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Effect of Parenting Self-Efficacy Skills Training and Psychological Hardiness on Subjective Vitality of Mothers of Children with Autism Spectrum Disorder

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The aim of this study was to investigate the parenting effectiveness of training self-efficacy skills and psychological hardiness on the subjective vitality of mothers of children with autism spectrum disorder (ASD) in Tehran. The current research was applied and aims to use a field experimental design (pre-test - post-test with the control group). The statistical population includes all mothers of children with ASD in Tehran in 2020 referred to private and government rehabilitation centers to receive services. Out of the statistical population, 30 mothers of children aged 7 to 18 with ASD were selected by cluster sampling. Then, they were randomly classified into two groups: Case (15 mothers) and control (15 mothers). The subjective vitality scale questionnaire of Ryan and Frederick (1997) standard protocols of teaching Saunder's parenting self-efficacy skills (2003), and Bailing protocol psychological hardiness in cognitive -behavioral way (2009) were used in the

research. The case group was trained for 8 sessions of 90 minutes per week in connection with these protocols. Analysis of statistical data using covariance showed that the training has a positive effect on increasing the subjective vitality of mothers (P<0/05). Based on the data obtained from the post-test, the participants of the case group had higher subjective vitality rather than the control group.

Keywords: subjective vitality, parenting self-efficacy, psychological hardiness

Autism spectrum disorder is a term used to refer to one of the severe neuro-developmental disorders in childhood. This disorder causes a feeling of severe disturbance in the child's cognitive, social, emotional and behavioral growth and development and it interferes with the natural path of normal growth. Autism spectrum disorders also disrupt interpersonal interactions by affecting the child's socialization process and complex communication with others (American Psychiatric Association, 2013).

Parents of these children are the first people to notice their problems. They have their own special needs and concerns, which are increased due to the chronic and complex nature of the disease and the many challenges they have to face during the day due to their child's disability. In addition to taking care of their daily responsibilities and duties, these parents must consider their work and family needs and constantly solve the challenges of taking care of their disabled child for life (Lu et al., 2021).

Researches have revealed that families that do not deal with the upcoming problems in a consistent way experience an increase in depression and anxiety, feelings of anger and guilt (Kamandalo et al., 2020), and parents' sense of incompetence in raising children (Weiss et al., 2013). On the contrary, the quality of life (Ghanimi et al., 2018), subjective vitality (Amir et al., 1400) and psychological well-being (Lomprom, 2017) and

consequently subjective vitality decrease one of the important dimensions of subjective well-being (ezzat F, Motaghedifard, Golestanibakht, 2019). Which is defined as "having the mental and physical energy necessary to experience a sense of enthusiasm, vitality, and energy." Subjective vitality indicates a positive and stable state and feelings such as autonomy and freedom and increasing internal motivation (Ryan and Desi, 2008) In other words, subjective vitality means to what extent a person is happy and satisfied with his life and enjoys it (Shaykh al-Islami and Daftarchi, 2014).

Research has shown that subjective vitality in mothers can be affected by their self-efficacy beliefs in parenting. Parenting self-efficacy is an important structure related to the performance of parents and it is called the parent's assessment of his abilities in playing the role of caring. This important variable predicts the mother's disciplinary style, the mother's belief about parenting methods, and the mother's response sensitivity, and it affects the mother-child interaction (Lee and Chiang, 2018). Kanwal and Asad' research (2018) under title of children with autism spectrum disorder and the effect of the disorder on families showed that Parents of a child with autism spectrum disorder have a higher parenting self-efficacy compared to mothers of normal children due to the child's behavioral and psychological problems and lack of feeling the ability to control and restrain the situation effectively.

Although studies show that different people react differently to stress, some people are more easily able to effectively deal with problems and others are not. Researchers use psychological hardiness to justify this problem. Another variable affecting subjective vitality is psychological hardness (Amir et al., 2022). Hardiness consists of a set of personality traits, which act as a source of resistance to stressful events in life (Lomprom, 2017).

Based on this view, if people have three basic characteristics the total of which leads to psychological hardiness; a) commitment to the goals and responsibilities they are responsible for; b) the feeling of having control over the important events of life; c) the ability to consider transformations as a normal challenge (Kobasa, 1979).

Amir et al, (2022) in a research predicted subjective vitality through parenting self-efficacy, psychological hardiness, and perceived social support in mothers of children with autism spectrum disorder. The results showed that there is a significant positive relationship between self-efficacy, psychological hardiness and perceived social support subjective vitality.

Sadeghi, Rahimipour and Ali Mohammadi (2016) investigated the effect of resilience and psychological hardiness on the mental health of mothers of children with attention deficit hyperactivity disorder. The findings show the originality and importance of perseverance and resilience in maintaining and improving the mental health of mothers. In addition, Ghanimi et al. (2018) investigated the effectiveness of intervention programs based on social support perception management and stress management on the quality of life of mothers of children on an autism spectrum disorder. The results of the studies showed that social support perception management training the social relations component and stress management training the physical health component improved the quality of life more than other components

Therefore, considering the growing trend of ASD and the impact of this disorder on parent-child interactions, paying attention to positive psychological concepts will become very important to prevent the occurrence of behavioral problems in children and maintain the mother's mental health. A literature review related to this disorder confirms that the focus of the

research is on people with the disorder and the needs and support interventions of parents based are ignored. Therefore, the aim of this study was to investigate the effectiveness of training parenting self-efficacy skills and psychological hardiness on the subjective vitality of mothers with children with autism spectrum disorder (ASD).

Method

The current research was an applied and aims to use a field experimental design (pre-test - post-test with control group. The statistical population includes all mothers of ASD children who referred to private and government rehabilitation centers to receive services in Tehran in 2020. Based on the data obtained from the welfare organization, 800 mothers went to rehabilitation centers to receive medical services.

First, several rehabilitation centers were selected from the rehabilitation centers in each urban district of Tehran by cluster sampling method, and then about 50 mothers of children aged 7 to 18 were selected randomly. According to consideration of the volunteers participating in the research and estimation of sample size, they were randomly categorized into two groups: Experimental/Case (15 mothers) and control (15 mothers).

In addition, the participants were divided according to age (25-50 years), gender (only mothers), literacy level (middle school to master's degree), socio-economic level (income) and the absence of disease. The criteria for the withdrawing participants from the study include absence from training sessions (more than 3 sessions), simultaneous participation in other training courses and the presence of a serious illness that restricts participation in the class.

Instruments

The Subjective vitality scale (Ryan and Frederick, 1997) was used to measure the current energy and vitality of the individual. This scale has seven components/questions and scored with a 5-point Likert scale from strongly disagree (1) to strongly agree (1). The range of scores on this scale is from 7 to 35 and the second question is scored inversely. In previous studies, the reliability of subjective vitality scale has been reported from .8 to .89 (Satisi, and Akin, 2014, Sheikh al-Islami, and Daftarchi, 2014), and the validity has been determined from .48 to .74.

Ahmadian and Tejereh evaluated the reliability of the test using Cronbach's alpha method to be .89 and the validity from .57 to .86. In addition, Ryan and Deci have reported the validity of the tool to be .89 and the reliability using Cronbach's alpha to be .86 in their research.

In order to promote self —efficacy, the Sander's Positive Parenting Program was used to improve subjective vitality (Sander, 2003). Saunders' Positive Parenting Program (2003) is a new and comprehensive program on parenting that creates a positive relationship between parents and their children and helps parents develop effective management strategies in dealing with various developmental and behavioral issues of children. Let them learn, a simple program that can make big changes in families and help parents discover that when they talk, think and act in new ways, so they will have better family outcomes.

Positive parenting includes a safe environment, reinforcing positive behavior, creating a positive learning environment, having realistic expectations, and taking care of oneself as a parent (Street, 2005). This approach to the prevention and treatment of childhood's disorders has the strongest empirical

support compared to other interventions, especially interventions related to psychological problems.

Bailing's Psychological hardiness training package was designed and compiled based on the theoretical foundations of psychological hardiness by Kobasa (1987) and also the principles of Aaron T. Beck's cognitive behavioral therapy (Arin 2013). At first, an effort is made to familiarize people with this concept by understanding the theoretical foundations of psychological rigor. Then, using the cognitive error recognition method of Ellis, the protocol of psychological hardiness training was taught to the mothers participating in the research in the cognitive-behavioral method of Bailing (2009).

After designing lesson plan, the training sessions were initially conducted on 5 mothers as a trial. The cases that had ambiguity and defects were investigated. In this way, by explaining the goals of the training program to them, and giving them a definition, the title of the prepared training chapter is divided into three parts ((it is necessary)), ((it is useful but not necessary)) and (it is not necessary). The content validity of the intervention training program was checked by an expert panel.

The content validity ratio index for the intervention program of Saunders' Positive Parenting Program (2003) and Bailing's psychological hardiness training program (2009), and the content validity index was calculated as .99, .80 and .70, respectively. Among the statistical population, 30 mothers of children aged 7 to 18 with ASD were selected by cluster sampling. The subjective vitality scale questionnaire of Ryan and Frederick (1997), standard protocols of teaching Sander's parenting self-efficacy skills (2003), and Bailing's protocol psychological hardiness (2009) were used to collect information in the pre-test and post-test stages.

The selected mothers were randomly classified in two experimental and control groups. They were initially measured using Ryan and Frederik's (1997) Subjective vitality Questionnaire and then the experimental group was tested using the designed protocol, which includes the Sander's method of positive parenting training protocol (2003), and Bailing's psychological hardiness training (2009). The case group was trained for 8 sessions of 90 minutes per week in connection with these protocols. According to Table 1 in the form of 8 weekly sessions of 90 minutes, one session every week was trained, and the data obtained for the pre-test, and the pre-test of both groups using covariance analysis of the software SPSS 22 were analyzed.

Table 1 Content of the Session

| Sessions | Educational content |
|---------------|--|
| First session | Pretest-Getting to know the group members using |
| | the "Who am I" technique |
| | Description and definition of positive parenting |
| | Causes of children's behavioral problems |
| | Teaching positive parenting strategies |
| Second | An overview of the contents of the previous |
| session | meeting |
| | Familiarization with effective communication |
| | strategies with children |
| | The introduction of strengthening methods and |
| | teaching methods of controlling difficult |
| | behavior |
| Third | An overview of the contents of the previous |
| session | sessions |
| | Familiarization with the types of child behavior |
| | boosters |
| | The use of calming techniques, and teaching new |
| | skills |

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|---------------------|---|--|--|--|--|--|
| Fourth | An overview of the contents of the previous | | | | | |
| Session | sessions | | | | | |
| | Familiarization with the types of child behavior | | | | | |
| | boosters | | | | | |
| | The use of calming techniques, and teaching new | | | | | |
| | skills | | | | | |
| Fifth | Understanding the concepts of psychological | | | | | |
| meeting | toughness | | | | | |
| | Training to strengthen self-confidence through | | | | | |
| | role-playing in different situations | | | | | |
| Sixth | Teaching the A-B-C model | | | | | |
| session | Methods of teaching problem-solving skills | | | | | |
| | instead of giving up and encouraging to struggle | | | | | |
| | against the problems ahead | | | | | |
| Seventh | Teaching positive sports skills and examining | | | | | |
| session | stress responses to situations. | | | | | |
| Eighth | Performing cognitive reconstruction and creating | | | | | |
| session | a new attitude toward life Reviewing the previous | | | | | |
| | meetings | | | | | |
| | post-test | | | | | |

The descriptive and inferential statistics were used to analyze the data. At the level of descriptive statistics, mean and standard deviation indices were used, and at the level of inferential statistics, the test of covariance analysis was used. The results were analyzed with SPSS software.

Result

The findings are classified in two sections of descriptive (mean, standard deviation) and inferential (two-way covariance analysis) statistics. In addition, Levine's test and homogeneity of variance test was done before statistical test.

Table 2
Subjective Vitality of Experimental and Control Groups

| Group | | Pre-test | Post-test |
|------------|----------------|----------|-----------|
| experiment | Mean | 17.46 | 22.00 |
| | N | 15 | 15 |
| | Std. Deviation | 2.38 | 2.10 |
| control | Mean | 13.86 | 16.06 |
| | N | 15 | 15 |
| | Std. Deviation | 1.55 | 1.03 |
| Total | Mean | 15.66 | 19.03 |
| | N | 30 | 30 |
| | Std. Deviation | 2.69 | 3.42 |

Table 2 shows the mean and standard deviation of the pre-test subjective vitality of mothers of children with an autism spectrum disorder in the experimental group. In the experimental group, the mean and standard deviation of the pre-test subjective vitality of mothers of children with an autism spectrum disorder was 17.46 and 2.38 and in the control group was 13.86 and 1.55, respectively. In the experimental group, the mean and standard deviation of the post-test subjective vitality of mothers of children with an autism spectrum disorder was 22 and 2.1 and in the control group was 16.06 and 1.03, respectively.

The findings revealed that there is a significant difference between the mean of the pre-test and the post-test, and we will investigate the statistical difference in the inferential statistics section. Univariate analysis of covariance was used to test the research hypotheses. Before running the analysis of the covariance test, the assumptions of Levin's test, and the sameness of the regression slope were checked and the results are reported below.

Table 3
Homogeneity of the Regression Line

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|-----------------------------|-------------------------------|----|----------------|-------|------|
| Corrected | 266.78 | 3 | 88.92 | 31.16 | 0.00 |
| Model | | | | | |
| Intercept | 117.65 | 1 | 117.65 | 41.23 | 0.00 |
| group | 1.78 | 1 | 1.78 | 0.62 | 0.43 |
| pretest | 1.70 | 1 | 1.70 | 0.59 | 0.44 |
| group*pretest of subjective | 0.16 | 1 | 0.16 | 0.05 | 0.81 |
| vitality | | | | | |
| Error | 74.18 | 26 | 2.05 | | |
| Total | 11209.00 | 30 | | | |
| Corrected Total | 340.96 | 29 | | | |

As seen in Table 3, the interaction between the group and the pretest of subjective vitality of mothers of children with autism spectrum disorder is not significant (P<.05). In other words, the data support the hypothesis of homogeneity of the regression slopes (p=.81 and F=.05).

Table 4 Levin's Test

| levine | F | Df1 | Df2 | sig |
|---------------------|------|-----|-----|-------|
| Subjective vitality | 1.25 | 28 | 1 | 0.123 |

According to data in Table 4, (0.05<f), the assumption of homogeneity of variances has been met and the covariance test was used.

Table 5
Covariance Analysis Table with Pre-Test Effect Control

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|------------|-------------------------|----|----------------|-------|------|
| Corrected | 266.62 | 2 | 133.31 | 48.41 | .00 |
| Model | | | | | |
| Intercept | 126.48 | 1 | 126.48 | 45.93 | .00 |
| pretest of | 2.58 | 1 | 2.58 | .94 | .34 |
| subjective | | | | | |
| vitality | | | | | |
| group | 117.34 | 1 | 117.34 | 42.61 | .00 |
| Error | 74.34 | 27 | 2.75 | | |
| Total | 11209.00 | 30 | | | |
| Corrected | 340.96 | 29 | | | |
| model | | | | | |

As can be seen in Table 5, after adjusting the pre-test scores of subjective vitalities of mothers of children with autism spectrum disorder, there is a significant difference between the results of the two experimental and control groups (p=.00 and F=42.61).

Therefore, the null hypothesis that there is no difference between the two groups is rejected and it is concluded that the educational program extracted from the model has been effective on the mental vitality of mothers of children with an autism spectrum disorder.

Discussion

The aim of study was to investigate the effectiveness of training parenting self-efficacy skills, and psychological hardiness in cognitive- behavioral way on the subjective vitality of mothers of children with autism spectrum disorder (ASD) in Tehran. The findings revealed that positive parenting skills training and psychological hardiness skills training were effective on the level of subjective vitality compared to the control group. Other researchers also obtained similar results similar to the finding of our study (Amir et al., 2021; Amalakian et al., 2019; Orlano and Hasting, 2017)

From the perspective of the effectiveness of psychological hardiness on the subjective vitality of mothers with ASD children, the findings were consistent with previous research that have shown that psychological hardiness are more effective program to increase the subjective vitality of mothers of ASD children.

According to findings, it can be stated that since hardiness refers to life events in a specific and stable way, subjectively, teaching it to mothers of children makes them accept the feelings and experiences of having a disabled child and accepting these feelings reduces the attention and excessive sensitivity towards this issue and reduces the feeling of guilt, self-deprecation and worthlessness in them. In other words, it can be said that hardiness training increases a person's ability to effectively deal with challenges, and causes mothers to learn control and commitment in the face of their own circumstances by doing restraint training exercises. It helps to reduce negative psychological consequences and increase subjective vitality. According to these trainings during this therapeutic intervention, its significance can be justified by the factor of vitality.

In fact, the findings revealed the tough people find meaning in everything they face, so they are happy and satisfied. They consider life events predictable and controllable, and they believe that challenges are a natural part of life. This personality trait is the ability to solve problems. It gives the person the problems of life in a positive way and coping with stress. Teaching parenting

skills increase self-efficacy and ultimately improve subjective vitality of mothers of ASD children. Previous studies confirm the results of this research (Sheikh al-Islami, and Daftarchi, 2014, Ahmadian and Tejare, 2019).

Considering the effectiveness of teaching parenting skills on self-efficacy and increasing subjective vitality of mothers with ASD children, it can be said that the results are consistent with previous studies (Amir et al., 2021; Amalakian et al., 2019; Orlano and Hasting, 2017).

After the effectiveness of teaching parenting skills on parenting self-efficacy and increasing the level of subjective vitality of mothers with children with autism spectrum disorder, it can be acknowledged that this finding is consistent with previous results in this field. The results were consistent with previous research (Amir et al., 2021; Amalakian et al., 2019; Orlano and Hasting, 2017)

Mothers with ASD children experience more psychological problems and parent-child conflicts and have lower self-esteem and competence compared to the general population. In addition, the results of previous studies have emphasized that increasing the sense of parenting self-efficacy has a positive effect on the subjective vitality of mothers (Amir et al., 2021). In addition, training parenting skills is effective on the feeling of control and subjective vitality

Based on Desi and Ryan's (2008) self-determination theory, it can also be inferred that when people feel competent and sufficient in life, that is, when the need for competence is met in people, the feeling of vitality and mental vitality increases. In positive parenting, mothers learn to focus on the present moment instead of paying attention to the child's problematic behaviors and parenting stress. Teaching self-efficacy parenting skills by

breaking the cycle of negative and repetitive thoughts helps parents to pay attention to how to interact with the child instead of paying too much attention to their mental ruminations, which teaches parents how to pay attention to the present moment without judgment and these skills to more adaptive responses in dealing with pressure and psychological stress caused by having a child (Amir et al, 2021).

Therefore, based on the results of research, training parenting skills through increasing the sense of self-efficacy has an effect on improving subjective vitality. The results of our research are consistent with the results of the other studies such as Narimani et al. (2016), Zhou et al. (2017). Some of the limitations are as follows; due to the lack of access to all mothers, only mothers who visited rehabilitation centers were sampled. Also due to limited time and lack of financial resource follow-up was not done.

It is suggested to conduct research similar to the follow-up test to determine whether the results obtained from the research are consistent. In addition, by taking into account that most of the research in our country has been conducted on mothers with ASD children, it is suggested to conduct a similar study on the subjective vitality of fathers of ASD children.

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