

Psychometric Properties of the Persian Version of Parenting Style and Dimensions Questionnaire: Application for Children's Health-related Behaviors

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Abstract

Background

Parenting style is associated with children's health-related behaviors. One of the popularity and applicability assessment tools is Parenting Style and Dimensions Questionnaire (PSDQ) that the lack of Persian version can be seen. This study was conducted to determine the validity and reliability of Persian version of PSDQ.

Materials and Methods

This study was done with randomized cluster sampling on 588 parents. Cronbach's alpha (α) coefficient was used to determine the internal consistency and Pearson's correlation coefficients was used to for test-retest reliability and the construct validity. Conformity factor analysis was also, applied to determine the construct validity.

Results: Cronbach's α coefficient for two authoritative and authoritarian styles with the highest estimated value were 0.86 and it was 0.41 for permissive style. The results of the correlation test in all three afore mentioned styles were significant. Correlation coefficients between authoritative style and its subscales were about from 0.86 to 0.89 and between authoritarian style and its subscales were about from 0.81 to 0.87. Confirmatory factor analysis showed that goodness-of-fit indices, including CMIN/DF, GFI, CFI, IFI and RMSEA, were 2.1, 0.91, 0.90, 0.90, and 0.04, respectively, which indicated a good the construct validity of instrument.

Conclusion: The PSDQ that has been translated into Persian obtained good reliability and validity. PSDQ questionnaire can be considered a useful tool in the assessments and interventions concerning parenting styles used in Iran.

Key Words: Health behaviors, Parenting style, Persian, Questionnaire, Reliability, Validity.

*Please cite this article as: Morowatisharifabad MA, Khankolabi M, Gerami MH, Fallahzade H, Mozaffari-khosravi H, Seadatee-Shamir A. Psychometric Properties of the Persian Version of Parenting Style and Dimensions Questionnaire: Implication for Children's Health-related Behaviors. Int J Pediatr 2016; 4(9): 3373-80. DOI: [10.22038/ijp.2016.7318](https://doi.org/10.22038/ijp.2016.7318)

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Received date Jun 13, 2016; Accepted date: Jul 05, 2016

1- INTRODUCTION

Parenting style is one of the most significant issues for researchers in the field of children's growth and development (1). Researches show association between parenting style and children's health-related behaviors(1, 2) such as eating(3-5), physical activity(6, 7), oral(8) and mental health(9). On the other hands, parenting style is related to risky behaviors such as smoking(10), drinking(11), bullying(12) and driving(13) in early adolescence and adolescence. A constellation of parental attitudes and beliefs toward their children creates an emotional climate in interaction with them. These attitudes and beliefs toward children which are known as parenting style establish personality, mental, emotional and behavioral health in children(14). Baumrind in 1960s using two known dimensions in parenting style named responsiveness and demanding introduced her well-known parenting style typology with three parenting style: authoritative, authoritarian and permissive(15).

The authoritative style, that is associated with high level of responsiveness and control, encompasses features such Bi-directional communications, promote independence, verbal and legislative incentives, transparent and flexible legislation and appropriate support. This style is closely connected with the independence, venturous behavior and self-confidence of children. Authoritarian style is the result of high control and low responsiveness. In this parenting style, parents employ strict discipline and control, sheer standards and the verbal and physical punishment. Isolation, aggression, low self-esteem can be attributed to the existence of this style in the family. When level of responsiveness is high and level of control is low, a style named "permissive" rules over the family in which parents without controlling their children and lacking a clear role for themselves in an

effort to meet all the needs and demands of their children and therefore, it shows itself in the form of selfishness, dependence and immature behavior in children. Later, Maccoby and Martin added a style named indifferent-neglectful which is because of low levels of responsiveness and control. In subsequent studies, Baumrind named it, the style of neglect – reject (15).

Researchers by conducting studies on parenting styles and their relationship with personality, emotional, mental and behavioral characteristics of children concluded that authoritative parenting style has a positive effect on the growth and development of children and their education for social life in the future(16, 17). So far, to assess the parenting style, different tools have been designed and utilized. One of these tools is Parenting Style and Dimensions Questionnaire (PSDQ) that was developed by Robinson et al. (18). This tool is based on Baumrind typology which assesses authoritative, authoritarian and permissive styles in the form of self-reporting. The old form of PSDQ had 62 items which declined to 32 items in its new form(19).

In the short form, the authoritative scale with 15 items has three subscales: Warmth & Support, Reasoning/Induction and Democratic Participation. The authoritarian scale includes 12 items with three subscales of Physical Coercion, Verbal Hostility and Non-Reasoning/Punitive. The permissive scale consists of 5 items that reflects indulge subscale. Due to acceptable reliability and validity, both forms, have been increasingly applied by researchers around the world and the original version has been translated in to other languages such as Chinese (20), Turkish (21) and Lithuania (22). According to Oliver et al. 's report, two articles from 1995 to 2000, 26 articles from 2000 to 2009 and 25 articles from 2010 to 2012 have been published with by using PSDQ(23). But, a few of them,

among all these studies have done a full analysis of its reliability and validity. Due to the increasing popularity and use of PSDQ and lack of Persian version in its new form, this study was conducted to determine the validity and reliability of this instrument and to answer the question that, whether this questionnaire with its Persian translation can be applied to Iranian samples?

2- MATERIALS AND METHODS

2-1. Participants

This study was conducted with randomized cluster sampling on 588 parents (294 mothers and 294 fathers) who had elementary school children aged between 7 to 8 years. Sample sizes greater than 200 is large and it is acceptable for most confirmatory factor analysis of models(24). A lower bound for the adequacy of sample sizes is ratio of 10 observations (cases) per indicator (model parameter)(25, 26).The questionnaires together with the consent forms were given to the students to hand it to their parents. It should also, be mentioned that the cited students were studying in 10 primary schools of Bojnurd (5 girls' schools and 5 boy's schools) and the questionnaires were sent to 50 students in first and second grade in each school. After collecting the questionnaires with a 30 % loss, we put aside those questionnaires that were incomplete or parents had copied them completely from each other's paper were excluded.

2-2. Procedure

To use forwards- translate and back-translate method, the original 32-item questionnaire after granting permission from the author was translated from English to Persian. Using expert panel, the comments of five experts were collected, among them, there were two psychologists and a linguist and the translation of questionnaire was modified. Then, the

modified questionnaire went under preliminary evaluation in a group consisting of 22 parents.

Cronbach's α coefficient was used to determine the internal consistency, **Table.1**, and Pearson's correlation coefficient was used for test-retest reliability with an interval of one week in the same group for participants that the results are shown in **Table.2**. After wards, the questionnaire was translated by a bilingual expert and it was verified comparing with the original one. In the next stage, after collecting questionnaires from 588 parents, Pearson correlation between scales and subscale of PSDQ was applied for construct validity and internal reliability.

Finally, the confirmatory factor analysis was used and CMIN, GFI, IFI, CFI and RMSEA indices were considered for goodness-of-fit statistics. Because CMIN test is sensitive to high sample size (27), CMIN/DF was used instead of CMIN in this study. Acceptable Criteria for CMIN/DF has reported in the range 3 to 1, $CFI \geq 0.90$, $GFI \geq 0.90$ $IFI \geq 0.90$ and $RMSEA \leq 0.05$. Some researchers have suggested that $CMIN/DF \leq 5$ indicate a reasonable fit (28, 29). MacCallum has implied the value of RMSEA as ranging as from 0.08 to 0.1 indicates mediocre fit and greater than 0.1 shows poor fit(30). The data were analyzed using the version 19 of the SPSS software and the version 22 of the AMOS software.

3-RESULTS

Questionnaires were collected from 294 dyads of parents, correctly. 147 (50%) dyads were the parents of male students and 144 (49%) were the parents of first-grade students. 232 women (80.5 %) were housewives and only 99 women (34.4%) had university education. Most fathers were employee 115 (40%) or self-employed 111(38.5%) and 120 of them (41.7%) had, higher education.

Table.1 illustrates a comparison between the results of Cronbach's α coefficients for translated questionnaire and the original version, in which the two authoritative and authoritarian style with the highest estimated value 0.86 have the same results as the original version but in the permissive style with the amount of 0.41, it can be observed that there is a little difference comparing it with the original version.

The results of Pearson correlation test for test-retest reliability have been illustrated in **Table.2**. As it can be seen, the results of the correlation test in all three aforementioned styles were significant. The highest correlation coefficient has been devoted to authoritarian and authoritative styles respectively with 0.82 and 0.80 and the lowest is related to permissive style with 0.49.

Correlation analysis of parenting styles and their subscales can also help to unfold construct validity and internal reliability of questionnaires that their results have been indicated in **Table.3**. The authoritative

style with two authoritarian and permissive styles has negative significant relationship with a correlation coefficient of 0.284 and 0.167 respectively. There is also, a significant positive relationship between authoritarian and permissive styles with a correlation coefficient of 0.562. Correlation coefficients between authoritative style and its subscales were about 0.86 to 0.89 and between authoritarian style and its subscales were about 0.81 to 0.87.

In the final phase, the confirmatory factor analysis was applied. Goodness-of-fit indices have been shown in the two forms before and after modification in **Table.4**. In order to improve the fitness of the model, the modification of the model has been done by making connection between measurement errors that the software proposed without removing or repositioning any question. As it can be seen, after modification of the model goodness-of-fit indices have reached an acceptable level with slightly different fit.

Table-1: The Comparisons internal consistency coefficients of Parenting Styles & Dimensions Questionnaire Persian and Original forms

Iranian Form		Original Form	
Scale	Cronbach's alpha	Scale	Cronbach's alpha
Authoritative parenting style	.86	Authoritative parenting style	.86
Authoritarian parenting style	.86	Authoritarian parenting style	.82
Permissive parenting style	.41	Permissive parenting style	.64

Table-2: Pearson correlation coefficients for test-retest reliability between parenting styles

Scale (Pretest)	Authoritative style	Authoritarian style	Permissive style
	Retest		
Authoritative style	.80**		
Authoritarian style		.82**	
Permissive style			.49*

Note. *P<0.05, **P<0.01

Table-3: Pearson correlation coefficients between scale and subscale of Parenting Styles & Dimensions Questionnaire

Scale/Subscale	1	2	3	1a	1b	1c	2a	2b	2c	3a
1.Authoritative style	1.00									
2.Authoritarian style	-.28**	1.00								
3.Permissive style	-.17**	.56**	1.00							
1a. Connection D.				1.00						
1b. Regulation D.				.63*	1.00					
1c. Autonomy granting D.				.66**	.62**	1.00				
2a. Physical coercion D.				-.21**	-.02	-.22**	1.00			
2b. Verbal hostility D.				-.23**	-.09*	-.30**	.55**	1.00		
2c. onreasoning/punitive D.				-.27**	-.17**	-.35**	.51**	.57**	1.00	
3a. Indulgent D.				-.17**	-.07	-.19**	.48**	.52**	.40**	1.00

Note. N=588, D=Dimension, *P < .05, **P < .01.

Table -4: Confirmatory Factor Analysis: goodness-of-fit indices

Variable	CMIN/DF	GFI	IFI	CFI	RMSEA	90% CI
Model (before modified)	3.3	.85	.79	.79	.06	[0.060, 0.067]
Model (after modified)	2.1	.91	.90	.90	.04	[0.039, 0.047]

Note. CMIN/DF: Normed chi-square, GFI: Goodness-of-Fit Index, IFI: Incremental Fit Index, CFI: Comparative Fit Index, RMSEA: Root Mean Square Error of Approximation, CI: confidence interval.

4- DISCUSSION

The PSDQ questionnaire designed by Robinson et al. that is based on Baumrind typology has been widely used for the evaluation of parenting styles and their sub-scales. The practicality and applicability of this questionnaire are also, increasing across the world. Due to the confirmatory factor analysis of this questionnaire and its desirable modifying indices, it seems that it can be appropriate and practical for studies with Iranian samples. To determine internal reliability of the questionnaires, Cronbach's alpha coefficient in authoritarian and authoritative styles shows high and acceptable values and in permissive style it reaches 0.41. In the original version of the three styles, lowest Cronbach's alpha coefficient is allocated to permissive style with 0.65. In the study conducted by Kern

et al.(22) Cronbach's alpha obtained for the three authoritative, authoritarian and permissive styles was respectively 0.85, 0.76 and 0.58. It should be mentioned that in Onder and Gulay's study(21), these amounts are 0.71, 0.84 and 0.38. Perhaps the reason for a low Cronbach's alpha coefficient in the permissive style is a small number of questions in this dimension.

On the other hand, the significant correlation between the aforementioned parenting styles indicates the internal reliability of the questionnaire. The correlation coefficient between authoritative style and authoritarian style and between authoritative style and permissive style were negative, but the coefficient between authoritarian and permissive style was positive which these findings are similar to the findings of the

study of Kern et al. (22). Confirmatory factor analysis, that is a theory-based method, is a specific application of Structural Equation Modeling (SEM) and it can verify the accuracy test of construct of the questionnaire (31). The main objective of the study for doing a confirmatory factor analysis questionnaire was to determine its suitability and appropriateness in Persian and in different cultural fields. Due to acceptable reliability and validity of the questionnaire, it was also, expected that confirmatory factor analysis can also have a good-fit indicators. In Kern et al.(22) and Fu et al. 's (20) studies, it can also, be seen that the same analysis is done and their localized questionnaire could have good-fit-indicators. These studies can confirm the applicability and appropriateness of the questionnaire in other different cultures that Robinson et al. also noted it.

The participation of both fathers and mothers in the samples can be considered as one of the strengths of this study in a way that questionnaires were completed by each parent by means of self-report forms and they didn't have the restrictions when completed by a single parent. The number of samples for confirmatory factor analysis according to the recommendations proposed by the experts in this field seems to be enough. To conduct further studies in this field, it is suggested that other parents from different cultural backgrounds would be asked to participate in the future studies with high sample size. We believe this study will be the basis for future studies related to psychometric PSDQ questionnaire in Iran and analytical and educational intervention studies in the field of parenting styles can be completed more satisfactorily using this questionnaire which has been translated into Persian.

4-1. Limitations of the study

The self-report method for completing the questionnaires and lack of reciprocal

assessment of spouse can be regarded as limitations of the study.

5. CONCLUSION

PSDQ that has been translated into Persian obtained good reliability and validity as its original version and it has been verified by Baumrind theory which is the basic design of this questionnaire. However, further studies in this field should be done using other samples from different cultural backgrounds. Based on the findings in our study, PSDQ questionnaire can considered be a useful tool in the assessment and intervention of parenting styles used in Iran.

6- ABBREVIATION

- CMIN/DF: Normed chi-square,
- GFI: Goodness-of-Fit Index,
- CFI: Comparative Fit Index,
- IFI: Incremental Fit Index,
- RMSEA: Root Mean Square Error of Approximation.

7- CONFLICT OF INTEREST: None.

8- ACKNOWLEDGMENTS

The authors express their deepest gratitude to the personnel of the Education Ministry and school administrators of Bojnurd for giving a hand to accomplish this study. This research is part of the dissertation of doctoral degree in health education and health promotion

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