The Effectiveness of Jung's Self-Knowledge on the Adaptability and Marital Satisfaction of Mothers with Hearing-Impaired Children

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ABSTRACT

Background and Aim: Hearing impairment and hearing loss are humans' most common neurological and sensory injuries. Having a child with hearing loss, in addition to affecting the amount of stress on the family and parents, can also affect the marital satisfaction of the couple. This study aimed to evaluate the effectiveness of Jung's self-knowledge on the adaptability and marital satisfaction of mothers with hearing-impaired children.

Methods: This research was quasi-experimental with a pretest-post-test design with a control group. The study's statistical population includes all mothers with hearing-impaired children living in Yazd City, Iran. A total of 30 women were selected using the purposive sampling method and were randomly divided into the control (15 people) and intervention groups (15 people). The intervention group received Jung's self-knowledge training in eight 90-minute sessions once a week, while the control group received no training. Data were collected through a marital satisfaction questionnaire and a family adaptation questionnaire. The data were analyzed at the level of descriptive and inferential statistics.

Results: The results of the data analysis showed a significant difference between the variables of compatibility and marital satisfaction in the post-test of the experimental and control groups.

Conclusion: Jung's self-knowledge affects the adaptability and marital satisfaction of mothers with hearing-impaired children. Therefore, self-knowledge with Jung's method can be useful for improving the adaptability and marital satisfaction of mothers with hearing-impaired children.

Keywords: Self-knowledge; Jung’s method; adaptability; marital satisfaction; hearing-impaired children

Introduction
Hearing impairment is an invisible disability that negatively affects the quality of life, creating communication, and social problems. The National Association of the Deaf (NAD) defines a person as someone with insufficient hearing to communicate information [1]. Deafness is a heterogeneous condition that has wide-ranging effects on cognitive, emotional, and social development, and one out of every 750 children has bilateral dominant hearing loss [2]. A comparison of research results shows that hearing loss in 2010 was known as the 11th cause of disability in people's lives and has been changed to the fourth reason in 2013 and 2015 [3].

The severe and profound hearing loss leaves adverse developmental consequences for hearing-impaired children and their parents in cognitive, communication, and social fields [4]. Hearing loss is one of the most stressful conditions. Parenting stress can lead to family difficulties and inadequate parenting. Hearing impairment in children can cause stress and anxiety in their parents [5]. Since families with hearing impaired children are involved in the issue of the child's hearing loss, a large part of their energy and physical and mental strength is directed to the child's education and correct behavior and problems [6]. Jackson and Turnbull study has shown that compared to families with normal children, families whose children are underdeveloped have the most pressure. So it harms the cohesion and structure of the family. The consequence is creating changes in plans, performance, and compatibility of the family [7]. Poon and Zaidman-Zait’s research showed that having a hearing impaired child in the family affects not only the amount of stress on the family and parents but also the marital satisfaction of couples [8]. Marital satisfaction means the compatibility between a person's expectations from married life and what he or she experiences in his or her life [9].

Adaptability in couples is when the husband and wife have a feeling of happiness and satisfaction from each other most of the time [10]. Adaptability is another aspect of marital and family behavior that is the basis for understanding and recognizing family and marital processes and is one of the components that show the level of family health [11]. Diagnosing hearing impairment can also greatly impact how parents of hearing-impaired children relate to each other and, in many cases, affect marital relationships and the intimate and close relationship between parents [12].

One way to increase marital satisfaction is to educate them. Teaching couples help to learn new skills and better ways of thinking and can lead to improved interactions [13]. Rivera et al.’s study shows that the frequency of knowing the personality of each couple, the spouse, with the idea that they know their real partner, leads to improved romantic relationships and satisfaction with the connection [14]. In Iran, Daanesh and Ehtesham's research shows that mutual behavior analysis training has significantly increased marital satisfaction [11]. Also, Mohammadi et al. reported that personality recognition is important in marital relationships, couple interaction, and marital satisfaction [15]. When the intimate relationship between husband and wife is damaged, the children's mental health is also affected; therefore, it is necessary to find ways to increase mothers' marital satisfaction.

Self-knowledge is moment-to-moment awareness of one's mental states and the ability to recognize and analyze current experiences, as well as active knowledge about oneself and focus on past events, which leads to more insight to guide behavior and form more complex schemas [16]. The historical course of the concept of self-knowledge goes back to the time of Socrates [17]. In this study, Jung's method has been used based on the concept of shadow. The concept of the shadow is one of Jung's great contributions to psychology, which he adapted in the early 20th century from Freud's initial division between the light and dark aspects of the human psyche. The shadow is all the unpleasant traits that can sometimes be seen in human behavior, intentionally or unintentionally [18]. According to Jung, in addition to the external view of their personality, all human beings also have an internal viewpoint on the way to the unconscious world. The shadow can hinder happiness and make us unable to experience emotions [19] fully. Unfortunately, the researchers did not find any research that was conducted to investigate the effectiveness of Jung's self-knowledge on marital satisfaction and adaptability of mothers with hearing-impaired children. But researchers have investigated the effectiveness of other psychological treatments on marital satisfaction and adaptability of parents with hearing-impaired children. For example, Hasanzadeh et al. showed the effectiveness of the stress relief educational program on parental stress and marital satisfaction of parents with deaf children [20]. Shokraneh Arzanaghi et al. showed that self-awareness about emotions improves couples' marital satisfaction [21]. Yousefi also showed the effect of training couples on increasing marital adaptability and satisfaction [22]. Regarding the advantages of this method compared to other psychological treatments, we can mention the attractiveness and simplicity of this method.

Considering the prevalence of hearing loss, the role of mothers with hearing-impaired children in the family, and the importance of marital satisfaction and adaptability in that context, we aimed to investigate the effectiveness of Jung's self-knowledge on the adaptability and marital satisfaction of mothers with hearing-impaired children.

Methods
Study participants
The present research design was quasi-experimental with a pretest-post-test design with a control group. The statistical population consists of all mothers with hearing-impaired children studying in Naghme School, Yazd City, Iran, in 2020. The size of the statistical population in this research was 70 people. The research sample consists of 30 mothers who were selected by available sampling. The inclusion criteria were having children with hearing problems, consent to participate in research, and absence of acute psychiatric disorders. The exclusion criteria were taking psychiatric drugs or receiving other psychological treatment, not attending more than two sessions, and not completing the questionnaires. They were randomly assigned into two groups: intervention (n=15) and control (n=15).

Assessment Tools

Enrich marital satisfaction questionnaire
The marital satisfaction questionnaire has 115 items used to evaluate potentially problematic areas or to identify areas of strength and fruitfulness in a marital relationship. This questionnaire comprises 12 subscales, including ideal distortion, marital satisfaction, personality issues, communication, conflict resolution, financial management, leisure activities, sex, child and parenting, family and friends, egalitarianism, and religious orientation. [23]. In a study on married women in Tehran, the validity coefficient of Enrich marital satisfaction was obtained in clinical work from 0.85 to 0.95. The reliability of this research has been received with the Cronbach α method of 0.94 [24].

Olson family cohesion and adaptability questionnaire
This questionnaire was designed by Olson (2006). The scoring range of this questionnaire is scored on a 5-point scale: totally disagree=1, disagree=2, have no opinion=3, agree=4, and totally agree=5. This questionnaire has 40 items and measures the dimensions of family cohesion and adaptability using 6 scales. This tool's higher adaptability score indicated the family is more disturbed. Two balanced subscales assess family cohesion and adaptability. The validity and reliability of Olson's family adaptability questionnaire with the Cronbach α test in Momeni et al. research on married women in Hamadan with a coefficient of 0.73 to 0.89 have been confirmed [25].

Study procedure
First, the pretest was taken from two groups through the previously explained questionnaires. Then, the women in the experimental group were given complete and clear explanations about the objectives and methods of the research. It was emphasized that the subjects' information would remain anonymous and confidential. Due to ethical considerations, after completing the study and the results, the self-knowledge based on Jung's method plan was included in the control group. The treatment session protocol was performed individually by a student MSc in psychology. This protocol was performed on the experimental group for 8 consecutive sessions of 90 minutes, one session per week. The control group did not receive any intervention. At the end of the sessions, a post-test was performed for both groups by the questionnaires that were explained earlier.

The protocol of the user intervention is presented in Table 1.

Data analyses
The obtained data were analyzed in SPSS 17. We used the mean and standard deviation to analyze marital satisfaction and adaptability variables at the descriptive level and ANCOVA at the inferential level.

Results
Regarding age, three respondents were 20 to 30, 15 were 31 to 40, and 12 were 41 to 50 years old. According to Table 2, the mean post-test of the experimental group has changed compared to the pretest and increased in adaptability and marital satisfaction of women.

The results of the covariance analysis in Table 2 indicated that the $F_{(1,28)}$ value for marital satisfaction was 66.38. The data showed that after removing the effect of the pretest, there was a significant difference between the scores of the test group and the control group in the variable of marital satisfaction ($p<0.001$). Therefore, Jung's self-knowledge method can promote marital satisfaction in mothers with hearing-impaired children. The effect size scores showed that 0.91 of the difference between the experimental and control groups is related to self-knowledge training based on Jung's method. Also, regarding the compatibility variable, the results of Table 2 showed that the post-test scores of the experimental group were higher than the control group. Regarding the
inferential statistics section, the results of the covariance analysis showed the $F_{(1,28)}$ value for this variable is $18.37$ ($p<0.001$); this value is significant at 95% confidence. Also, the coefficient of effect size indicates $0.81$ of the difference between the test and control groups was related to the intervention. Therefore, it could be concluded that Jung's self-knowledge method positively affected the adaptability and marital satisfaction of mothers with hearing-impaired children.

**Discussion**

This research aimed to evaluate the effect of Jung's self-knowledge on the adaptability and marital satisfaction of mothers with hearing impaired children. The first result of the present research was the effectiveness of the intervention in increasing marital satisfaction. In other words, self-knowledge based on Jung's method increases marital satisfaction in mothers with hearing-impaired children. In line with the present research's results, Ghorbani et al. showed that integrated self-knowledge increases marital satisfaction in married women [26]. Hamachek [27] and Tenny et al.'s research also showed that self-knowledge improves interpersonal relationships [28]. Hasanazadeh et al. showed the effectiveness of the stress relief educational program on parental stress and marital satisfaction of parents with deaf children [20]. Shokraneh Arzanaghi et al. showed that self-awareness about emotions improves couples' marital satisfaction [21]. Abedi et al.'s research indicates that life skills training programs that include self-knowledge can improve marital satisfaction in deaf women [29]. Also, Gibbons' study showed a relationship between self-awareness and marital satisfaction [30].

In explaining the present research results, it should be said that Jung's self-knowledge helped couples with hearing-impaired children be more self-aware. Self-awareness improves the ability to control and deal with unfavorable life conditions. Self-awareness involves some degree of self-disclosure to develop effective relationships with others and lead more active lives through sharing and receiving information [31]. On the other hand, self-knowledge, by increasing their awareness, acceptance without judgment, empathy, and constant attention to inner feelings causes incompatibility between couples. However, using Jung's self-knowledge, these people could become aware of their condition and behavior and minimize their mental and emotional conflicts non-judgmentally by keeping their minds in the present and increasing their adaptability and satisfaction. Because parents with hearing impaired children experience a lot of stress and other negative emotions, these emotions affect the marital relationship and marital satisfaction of these parents. Self-knowledge based on Jung's method can suit them, emphasizing the acceptance of unsolvable problems [18]. Self-awareness leads to the acceptance of one's characteristics and, as a result, self-compassion, that self-kindness and self-compassion are associated with expressing kindness and compassion towards others, which also improves interpersonal interactions [19]. Also, this research sought to answer whether self-knowledge based on Jung's approach affects the adaptation of mothers with hearing-impaired children. The second finding of the current study indicated the effectiveness of self-knowledge through Jung's method on the adaptability of mothers. Unfortunately, no research investigated this method on the adaptability of mothers with hearing-impaired children. Sadati et al.'s study show that basic life skills training, including self-awareness, impacts adaptability and psychological well-being in married females [32]. In this regard, Fotuhi-e Bonab et al.'s research showed a relationship between self-knowledge and marital adjustment [31].

In explaining the present research results, it should be said that self-knowledge can greatly improve the mental health and quality of life of people with children suffering from hearing impaired [27]. It can promote love, affection, and understanding of own suffering. It is a type of self-acceptance that reflects the degree of accepting negative aspects of self and life over time [27]. Thus, by learning self-knowledge, they can avoid negative self-judgments and to self-care better in dealing with each other and behavioral problems, and achieving psychological well-being can affect the adaptability of couples with hearing-impaired children. Self-knowledge helps people adjust negative patterns and automatic thoughts, not project their issues onto others, and regulate positive behavior, leading to self-satisfaction and, as a result, adaptability increases. In general, applying Jung's methods, especially shadow acceptance, had a positive effect on the well-being of the mothers and, in some cases, even led to the remission of the physical symptoms [18]. Therefore, it seems that self-knowledge is useful for a healthy relationship, adaptability, and improving marital satisfaction. Self-knowledge helps mothers with hearing-impaired children know their abilities, weaknesses, and other characteristics. Also, if you deal with their husband, they can deal with issues better and deeper. This self-knowledge shows a person how he can recognize his feelings, be aware of their existence and control them when necessary so as not to cause any discomfort [31]. A mother with a hearing-impaired child may project her problems onto her husband and be unable to understand her feelings clearly. Jung's self-knowledge makes them face this part of themselves, accept the related emotions, and not blame others for this issue, increasing their adaptability. Carrying out tasks such as mental imagery in the sessions allows mothers to face their suffering and have compassion for that part of their being that blames itself.
The limitations of the research included the prevalence of the COVID-19 virus, which caused some participants to hold two intervention sessions online. Also, using a self-report instrument made the participants answer the questions based on their mentality, not reality, and the lack of a follow-up phase. Regarding the research proposals, it is better to use interviews and self-reporting tools in future research. Also, research with a follow-up period should be conducted to determine the long-term effects of this intervention. It is also suggested that future studies should investigate the impact of this intervention method on other psychological problems of the family of hearing-impaired children. It is also recommended to use the successful experiences of psychology professors in universities and research centers and the experiences and findings of those in the field of self-knowledge in the Jung method to increase psychological levels such as adaptability and marital satisfaction. Moreover, research on both couples, rather than one of them, could be useful.

Conclusion
According to the present research, self-knowledge based on Jung’s method significantly improves marital satisfaction and adaptability in mothers with hearing-impaired children. Therefore, this method is recommended to experts in this field.

Ethical Considerations

Compliance with ethical guidelines
This study was approved by the Academic Center Research of Mashhad (IR.ACECR.JDM.REC.1401.024)

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Authors' contributions
MS: Study design, acquisition of data, statistical analysis; AA: Study design, interpretation of the results, statistical analysis, and supervised the study; MA: Study design, interpretation of the results and drafting the manuscript.

Conflict of interest
The authors declared no conflicts of interest.

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References
Table 1. Session topics

| First | The introduction is to provide a general explanation of the topic of shadow and the general plan of the research, the importance of self-knowledge in couples' relationships, attracting the cooperation of the participants, and the initial implementation of the research tool as a pretest. |
| Second | Explain the different effects of shadows by giving examples and explanations and reading the book and performing exercise number 1 to understand the different effects of individual shadows (the participants in the group were asked to be aware of their shadows during the week and note down their experience). |
| Third | Examining the exercises of the week, explaining and projecting, and doing exercise number two (meeting with the support section of existence in a safe place in the first stage and then meeting with the dark and shadow section by visualizing and establishing a dialogue between the light and dark aspects inside). Not denying the incomplete aspects within (and then writing the experience of the meeting and group discussion). Participants were also asked to do this visualization during the week and write down their experiences. |
| Fourth | Reviewing the assignments of the previous session at first and then, presenting a list of negative characteristics. Participants were asked to look at the list for a few minutes and select each word that has a negative connotation for them and inform the representative of the target of this exercise. Participants are in shadows that they do not want to accept and project it on others. |
| Fifth | Review of week-long naming exercises for sub-characters meet sub-characters through bus exercise visualization and discussion |
| Sixth | Examining weekly exercises reviewing the core beliefs of life and finding new interpretations for past negative events through mental imagery and replacing them with positive beliefs |
| Seventh | Review of exercises during the week to find resentments and identify them and release them and perform exercise number 6 |
| Eight | Review of exercises during the week review sessions. Evaluating the progress of the focus on the positive aspects of the shadow and implementing the test tool as a post-test. |

Table 2. Mean and standard deviation of pretest and post-test scores of couple adaptability and satisfaction and result of analysis of covariance

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean(SD)</th>
<th>Analysis of covariance</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Pretest</td>
<td>Post-test</td>
</tr>
<tr>
<td>Adaptability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental group</td>
<td>25.45(5.6)</td>
<td>13.14(3.11)</td>
</tr>
<tr>
<td>Control group</td>
<td>27.20(82.5)</td>
<td>27.11(5.90)</td>
</tr>
<tr>
<td>Marital satisfaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental group</td>
<td>213.11(26.11)</td>
<td>160.47(21.20)</td>
</tr>
<tr>
<td>Control group</td>
<td>215.12(27.1)</td>
<td>231.41(25.20)</td>
</tr>
</tbody>
</table>