80</td>
<td>58.81</td>
<td>-0.58**</td>
<td>-0.47**</td>
<td>-0.44**</td>
</tr>
</tbody>
</table>

** = p $<0.01$
Social Intelligence and Interpersonal Forgiveness with Happiness in Female-Headed Households

Figure 1. Initial model pertaining to the mediating role of difficulties in cognitive emotion regulation in the relationship between interpersonal forgiveness and social intelligence with happiness.

Table 2. Initial and Final Model Fit Indicators

<table>
<thead>
<tr>
<th>Fit indicators</th>
<th>Initial model</th>
<th>Final model</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\chi^2$</td>
<td>0.001</td>
<td>2.17</td>
</tr>
<tr>
<td>df</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>$(\chi^2$/df)</td>
<td>-</td>
<td>2.17</td>
</tr>
<tr>
<td>p</td>
<td>-</td>
<td>0.14</td>
</tr>
<tr>
<td>CFI</td>
<td>1.00</td>
<td>0.99</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.42</td>
<td>0.08</td>
</tr>
</tbody>
</table>

Figure 2. The modified final model pertaining to the mediating role of difficulties in cognitive emotion regulation in the relationship between interpersonal forgiveness and social intelligence with happiness.

Table 3. Path Coefficients of Direct Effects between Research Variables in the Initial and Final Model

<table>
<thead>
<tr>
<th>Path</th>
<th>Initial model</th>
<th>Final model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Path type</td>
<td>$\beta$</td>
</tr>
<tr>
<td>Social intelligence to happiness</td>
<td>Direct</td>
<td>0.16</td>
</tr>
<tr>
<td>Interpersonal forgiveness to happiness</td>
<td>Direct</td>
<td>0.09</td>
</tr>
<tr>
<td>Social intelligence to difficulties in cognitive emotion regulation</td>
<td>Direct</td>
<td>-0.33</td>
</tr>
<tr>
<td>Interpersonal forgiveness to difficulties in cognitive emotion regulation</td>
<td>Direct</td>
<td>-0.27</td>
</tr>
<tr>
<td>Difficulties in cognitive emotion regulation to happiness</td>
<td>Direct</td>
<td>-0.47</td>
</tr>
</tbody>
</table>

$** = p < 0.01$
The results showed that the direct effect of social intelligence on the happiness was significant ($\beta = 0.20, p < 0.01$). Interpersonal forgiveness did not have a significant direct effect on happiness ($\beta = 0.09, p > 0.05$). Moreover, social intelligence had a significant direct impact on difficulties in cognitive emotion regulation ($\beta = -0.33, p < 0.01$). The direct effect of interpersonal forgiveness to difficulties in cognitive emotion regulation was significant ($\beta = -0.27, p < 0.01$). However, difficulties in cognitive emotion regulation significantly affected happiness in a direct manner ($\beta = -0.49, p < 0.01$) (Table 3). The Bootstrap method was used to determine the significance of intermediary relationships. The indirect path of social intelligence towards happiness was statistically significant according to the mediating role of difficulties in cognitive emotion regulation ($\beta = -0.13, p < 0.01$). Furthermore, the indirect path of interpersonal forgiveness towards happiness through the mediating role of difficulties in cognitive emotion regulation was significant ($\beta = -0.19, p < 0.01$) (Table 4).

<table>
<thead>
<tr>
<th>Predictor variable</th>
<th>Mediator Variable</th>
<th>Criterion variable</th>
<th>Initial model Bootstrap</th>
<th>p</th>
<th>Final model Bootstrap</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social intelligence</td>
<td>Difficulties in cognitive emotion regulation</td>
<td>Happiness</td>
<td>-0.13</td>
<td>0.001</td>
<td>-0.13**</td>
<td>0.001</td>
</tr>
<tr>
<td>Interpersonal forgiveness</td>
<td>Difficulties in cognitive emotion regulation</td>
<td>Happiness</td>
<td>-0.18</td>
<td>0.001</td>
<td>-0.19**</td>
<td>0.001</td>
</tr>
</tbody>
</table>

** $= p < 0.01$

**Discussion**

The present study aimed to investigate the relationships of social intelligence and interpersonal forgiveness with happiness according to the moderating role of difficulties in cognitive emotion regulation in female-headed households. The results showed that the proposed model had a good fit. In general, except for the direct path of interpersonal forgiveness towards happiness, all direct and indirect paths had significant relationships. Based on the findings, there was a direct correlation between social intelligence and happiness in female-headed households. This finding is consistent with previous research [30-32]. Given that social intelligence is the ability to accompany others, be aware of social issues and be sensitive to stimuli from others and having insight into their moods and characteristics, a person with high social intelligence is expected to have higher social support, a higher quality of life, and consequently developed happiness. Khan and Bhat [32], found that social intelligence is positively correlated with personal and social welfare and mental health. In other words, people with high social intelligence experience higher mental health and less anxiety. There was no significant relationship between interpersonal forgiveness and happiness. This finding is consistent with previous research [11, 33, 34]. Although several studies have cited a positive correlation between forgiveness and life satisfaction, it must be noted that forgiveness sometimes is verbally not internalized, so it is temporary and unstable [33]. Female-headed households face many problems and issues in their daily lives that can cause various psychological and social harms in them. Based on the preceding studies, forgiveness is not considerably correlated with happiness if it occurs faintly or when something is about to be forgotten or ignored. According to the findings, there was a significant and negative relationship between social intelligence and difficulties in cognitive emotion regulation. This finding is consistent with previous studies [35-37]. For further explanation, it can be stated that emotion regulation is one of the factors associated with welfare, proper functioning, and adaptation to environmental distressing situations. Contrarily, developed emotional intelligence leads to healthy relationships, optimal management of stress during distressing situations, and the ability to adapt well to such situations. Many relationships entail social skills and stress management. Social intelligence and skills help a person to deal better with challenges during life and also regulate their emotions and sensations [14].

There was also a negative and significant relationship between interpersonal forgiveness and difficulties in emotion regulation. This finding is consistent with previous studies [8, 38]. To explain this, people with a higher capacity of forgiveness often experience less internal stress and violence and behave more appropriately in interpersonal relationships. On the other hand, as regarded, people who are more efficient in regulating their emotions have less anger, stress, and anxiety and can perform more efficiently in interpersonal interactions. These people often experience greater competence and support and are more satisfied with their social relationships.

Findings revealed a negative and significant relationship between happiness and difficulties in cognitive emotion regulation. This finding is consistent with the research results of Young et al. [39], and Foladchang et al. [40]. For further explanation, emotion plays a vital role in adapting to life changes and distressing situations and emotional states are the determining factors in the shaping of anxiety and stress to deal with such situations. People who benefit cognitive regulation more efficiently are further capable to control the quality of the relationship and regulate the gap in the relationship. They are also more satisfied with their relationships with a greater level of happiness. In contrast to the difficulties of emotion regulation, they perform inappropriately and inefficiently in stressful situations by adopting emotion regulation strategies, which disrupts their social relationships. These people, according to Garnefski and Kraaij [41], experience more negative emotions due to little awareness,
misunderstandings, and irrational and wrong beliefs, and hence adopt irrelevant reciprocations. The results also confirmed the mediating role of cognitive emotion regulation in the relationship between social intelligence and happiness. According to studies, happiness in people with difficulties in cognitive emotion regulation is considerably lower, particularly in terms of general health, happiness, social functioning, and mental health [42]. Difficulties in emotion regulation and failure to manage and control the emotion hurts the sense of accepting yourself and others and interpersonal relationships. These people are incapable of choosing, modifying, and responding to the situation. They do not adopt a proper problem-solving method and receive low social support. Although the relationship between social intelligence and happiness has been reported to be significant and positive, it can be reversed by the mediating role of difficulties in regulating emotions. According to studies, people with developed friendly and effective relationships are happier and more satisfied, resulting in improved physical and mental health. These people enjoy being with each other and can handle their issues and problems. Contrarily, people with a high score of difficulties in emotion regulation in social situations show lower performance; this may lead to less interpersonal relationships and social adjustment, and consequently lower level of happiness. There was also a negative significant relationship between interpersonal forgiveness and happiness with the mediating role of difficulties in emotion regulation [43]. Social awareness is a strategy for cognitive emotion regulation. It gives a person more information on the opinions of others. Knowing others’ beliefs is a factor affecting empathy. A sense of empathy with others helps a person to understand others in distressing situations and helps him/her to forgive others if they make mistakes. A person who has difficulty in cognitive adjustment has less empathy with others and shows less forgiveness.

**Conclusion**

This work aimed at investigating the effects of some psychological variables on the happiness of female-headed households. Declined social relationships, economic pressures, and the unsecured future of themselves and their children are amongst the obstacles such women encounter. These all lead to depression, stress, and anxiety, and affect their happiness, satisfaction, and performance, and consequently the family. The results confirmed a significant relationship between these variables and happiness in female-headed households. Due to the limited statistical population and sample size, and the convenience sampling method of this research merely applied in Ahvaz city, generalization of the findings should be done with caution. The self-report nature of the research tool may result in getting biased answers from the respondents; it can negatively affect the generalization of the results. Happiness can decrease negative emotions, depression, and anxiety, and at the same time can increase decision-making abilities in stressful conditions. So, it is suggested to the concerned organizations to provide education in the area of communication skills, emotional (arousal) control, and emotional reactions for the psychological empowerment of this group of women. Meanwhile, regarding their major responsibilities, it is suggested to conduct similar studies with larger samples in different cities; the findings of such studies can be the basis of taking effective measures to decrease the problems faced by female-headed households.

**Conflict of Interest**

The authors declare that they have no conflicts of interest and no financial benefits from this study.

**Ethical Approval**

The participants willingly filled out the questionnaires and signed a written informed consent. The study was approved by the Ethics Committee of the Islamic Azad University, Ahvaz branch.

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