EFFECTIVENESS OF THE INCREDIBLE YEARS PARENT TRAINING PROGRAM ON THE LEVEL OF ANXIETY, DEPRESSION, STRESS, AND SELF-EFFICACY OF MOTHERS WITH ADHD DIAGNOSED CHILDREN IN IRAN

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Abstract: The present study investigated the effectiveness of the Incredible Years Parent Training Program on the level of depression, anxiety, stress, and self-efficacy of mothers with ADHD-diagnosed children in Iran. The study employed a between-groups (intervention versus non-intervention) repeated-measures design (pre-training – post-training). The intervention (experimental) group consisted of 22 mothers, while the non-intervention (control group) consisted of 23 mothers. The total sample of 45 mothers, whose children were diagnosed with ADHD, was recruited randomly from three child psychiatry clinics in Tehran, Iran. MANOVA for repeated measures analysis yielded significant differences for depression, anxiety, stress, and self-efficacy scores between the experimental and control groups of Iranian mothers after the Incredible Years Parent Training Intervention Program. More specifically, the results showed that the Incredible Year's Parent Training had positive effects on the Iranian mothers' reported levels of depression, anxiety, stress, and self-efficacy. The findings are discussed in terms of their implications for the recommendation of the Incredible Years Parent Training Program as an effective intervention strategy for reducing the levels of depression, anxiety, stress, and self-efficacy of mothers with ADHD-diagnosed children in Iran.

Keywords: ADHD, IY Parent Training Program, Iranian Mothers' Anxiety, Stress, Depression, and Self efficacy

Introduction

ADHD is a chronic, pervasive condition characterized by inattention, impulsivity, and hyperactivity (American Psychiatric Association, 2000). It is also one of the most common childhood disorders, affecting about 5% of school-aged children worldwide (Theule, 2010). The symptoms of ADHD in children include having difficulty focusing on details, an inability to complete tasks, a delay in expressing gratification, and poor control of motor activity (American Psychiatric Association, 2000). Boyle (date?) found that 70% of children with ADHD had at least one co-morbid behavioral or emotional disorder (Lewis, Martin, & Volkmar, 2007). Oppositional defiant disorder (ODD) and conduct disorder (CD) have both been linked to ADHD (Jensen, Martin, & Cantwell, 1997).

Past studies have shown that interactions between parents and children with ADHD are highly stressful (Mash & Johnston, 1983). Moreover, the influence of these interactions is bi-directional (Biederman et al., 1995). Parents with ADHD-diagnosed children may suffer from stress that can affect their parenting characteristics and behaviors, and can result in poor physical and emotional health (Johnston, 1996). Indeed, rates of depression may be higher among parents of children with ADHD (Mash & Johnston, 1983). These parents may also have less developed nurturing parent attitudes (Peterson & Hawley, 1998), and they may find their parenting role less satisfying than parents of children without ADHD (Johnston, 1996; Mash & Johnston, 1983).

The Parent Training Program (PTP) is a program developed to help parents to manage the problematic behaviors of their children as well as to train them to successfully manage the stressful situations that they experience. The Incredible Years Parent Training Program, which is designed for parents of children aged 2-10 years old, is one of a number of parenting interventions developed to assist families to cope with the behavioral and emotional disorders encountered in their homes. The objective of this program is to prevent serious behavioral and emotional problems by enhancing parental skills, commitment, and confidence through knowledge development.

The present study investigated the impact of the Incredible Years Parent Training Program on the level of depression, anxiety, stress, and self-efficacy of mothers with ADHD-diagnosed children in Iran. The research question to be tested includes whether or not the program will be effective in reducing the reported levels of depression, anxiety, and stress, while increasing the level of reported self-efficacy among these mothers?

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Method

Participants

The sample consisted of 45 mothers with a child who had a clinical diagnosis of ADHD. The participants were recruited randomly from three child psychiatric clinics in Tehran, Iran. Mothers who participated in the study met the following criteria: their children were aged between 3 to7 years; (b) parents reporting concerns about their children's behavior; (c) parents not currently having regular contact with another professional agency to receive parental support.

This study employed a repeated measures design (pre-training–post-training) which involved two groups of participants. The experimental group (intervention group) consisted of 22 mothers who participated in the training program. The control group (non-intervention group) consisted of 23 mothers who did not participate in the training program, but who were given the opportunity to participate in the training program after the completion of the research.

Materials

The study employed a self-report questionnaire that consisted of four sections. Section 1 consisted of items written to tap the participants' age, educational level, marital status, and the age of their children.

Section 2 consisted of the Parenting Self-Agency Measure (PSAM), (Dumka, Stoerzinger, Jackson, & Roosa, 1996). This measure assesses parenting self-efficacy or parents' confidence in their ability in parenting. The PSAM consists of 10 items which are to be rated on Likert scaleS, ranging from 1 (rarely) to 7 (always). An example of an item from the PSAM is "I know I am doing a good job as a mother/father." Coleman and Karraker (2000) demonstrated construct validity for the PSAM, which was found to have significant positive correlations with the Parenting Sense of Competence Scale, and the Self-Efficacy for Parenting Tasks Index. The PSAM has reliabilities ranging from .68 to .81 (Coleman & Karraker, 2000).

Section 3 consisted of the 42-item Depression Anxiety Stress Scale (DASS) that assesses symptoms of depression, anxiety, and stress in adults. Each item is rated on a 4-point scale from 0 (*did not apply to me at all*) to 3 (*applied to me very much, or most of the time*). Fourteen items load on each of the symptom subscales. The scale has high reliability for the depression (0.91), anxiety (0.81), and stress (0.89) sub-scales, and has good discriminate and concurrent validity (Lovibond & Lovibond, 1995).

It should be noted that both the PSAM and the DASS have been translated into Persian and adapted for the Iranian population by the Institute for Cognitive Science Studies, Tehran (Moharreri, Sharivar, Tehrani-doost, &Mahmudi-Gharaei, 2008).

Incredible Years Parent Training Program

The Incredible Years Parents, Teachers, and Children Training Series, developed by Dr. Carolyn Webster-Stratton (2000), uses group discussion, videotape modeling, and rehearsal intervention techniques to assist adults living and working with children ages 2–10 years. The series is designed to prevent, reduce, and treat conduct problems in children and to increase their social competence. The Incredible Years Early Childhood BASIC Parent Training Program (ages 2–7), the original program for parents, involves group discussion in a series of several video vignettes. The program, whose development was guided by cognitive social learning literature, teaches parents interactive play and reinforcement skills, nonviolent discipline techniques, including "timeout" and "ignore" logical and natural consequences, and problem-solving strategies (Lindsay et al., 2010).

Procedure

All the children in the two groups had been diagnosed with symptom of ADHD during the two months prior the intervention. Informed consent was obtained from all participants before the training started. The researcher who has received training to run parenting groups and has experience in the field for more than seven years facilitated the training program as leader.

Results

In order to test the research question of whether or not the Incredible Years Parent Training Program will be effective in reducing the reported levels of depression, anxiety, and stress, while increasing the level of reported self-efficacy among the participant mothers, MANOVA for repeated measures analysis was conducted.

Depression

Results from the MANOVA showed that there was an overall between-group (experimental (M=1.49) versus control (M=1.82)) effect for the depression scores combined (pre- plus post-training), $F(1,43)=6.21$, $p<.05$. Overall, the control group of mothers reported higher level of depression than the experimental group of mothers.

The *multivariate test of significance* shows that the within-subjects repeated measure of 'depression' is significant, Pillai's Trace F (1,43)=49.61, $p<.001$. Thus, there is a significant difference in the depression scores pre- and post-training for the two groups combined. *Test of within-subjects contrasts* shows that there is a decrease in depression scores from pre-training (M=1.80) to post-training (M=1.51)

for the two groups combined. This decrease of 0.29 points is highly significant, F (1, 43) =49.61, p<.001.

The *multivariate test of significance* shows that the interaction effect of 'depression x group' is significant, Pillai's Trace F (1, 43) =72.75, p<.001. This interaction is depicted in the following Figure.

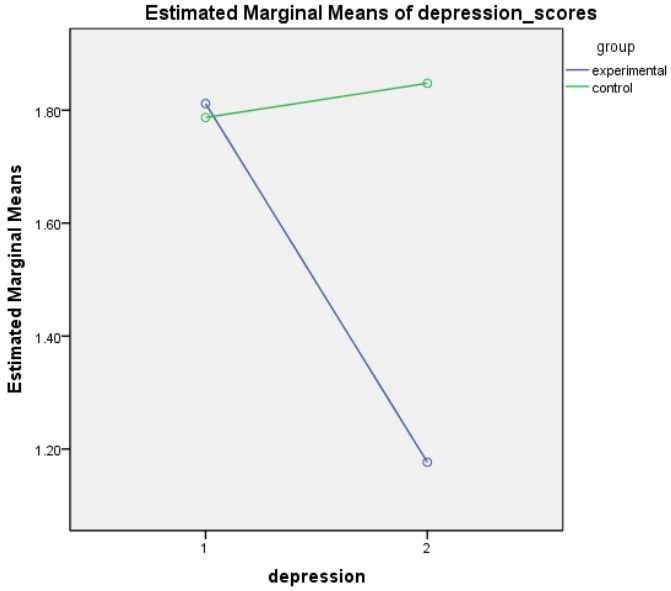

Figure 1: Interaction between depression (pre- and post-training) and group (experimental versus control)

The interaction effect can be interpreted as follows. The difference in depression scores between the pre-training and post-training session varied as a function of the type of group of participants (experimental versus control). Thus, for the experimental group, there was a decrease in depression scores from pre-training to post-training – a mean decrease of **0.63** points (pre-training=1.81; post-training=1.18). For the control group, there was a slight increase in depression scores from pre-training to post-training – a mean increase of **0.06** points (pre-training=1.79; post-training=1.85). This difference in depression scores between the experimental group and the control group as a function of the training program (pre-training versus post-training) is highly significant, F (1, 43) =72.75, p<.001.

Anxiety

Results from the MANOVA showed that there was an overall between-group (experimental (M=1.13) versus control (M=1.45)) effect for the anxiety scores combined (pre- plus post-training), F (1, 43) =8.70, p<.01. Overall, the mothers in the control group reported higher level of anxiety than the mothers in the experimental group.

The *multivariate test of significance* shows that the within-subjects repeated measure of 'anxiety' is significant, Pillai's Trace F (1, 43) =75.98, p<.001. Thus, there is a significant difference in the anxiety scores pre- and post-training for the two groups combined. Test of within-subjects contrasts shows that there is a decrease in anxiety scores from pre-training (M=1.49) to post-training (M=1.09) for the two groups combined. This decrease of 0.40 points is highly significant, F (1, 43) = 7.98, p<.001.

The *multivariate test of significance* shows that the interaction effect of 'anxiety x group' is significant, Pillai's Trace F (1, 43) =45.35, p<.001. This interaction is depicted in the following Figure.

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The interaction effect can be interpreted as follows. The difference in anxiety scores between the pre-training and post-training session varied as a function of the type of group of respondents (experimental versus control). Thus, for the experimental group, there was a decrease in anxiety scores from pre-training to post-training–a mean decrease of 0.71 points (pre-training=1.48; post-training=0.77). For the control group, there was also a decrease in anxiety scores from pre-training to post-training–a mean decrease of 0.09 points (pre-training=1.50; post-training=1.41). This difference in anxiety scores between the experimental group and the control group as a function of the training program (pre-training versus post-training) is highly significant, F (1, 43) =45.35, p<.001.

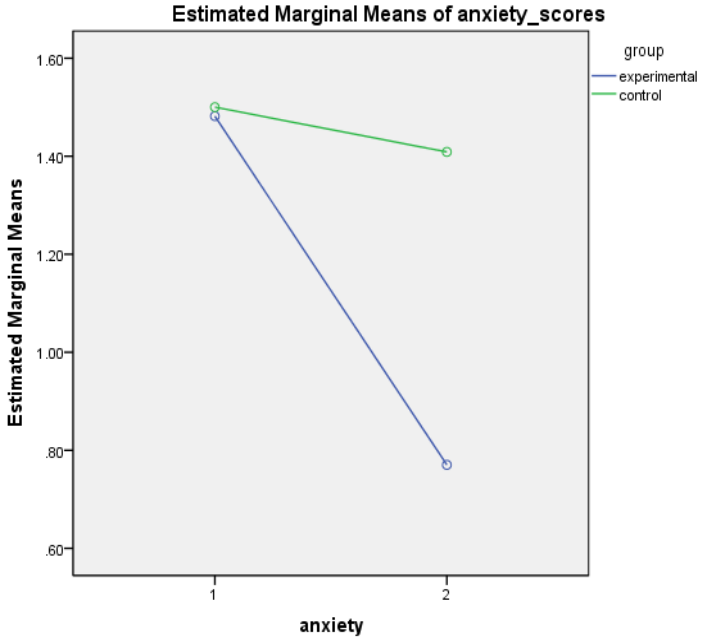

Figure 2: Interaction between anxiety (pre- and post-training) and group (experimental versus control)

Stress

Results from the MANOVA showed that there was an overall between-group (experimental (M=1.64) versus control (M=1.99)) effect for the stress scores combined (pre- plus post-training), F (1, 43) =10.97, p<.01. Overall, the mothers in the control group reported higher level of stress than the mothers in the experimental group.

The multivariate test of significance shows that the within-subjects repeated measure of 'stress' is significant, Pillai's Trace F (1, 43) =24.45, p<.001. Thus, there is a significant difference in the stress scores pre- and post-training for the two groups combined. Test of within-subjects contrasts shows that there is a decrease in stress scores from pre-training (M=1.92) to post-training (M=1.72) for the two groups combined. This decrease of 0.20 points is highly significant, F (1, 43) = 24.45, p<.001.

The multivariate test of significance shows that the interaction effect of 'stress x group' is significant, Pillai's Trace F (1, 43) =74.27, p<.001. This interaction is depicted in the following figure.

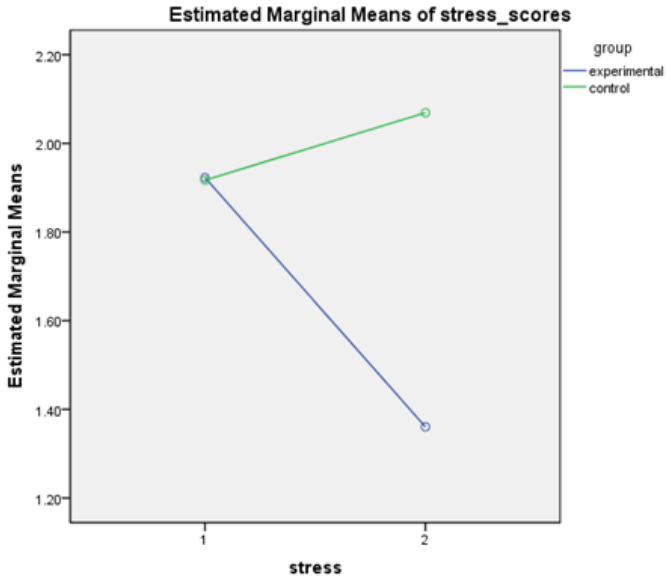

Figure 3: Interaction between stress (pre- and post-training) and group (experimental versus control)

The interaction effect can be interpreted as follows. The difference in stress scores between the pre-training and post-training session varied as a function of the type of group of respondents (experimental versus control). Thus, for the experimental group, there was a decrease in stress scores from pre-training to post-training–a mean decrease of 0.56 points (pre-training=1.92; post-training=1.36). For the control group, there was an increase in stress scores from pre-training to post-training–a mean increase of 0.15 points (pre-training=1.92; post-training=2.07). This difference in stress scores between the experimental group and the control group as a function of the training program (pre-training versus post-training) is highly significant, $F(1,43)=74.27$, $p<.001$.

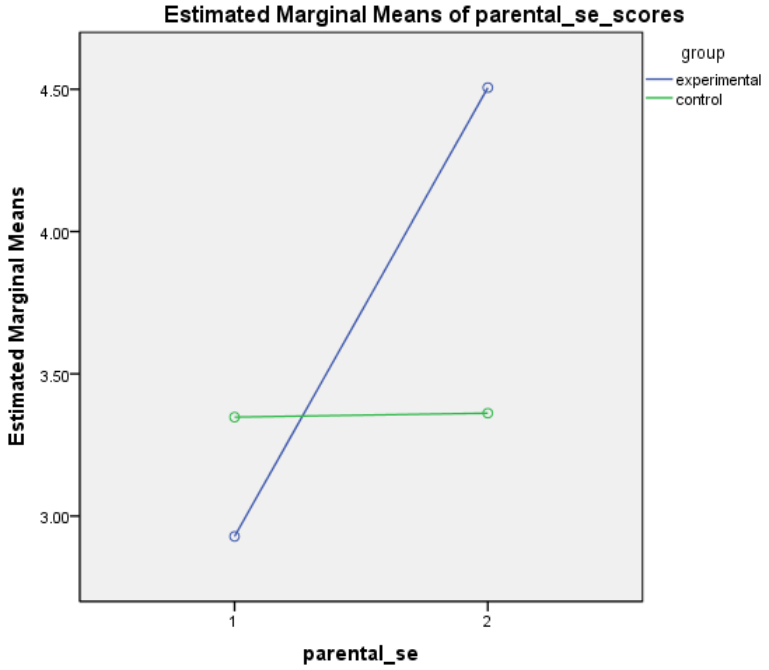

Figure 4: Interaction between parental self-efficacy (pre- and post-training) and group (experimental versus control)

Parental self-efficacy

Results from the MANOVA showed that there was no overall between-group effect for the parental self-efficacy scores combined (pre- plus post-training). Thus, although the experimental group scored higher on the parental self-efficacy (M=3.72) than the control (M=3.36), this difference is not statistically significant, $F(1,43)=3.21$, $p>.05$.

The multivariate test of significance shows that the within-subjects repeated measure of 'parental self-efficacy' is significant, Pillai's Trace F (1, 43) =161.99, $p<.001$. Thus, there is a significant difference in the parental self-efficacy scores pre- and post-training for the two groups combined. Test of within-subjects contrasts shows that there is an increase in parental self-efficacy scores from pre-training (M=3.14) to post-training (M=3.93) for the two groups combined. This increase of 0.79 points is highly significant, F (1, 43) = 161.99, $p<.001$.

The multivariate test of significance shows that the interaction effect of 'parental self-efficacy x group' is significant, Pillai's Trace F (1, 43) = 156.35, p <.001. This interaction is depicted in the following figure.

The interaction effect can be interpreted as follows. The difference in parental self-efficacy scores between the pre-training and post-training session varied as a function of the type of group of respondents (experimental versus control). Thus, for the experimental group, there was an increase in parental self-efficacy scores from pre-training to post-training–a mean increase of 1.58 points (pre-training=2.93; post-training=4.51). For the control group, there was also an increase in parental self-efficacy scores from pre-training to post-training–a mean increase of 0.01 points (pre-training=3.35; post)and the control group as a function of the training program (pre-training versus post-training) is highly significant, $F(1,43)=156.35$, $p<.001$.

Discussion

The aim of the present study was to examine the impact of the Incredible Years parent training program on levels of depression, anxiety, stress, and self-efficacy of mothers with ADHD-diagnosed children in Iran. Overall, the findings yielded highly

significant pre- and post-training differences for the criterion variables between the experimental and control groups. The findings demonstrated that attaining knowledge and awareness about parenting skills and discipline, and learning how to manage problematic behaviors of the child changed the mothers' perceptions about the way that they engage in parenting; that is, when mothers learn how to deal with their ADHD-children, they experienced more self-efficacy in the role of parenting and experienced lower levels of stress and depression than prior to the training.

As shown in the literature, Children with ADHD exhibit many behavioral problems. These behavioral problems affect the parents' competence in managing their children's difficulties, and limit their parenting styles The findings from the present study showed that the Incredible Years parent training program was effective in not only reducing negative emotions such as stress, depression, and anxiety, but was also effective in enhancing the mothers' level of self-efficacy. Overall, the findings from the present study corroborate those obtained from past studies that the parent training program is associated with improvement in parents' behavior (Barth et al., 2005).

The study has a number of limitations that must be noted. First, the sample size is small with only 45 participants, which limits the extent to which the findings can be generalized to other mothers of children with ADHD in Iran. Nonetheless, despite restrictions imposed by the small sample size, significant effects of the selected parent training program on the mothers' levels of depression, anxiety, stress, and self-efficacy were clearly detected.

A second limitation of this study is that it did not consider other intervening variables, such as the mothers' personality traits, or the kind of clinical treatment prescribed for the children and/or their parents. The absence of these variables means that the study's findings could have been biased in unknown direction and degree.

A third limitation, and one that is common in this field of research, is the lack of data regarding fathers' levels of depression, anxiety, stress, and self-efficacy. It would be of profound importance for future researchers to investigate the impact of IY parenting training interventions on both fathers and mothers in raising a child with ADHD.

Conclusion

Notwithstanding the above limitations, it can be concluded from the results of the current investigation that the Incredible Years parent training program is an effective intervention that positively affects the level of depression, anxiety, stress, and self-efficacy of mothers with ADHD-diagnosed children in Iran. Future avenues for research should take into account the effects of confounding variables (e.g., supervised medication program, personality factors, etc.) and apply appropriate research strategies aimed at eliminating their interference. Future researchers might also consider looking at having both father and mother attend parent training programs not only for the gaining of needed knowledge and skills but also to highlight the importance of having both parents develop a sense of responsibility and accountability over the raising of their children with behavior problems.

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