



## Adaptation of positive parenting program training based on cultural values and evaluation of its effectiveness in psychological health and interaction of mother with slow paced children

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### Introduction

The main mission of softhearted and soothing spouses is to achieve the highest goal of marriage, namely attainment to a stable and long-lasting peace. Parenting in the religious culture includes prayer, orison, planning, and fruition of training thoughts and perfection-seeking in the light of cultural values and instructions [1]. In this regard, one of the important factors in developing and spreading

### Abstract

Mental impairment has undesirable effects on the all aspect of individual's life, while the use of parenting programs has been associated with beneficial outcomes. The aim of this research was the adaptation of a positive parenting program (Triple-P) training based on the cultural values and evaluation of its effectiveness in psychological health and interaction of mother with slow paced (SP) children. This research was a semi-experimental study designed as pretest-posttest using control group. The magnitude of 40 mothers of students with SP participated in this study. They were selected according to the random cluster sampling method from exceptional schools of Tehran provinces. The participants were divided into two groups; each group consisted of 20 participants. The experimental group received Triple-P training in twelve 90-minute sessions, while no intervention was carried out on the control group. The instruments of present research were general health questionnaire and parent-child relationship scale. The results of MACNOVA showed that Triple-P had a positive significant effect on the psychological health and interaction of mothers with SP children. Since parenting skills training can lead to the enhanced psychological health and improved mother-child interaction, planning for Triple-P training based on cultural values has particular importance.

**Keywords:** Child, Health, Interaction, Psychological

facilities for the exceptional children education is the extension of knowledge and awareness and amenability of mothers and fathers toward the children [2,3]. Taking attention into the cognition and education of exceptional children and students, individuals who cannot be favorably benefited from normal education programs for specific reasons of physical, mental, emotional, and

psychological, is a sign of progress, originality, and richness of culture and education system in a society. Among the exceptional children, slow paced (SP) children and students have considerable situation because of the special complexity of intelligence phenomenon [2].

The birth and care of SP child confront the family with many problems [4] because the quantity and quality of parent relationships and family member interactions could harm the psychological health and family performance [5]. SP is a disorder in the development process that creates significant limitations both in intellectual functioning and adaptive behavior as expressed in conceptual, social, and practical adaptive skills. SP children acquire language by little delay, but they speak good enough to manage their life. Most of them are able to live on their own; however, their self-care skills may develop later than normal children. When try to learn reading and writing, the poor intelligence is evident in them. So, they can finally acquire these skills, but with slower steps and lower degrees than their normal peers. They can live independently but may have difficulties in performing daily roles. Inappropriate conditions of familial environment such as parenting style have undesirable effects on SP children [2]. Since childhood is of the most important stages of life and personality of individual is formed during this period [6], it is not far from expectation that parent-child relationship is considered as one of the most effective factors in mental and social growth of any child [7]. Family is an innate, natural, alone, and eternal institution in society and is the main medium for the personality of a child to develop. In the celestial worldview, the child is a fiducially gift donated from kindness and boon of god to parents [1]. Therefore, quality of parent-child relationships in the primary years of childhood makes a basis for cognitive, social, and emotional growth in the next stages of life [7]. Indeed, mother affective care of child prepares a situation that child finds him/her self amiable and expects others to pay attention to him/her as a valuable entity. In addition to positive effects of a healthy relationship, we cannot be

aware of negative effects of an inadequate and unhealthy relationship. Among the negative effects are the over rate of psychological health problems in parents and parent-child mutual relationship [8]. Hayes et al. believed that behavioral problems of children in life primary years have relationships with negative behavior, interaction, and stress of mother. So, problematic behavior of child resulted from this situation can lead to the reduction in the level of psychological health in parents [9].

The relationship of softhearted and soothing spouses is the lovers relationship, body and cloth relationship, integrity attendance relationship and it signify to kindness that refers to the paradigm 158 of Baghareh sura "they are an apparel for you and you are an apparel for them" [1]. Several factors are effective in psychological health of parents and their relationships with SP children that require different instructional methods and programs [10] that Positive Parenting Program (Triple-P) training based on cultural values is one of these interventions [11]. Triple-P training is one of instruction methods for parents, which has been developed according to familial behavior therapy based on social learning principles of Bandura [11-13]. This program with offering information about various needs of mother and child, mother-child relationship, family performance, and parenting skills can be used for alleviating behavioral and emotional problems in child and promoting quality of mother-child relationship [14,15] in a way that enrich protecting factors in children and decrease risk factors related to behavioral and emotional problems in children [11]. The use of Triple-P training has been recommended for parents of children with special needs from birth to 16 years and focused on psychological health, management, and control of behavior and relationship with child. In this program it is possible to make the sense of social competency and self-control in parents through mothers training for promotion of children development skills [16,17]. This

program seeks the following goals: increase of knowledge, skill, self-confidence, self-efficacy and brainy of parents in child training, provide treatment by instructional learning, problem-solving ability to middleman modeling and structured treatment of problem-solving, spreading entertainment, safety, and creating an environment with minimum conflicts to children, increasing psychological health, efficiency of behavioral, intellectual, language, affective, and social in children through Triple-P [15].

Children with SP experience many problems in the lifespan and during different stages of growth [4]. However, many researches and studies for identifying and solving these problems have been provided solutions of therapeutic, educational, and rehabilitating, but not means that all problems for this individuals can be pre-identified and appropriate programs be administrated to solve them [18]. A family-based intervention that has gained a great reputation and is fruition of strong scientific support in areas such as psychological health, interaction in family, reduction of behavior problems, marital satisfaction, attachment styles, and parenting styles has been named Triple-P positive parenting program [13]. Fujiwara *et al.* [11] conducted an experimental research with pretest and posttest design and a control group to investigate the effectiveness of group-based familial interventional program, which is known as Triple-P, in the reduction of behavioral problems in children, changing inappropriate functions of parenting, and parents' adjustment in the Japanese families. They divided the participants into intervention and control groups consisted of 91 and 24 subjects, respectively. The findings indicated the reduction of parenting undesirable functions, depression and stress, perceived parenting problems in parents, child behavioral problems and promotion of parent confidence in Japanese families. The study results of Chu *et al.* [19] showed that parenting programs according to the public health approach led to the significant increase of mental health in parents of adolescents. The research results of Metzler

*et al.* [20] indicated that the use of mass media in educating and making interventions in parenting skills with regard to the prevention approach can lead to a significant increase in parents support and their mental health. Jalali *et al.* [21] in an experimental research with pretest-posttest design and control group paid to investigate the effectiveness of Triple-P on psychological health in mothers of children with oppositional defiant disorder. The findings of this study showed a significant increase in psychological health in mothers of children with oppositional defiant disorder. Abedi-Shapourabadi *et al.* [22] in a research paid to investigate the effectiveness of group Triple-P in parent-child relationship in children with attention deficit/hyperactivity disorders. Results of this study showed that training of this group program to mother's lead to a significant decrease in conflicts and dependency, and promotion of closeness and mother-child relationship. In another research, Abarashi *et al.* [23] paid to investigate the impact of psychosocial child development training program through improvement of mother-child interaction in parental self-efficacy and relationship between mother and child. Results indicated that psychosocial child development training program had positive significant effects on parental self-efficacy. Positive relationship of mother-child was promoted in the areas of relations and dependency, but there was not significant increase in other areas such as conflicts and closeness. In conclusion, there was not significant increase in positive relationship of mother-child. The effectiveness of Triple-P has been confirmed for treatment of behavioral problems [13,16,17,24-26] and ineffective parenting styles of parents [25,27-30].

The results of previous studies showed that Triple-P training has positive effects on improving the interactions in the family, behavioral problems, and parenting styles for children with special needs, but no research was found in the field of psychological health of mothers of children with SP and interaction of mother-child. While, the parents of children

with SP are likely to face many problems in these areas, because in many cases, parents of children with SP are disabled in employing the parenting skills and they need parenting program trainings based on their cultural values. In this regard, by adaptation of Triple-P training based on Iranian cultural values and indigenization and administration of this program on mothers of children with SP, we can understand the effectiveness of such trainings in areas such as psychological health and mother-child interaction; understand the necessity of the design in application and covering the research gap in this area. This approach has been ignored in many interventions. What that highlights the importance of this study is the sensitivity of working with parents of children with SP. It is likely that parenting instruction that considers these key points may play an important role in psychological health and interaction of mother with SP child and make this issue more evident. The aim of the present study was to adapt Triple-P training based on cultural values and evaluate its effectiveness in psychological health and interaction of mother with SP child.

### Method

The present research was a semi-experimental study with pretest- posttest design and a control group. Statistical population included all mothers of SP students aged 28 to 45 years old that their children were studying in first to third grade in exceptional elementary schools of Tehran provinces during. The participants were selected from two exceptional schools located in two cities of Tehran provinces through random cluster sampling method. Then, 40 mothers of students with SP were selected randomly by using table of random numbers with respect to inclusion criteria (age range of 28-45 years old and living with husband) and exclusion criteria (currently participating in similar training programs; involving in a child with any type of sensory, physical, or mobility impairments except for SP child, and consuming stimulant drugs by the child). In the next stage, the participants by using the table of random

numbers without replacement were divided into two groups (experimental and control groups), each consisted of 20 participants. Because of the employed semi-experimental method, the minimum required sample size was 15 for each group. Pay attention to formula ( $\delta^2=22.082$ ,  $Z_{1-\alpha/2}=1.96$ ,  $d=12$ ) [31] was determined sample size about 18 participants. However the sample size was determined 20 participants, because of possibility of dropout of the subjects during the study. However, the obtained results should be generalized cautiously.

Assigning the names of experimental and control into the groups was carried out randomly by drawing. In this method, the names of experimental group and control group were written on the slips of a paper. Then, the slips were withdrawn from a container as a lottery. The experimental group received Triple-P training based on cultural values in 12 sessions, while the control group did not. Prior to the intervention, the research procedure was explained to the school authorities and informed consent was obtained from all the participants. The instruments of this research were general health questionnaire (GHQ) and parent-child relationship scale (PCRS).

The GHQ was made by Goldberg and Hiller in 1979, which consists of total 28 items in 4 subscales (somatic symptoms, anxiety, depression, and social dysfunction). Each subscale has 7 items. The questionnaire is scored based on Likert scale from zero (more than ever) to 3 (much worse than ever). Total score of twenty-three or higher (cut of point) is the sign of lack of mental health. Goldberg reported reliability and validity of the questionnaire as 0.89 and 0.83, respectively. In Iran, Yaghobi et al. reported the reliability of the GHQ as 0.88 in test-retest method and the validity of subscales as 0.55 [32].

PCRS was made by Pianta in 1994, which consists of 33 items to assess the parent's perception of their relationship with their child. This scale consists of the subscales of conflict (17 items), closeness (10 items), dependency (6 items), and positive general

interaction (total subscales). This instrument scored by 5-point rating scale ranging from 1 (definitely does not apply) to 5 (definitely applies). This questionnaire has been translated by Tahmasian and the content validity has been assessed by experts. Content validity and reliability of this questionnaire was obtained via Cronbach's alpha. Reliability of conflict, closeness, dependency and positive general interaction subscales were reported as 0.84, 0.70, 0.61, and 0.86, respectively [23].

In the first stage of research, after subject selection, the importance of research was explained to principals and mothers in an ethical manner. The mothers were asked to give informed consent. Then, subjects were divided by replacement into two groups (experimental and control groups), each group consisted of 20 individuals. To assess psychological health and relationships of mother with SP child, GHQ of Goldberg and Hiller and PCRS of Pianta were employed in pretest. Then, experimental group participated in twelve 90-minute intervention sessions (each session per week). One psychologist of exceptional children trained Triple-P based on cultural values by use of group discussion, cooperative learning, and role playing methods to the experimental group, while the control group was not included in the intervention. The session content was adapted and validated by Delphi method in four rounds. Delphi method is a systematic approach in research to exploit the opinions of a panel of experts about a subject. In this method, it is possible to reach to the expert consensus via administering questionnaires in consecutive rounds with anonymously repliers and delivering feedback to panel members. The proficiency of research group in the development of navigation stages and instrument adaptation guaranties the program formal validity. In this regard, the members contributed in the program adaptation were five experts in the area of SP children with PhD degree in psychology of exceptional children and five teachers of family instruction with at least M.A degree in psychology of exceptional children. These contributors were representatives of group or

relevant knowledge area and they approved the content validity of the program. In the present parenting program, special attention has been given to psychological health of mothers. That was because we should not expect desirable results if we ignore psychological health. On the other hand, psychological health has special role in the Triple-P training based on cultural values. The content of Triple-P training based on cultural values, which was received by experimental group, is described as follows.

The first session (promoting mental health for parenting): welcoming to participants, explaining the group rules, introducing the program and sessions structure, expressing verbal perceptions, self-efficacy, family self-sufficiency and sense of well-being. The second session (promoting mental health for parenting): self-worth, self-confidence, and promoting social performance. The third session (promoting child development): introducing the bases of the parenting program, characterization of children of target, children expectations, attitude definition, shaping and modification of attitudes in target group. The forth session: methods of promoting desirable behavior (positive reinforcement, negative reinforcement, token economy, and contingency contracting). The fifth session: methods of creating desirable behaviors (shaping and chaining). The sixth session: methods of sustaining and expanding desirable behaviors (continuous reinforcement and intermittent reinforcement). The seventh session: positive methods of decreasing undesirable behaviors (differential reinforcement of low rates of behavior, differential reinforcement of other behavior, differential reinforcement of incompatible behavior, satiation). The eighth session: negative methods of decreasing undesirable behaviors (extinction, time out, response cost, restitution, punishment). The ninth session: challenges and methods of controlling children's behavior, unwanted mutual impression of parent-child behaviors. The tenth session: pathology of family based on cultural values. The eleventh session:

family importance based on cultural values. The twelfth session: Triple-P based on cultural values.

In the final stage of research, the experimental and control groups were assessed by administering GHQ of Goldberg and Hiller and PCRS of Pianta as posttest. The data were analyzed by multivariate analysis of covariance in SPSS software (version 22, SPSS Inc., Chicago, IL).

**Results**

Descriptive findings indicated subject's age

in the range of 28 to 45 years old with mean age of 38.67±5.05. The obtained P-values showed that the observed difference between the scores of pretest and posttest in the GHQ and PCRS was not because of the difference between subject's age (p=0.129). Table 1 represents descriptive indices of GHQ in four subscales (somatic symptoms, anxiety, social dysfunction, and depression) and PCRS in four subscales (conflict, closeness, dependency, and positive general interaction) in pretest and posttest of experimental and control groups.

**Table 1** Descriptive indices of experimental and control groups in pretest and posttest

Variable	Situation	Experimental group		Control group		
		Mean	SD	Mean	SD	
GHQ	Somatic symptoms	Pretest	9.45	0.66	9.40	0.88
		Posttest	8.20	1.13	9.45	0.97
	Anxiety	Pretest	13.55	1.43	13.55	1.06
		Posttest	10.50	1.01	13.55	1.33
	Social dysfunction	Pretest	11.05	1.87	11.10	0.86
		Posttest	9.90	1.90	11.05	0.87
	Depression	Pretest	11.40	0.98	11.50	1.22
		Posttest	9.25	0.95	11.45	1.07
Total mental health	Pretest	45.45	1.66	45.55	1.55	
	Posttest	37.85	1.72	45.50	1.42	
PCRS	Conflict	Pretest	35.65	1.92	35.45	1.63
		Posttest	46.65	2.01	35.70	2.25
	Closeness	Pretest	20.40	1.81	20.55	1.46
		Posttest	26.30	1.34	20.75	1.33
	Dependency	Pretest	10.80	1.51	10.35	0.98
		Posttest	15.51	0.82	10.55	0.94
	Positive general interaction	Pretest	66.85	2.94	66.10	1.51
		Posttest	88.45	2.64	67.05	2.30

Because of the presence of one independent variable and several dependent variables and moderate effect of pretest, multivariate analysis of covariance (MANCOVA) was used to analyze the data [31]. After checking and confirming the normality of research variables, Box's test approved the assumption of equality of variance-covariance (p>0.05). Also, the assumption of variance equality by using Leven's test was confirmed (p>0.05). So, using the ANCOVA test is allowable. GHQ and PCRS were calculated via Wilk's Lambda test and the outputs showed that experimental and control

groups had significant differences at least in one variable with eta square ( $\eta^2$ ) of %89 (F=440.69, p= 0.001). In order to determine this difference, MANCOVA test was used and the results are presented in Table 2.

In this analysis, pretest variable is moderated because of correlation with posttest. According to Table 2, group type had a significant effect on posttest scores (p<0.05). According to eta square ( $\eta^2$ ), it can be concluded that 28%, 58%, 49%, 39%, and 53% of variances in the variables of somatic symptoms, anxiety, social dysfunction, depression, and total mental

health of GHQ, respectively, are related to the effectiveness of Triple-P training based on cultural values on psychological health of mother with SP children. Also, in the variables of conflict, closeness, dependency,

and general positive interaction of PCRS, it can be explained that 62%, 63%, 64%, and 67% of variances, respectively, are related to the effectiveness of intervention program in the mother interaction with SP children.

**Table 2** Results of MANCOVA in GHQ and PCRS

	Dependent variable	SS	df	MS	F	p	$\eta^2$
GHQ	Somatic symptoms	5.68	1	5.68	11.85	0.003	0.28
	Anxiety	32.40	1	32.40	42.13	0.005	0.58
	Social dysfunction	14.73	1	14.73	29.39	0.005	0.49
	Depression	6.72	1	6.72	19.22	0.005	0.39
	Total mental health	62.38	1	62.38	101.19	0.002	0.53
PCRS	Conflict	1040.91	1	1040.91	443.02	0.001	0.62
	Closeness	296.67	1	296.67	494.16	0.001	0.63
	Dependency	209.42	1	209.42	559.32	0.001	0.64
	General positive interaction	4074.61	1	4074.61	1457.10	0.001	0.67

## Discussion

The research findings indicated that adapted Triple-P training based on cultural values had a positive significant effect on psychological health of mothers with SP children in the dimensions of somatic symptoms, anxiety, social dysfunction, depression, and total mental health. Also, this intervention program had a positive significant effect on the interaction of mother with SP child in the dimensions of conflict, closeness, dependency, and general positive interaction.

A part of research findings that indicated the effectiveness of adapted Triple-P training based on cultural values on psychological health of mothers with SP children were in agreement with the data obtained by Chu et al. [19] on the positive significant effect of Triple-P training on psychological health of parents. The findings also are consistent with the research results of Metzler et al. [20] that showed the mass media influence in increasing parent support and mental health of parents via parenting training interventions. Also, our results were in accordance with the research results of Hanna, Edgecombe & Jackson [33] that indicated the effectiveness of parenting skills training and development of communication and social support in psychological health of parents. Moreover, they were in agreement with the findings of Jalali et al. [21] that showed the effectiveness of Triple-P

training on psychological health of mothers of children with oppositional defiant disorder; and with the results of Roushanbin, Pouretamad & Khoushabi [27] that reported the effect of group Triple-P training on decreasing parenting stress and increasing psychological health of mothers.

For explanation of these findings, it can be said that mothers of SP children suffer problems in interpersonal relationships and their psychological health is under threat because of challenging behaviors of their SP children and low cooperation of father in affairs of SP child [34]. In adapted Triple-P training based on cultural values we discussed in group sessions on parent concerns in etiology, treatment, and prognosis of children disorder and mothers received essential information and support from the others. Also, the increased knowledge makes the parents more aware of problems of SP children and the training program helps them to improve their behavior management skills and subsequently their self-efficacy which all resulted in the promotion of psychological health [9,14]. On the other hand, this intervention program is focused on mother's self-efficacy in managing and controlling the behavior. Hence, a sense of social competency and self-control is created

in mothers via learning child development skills [16,17]. Therefore, the promoted psychological health is not far from expectations.

Another part of results of the present research showed that Triple-P training had a positive effect on interaction of mother with SP child in the dimensions of conflict, closeness, dependency, and general positive interaction. These findings were consistent with the research findings of Fujiwara et al. [11] that proved the effectiveness of Triple-P training in the reduction of parenting undesirable performance, depression, stress, perceived problems of parenting in parents, behavior problems of children and the promotion of parent confidence. These results were in agreement with the study results of Abedi-shapourabadi et al. [22] that showed the effectiveness of group Triple-P on mother-child relationship which resulted in the significant decrease of conflict and dependency, and promotion of closeness and mother-child relationship. Also, they are in accordance with the research results of Abarashi et al. [23] that showed the influence of psychosocial child development training program on mother-child relationship in the areas of dependency and positive interaction, but not consistent with the results obtained in other areas such as decreasing conflict and increasing closeness. Moreover, the results of present research were in agreement with the data of many studies on the effectiveness of Triple-P training based on cultural values in parenting styles of parents [25-30].

to explain the inconsistent findings, it can be said that participants in the study of Abarashi et al. were 18 mothers in experimental group and 25 mothers in control group that were selected voluntarily from kindergartens. Their children were under three years and they only received training in 6 sessions, but experimental and control groups in the present research consisted of 20 individuals in each group that were selected randomly, received training in 12 sessions, and their children aged 6 to 9 years old. It is possible that the difference in magnitude of individuals in experimental and control groups, sampling method, number of training sessions, and age range of children has influenced the obtained

results. Moreover, in the research of Abarashi et al. mothers with normal children were participated and they had no special problem in the interaction with their child, but in the present research mothers with SP children participated and they had many problems in the interaction with their child. These factors may have much contribution in the inconsistency of results obtained in the two researches.

For explanation of consistent findings of previous researches with our findings, it can be said that the care of SP child confronts family with many problems [4]. The children with SP can affect the quantity and quality of parent relationships and family member's interactions and can be harmful to family performance [3]. On the other hand, Triple-P training that has been created according to familial behavior therapy on the basis of social learning of Bandura [12,13] by offering valuable information about various needs of mother and child, mother-child relationship, family performance and parenting skills can be employed for reducing behavioral and emotional problems in child and quality promotion of mother-child relationship [14,15]. Therefore, it is likely that Triple-P training based on cultural values exhibits a desirable effect on the interaction of mother with SP child in the areas of conflict, closeness, dependency, and general positive interaction.

### **Conclusion**

The SP child can affect all the aspects of individual's life, especially psychological health and mother-child interaction. The use of parenting programs has been associated with desirable outcomes on the promotion of psychological health and mother-child interaction. So, special instructional and rehabilitation programs based on cultural values and beliefs are needed. Also, the program should be adapted and by giving a positive view to parenting, result in the desirable outcomes, or scilicet, better developed psychological health and interaction of mother with SP child. The psychological health and mother interaction with child is a complex and multi-dimensional phenomenon

that is defined in the light of interaction of many factors such as attitude and acceptance rate of parents, management method and behavior control, sense of social competency and self-control, parenting knowledge and skills, self-confidence and brainy of parent in child training and making an environment with minimum conflicts, quality of parent-child relationship, mother affective care of child, psychological health of parent and interactional and multi-layer relationships of parent and children. Attention to these factors is necessary, because these factors have very important role in psychological health of mothers in the areas of somatic symptoms, anxiety, social dysfunction, depression, and influence the interaction of mother with SP child in the areas of conflict, closeness, dependency, and general positive interaction. Therefore, those parent training programs that have positive view in parenting based on cultural values and take these key factors into account, would positively affect psychological health and interaction of mother-child.

The present research was faced with methodological limitations such as limitations related to the special group of mothers with SP children and special instrument for the assessment of psychological health and interaction of mother-child. Also, with respect to the low volume sample size, limitation of research method and other effective factors, the generalization of results should be carried out cautiously. Another limitation was the lack of enough time to follow-up the results in long-term.

For further researches it is recommended that other studies be carried out on other exceptional children with different age range seeking for the effect of other factors. It is also suggested for other cognitive and meta-cognitive intervention programs with different patterns of family-based, school-based and community-based to be designed and administrated to provide opportunity for follow-upping the results.

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### Authors' contributions

Study design: MA, GHAA, AAA, MPT

Data collection and analysis: BGH, MA

Manuscript preparation: MA

All authors have read and approved the final version

### Conflict of Interest

"The authors declare that they have no competing interests."

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### Availability of data and materials

The datasets used and/or analyzed during this study are available from the corresponding author on reasonable request.

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