

Measuring Parent-Child Relationship (PCR): Development of PC (Adolescent Form) Tool

U. Sajitha and J Parameswari

Abstract--- *Parent-child relationship has a significant impact in a child's life that, it determines the personality characteristics of the children. Parents are the first teachers from whom the children learn values and behaviors, to be successful individuals in the society. Focusing on the importance of parent-child relationship and considering the research gap in the scales used in the Indian context, it is considered to be blissful in developing a Parent child relationship scale exclusively from the adolescent perspective. 500 adolescents with the age group ranging from 13 to 19 were taken. Content and face validity were established with collecting opinions from a panel of experts. After conducting the pilot study (first with 500 samples and second with 150 samples), factor analysis was carried out. From a total of 82 items, 30 items were retained after factor analysis with 6 latent variables. Reliability analysis of the data with second set of 150 samples shows an overall Cronbach alpha of 0.856, which is a relatively a high score. A standard parent-child relationship tool from the adolescent perspective is developed. The complete process of scale development and psychometric properties are presented in this article.*

Key words--- *Parent-child relationship, Adolescents, Reliability, Validity.*

I. BACKGROUND

Adolescents today encounter difficulties and more life challenges than those of yester years, but they are provided less guidance and intervention for their personal development. (Pajares and Urdan, 2004). Today because of availability of lots of information most of the parents are confused about their roles and relationships, and are less aware of the novel temptations faced by their adolescents (Nelson and Israel, 1991). Steinberg (2001) stipulated on the fact that the research findings that have emerged during the last decade showed that there is no other area than the study on adolescent development gained attention in family, particularly studies involving parent-adolescent relationship. Sroufe (2001) found that the early attachment relationship style predicts the emotional development of children during later stages. Sroufe (2001) stipulates that, such variations (of relationship quality) are not the pure reflections of genetically based traits of the infants, rather the history of interaction formed with the parent. These studies stress the importance of parents' involvement in the adolescent's life. To study the parents' level of involvement in their children's life requires use of relevant tools that can assess all possible factors related to parent's role in their children's life. On reviewing the literature the researchers found some of the available tools given in the Table 1.

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Table 1: Shows the available Parent- Child Relationship tools.

Name of the tool	Author and year	No. of items	Dimensions	Remarks (age, focus of the tool)
Clarks Parent-child Relation Test	Tiwari (1985)	131	Mother's Aggression to the Subject, Father's Aggression to the Subject, Subject's Aggression to Mother, Subject's Aggression to Father, Mother's Aggression to Father, Father's Aggression to Mother, Mother's Competence, Father's Competence, Mother's Affection, Father's Affection, Mother Strict, Father Strict, Mother Identification, Father Identification, Mother's Overindulgence, Father's Overindulgence, Subject's Denial towards Mother, Subject's Denial towards Father.	7-17 years, Measures the importance of home and family in the child development.
Multidimensional Parenting (M.D.P. Scale)	Chauhan, Khokar and Singh (1985)	56	Hate Vs Love, Discouragement Vs Encouragement, Rejection Vs Acceptance, Dependence Vs Independence, Autocratism Vs Democratism, Submission Vs Dominance, Conservation Vs Progressivism	Represents negative and positive aspects of parenting, Parents form
Family Relationship Inventory	Sherry and Sinha(1987)	150	Acceptance, Concentration and Avoidance in a family	Measures three types of Parental attitude, children form
Parental Encouragement Scale	Sharma (1988)	40	Parent's Encouragement in Studies, School Homework, Problem solving, Hobbies, Selecting Right Career, Reducing Tensions, Inspiring to do the Right.	Measure amount of encouragement received from parents, children form
Parent-child Relationship Inventory	Nalini Rao (1989)	100	Protecting, Symbolic Punishment, Rejecting, Object Punishment, Demanding, Indifferent, Symbolic Reward, Loving, Object Reward and Neglecting.	Measures punishment, reward, love. Children aged 12 to 18 years
Parenting Scale	Bharadwaj, Sharma and Garg (1998)	40	Rejecting Vs Acceptance, Carelessness Vs Protection, Neglect Vs Indulgence, Utopian Expectation Vs Realism, Lenient Standards Vs Moralism, Freedom Vs Discipline, Faulty Role Expectations Vs Realistic Role Expectations, Marital Conflict Vs Marital Adjustment.	Modes of Parenting, children form.
Parental Acceptance-Rejection Questionnaire	Rohner and Ali (2016)	60	Warmth and Affection, Hostility and Aggression, Indifference and Neglect, Undifferentiated Rejection.	Four versions- Early Childhood PARQ, Parent, Adult, Child.

Going through the available scales and inventories, it was found that these scales focused on measuring the overall parental attitude, parental encouragement and so on. Multidimensional Parenting scale measures the positive and negative aspects of parenting from parental perspective Chauhan, Khokar and Singh (1985). Family relationship inventory measures 3 types of parental attitude like acceptance, concentration and avoidance in family Sherry and Sinha(1987). Parental encouragement scale intends to measure the amount of encouragement and inspiration the child receives in his/her studies or career Sharma (1988). Parent child relationship inventory measures the modes of punishment, reward and love extended by parents from child's perspective Nalini Rao (1989). Clark's Parent child relations questionnaire stipulated more on the spousal aggressiveness among themselves and towards the child, child's aggressiveness towards parents, parents competence, affection, strictness, indulgence and denial Tiwari (1985). Parenting scale by Bharadwaj, Sharma and Garg (1998), stressed on the modes of parenting like rejecting Vs acceptance, utopian expectation Vs realism, freedom Vs discipline, marital conflict Vs marital adjustment and so on. Eventhough scales on parent child relationship are available, the present tool focuses on overall parent-child relationship aspects from child's perspective stipulating more on attitude towards parents, parental acceptance, feeling towards parents, parental behavior, punitive parenting and parental involvement. Seeking through the problems of adolescents and after a detailed focus group discussion the researcher found an importance in constructing this tool.

II. METHOD

Sample and Item Generation

The sample for this study consisted of adolescents aged 13-19, from 4 schools in Thrissur city. In order to assess the Parent-Child relationship construct, a set of open ended questions were used for a focus group discussion, which is one of the qualitative research method in social science. Focus group discussion was done with parents, teachers and adolescents. Subjects were typically asked to give descriptions on their feelings towards a situation and also to describe on some aspects of their behavior. For example, how you maintain relationship with your parents, do you openly express your personal matters with your parents and so on. The scale development process began by recording the responses and developing items. Items were framed in simple language familiar to the target population. Initially 85 items were generated with five alternative responses namely always, very often, sometimes, rarely and never.

Content Validity

The content validity of the tool was established by circulating items among 17 experts in the field. The experts were asked to mark whether the items are significant, not significant or require modification by putting a tick mark in the appropriate box given. Also experts were requested to mention the required modifications and also to add statements that would strengthen the scale. Three items were deleted and 82 items were retained, in this process. This was the first phase of content validity. Later second phase of content validity was carried out. The items were retained accordingly.

Factor Analysis

Before subjecting the data for factor analysis it was checked if the sample size was adequate to carry out factor analysis. For this purpose KMO value was calculated. For the present tool the KMO value measure of sample adequacy test was 0.875. The KMO values between 0.8 and 1 indicate that the sampling is meritorious and adequate (Kaiser, 1974). The value shows that the data is well suited for the further factor analysis.

Exploratory Factor Analysis (EFA)

Inorder to reduce the data into smaller sets of summary variables and also to allow all the items to load on all factors EFA was carried out as the first step. The responses of 500 children to 82 items were scored and were subjected to principal component analysis. Six factors with eigen values greater than 1.0 were extracted. These factors were rotated using varimax procedure. Factor loadings of more than 0.30 were taken as significant values (Tabachnick and Fidell, 2014). Patterns of similarity between items loaded on a factor were taken into account. The item loading on 6 factors is given below:

Table 2: EFA Factor Loadings

Items	Factors					
	1	2	3	4	5	6
PCR62	.6					
	88					
PCR65	.6					
	61					
PCR51	.6					
	54					
PCR73	.6					
	30					
PCR50	.6					
	15					
PCR70	.5					
	82					
PCR68	.5					
	50					
PCR72	.5					
	42					

PCR48	.5				
	38				
PCR53	.5				
	22				
PCR40	.4	.4			
	68	04			
PCR69	-			.4	
	.449			12	
PCR43					
PCR79					
PCR74					
PCR57					
PCR49					
PCR15					
PCR30		.6			
		59			
PCR31		.6			
		50			
PCR32		.6			
		48			
PCR37		.5			
		68			
PCR22		.5	.4		
		44	25		
PCR39		.5			
		40			
PCR13		.5			
		33			
PCR11		.5	.4		
		30	26		
PCR10		.5			
		26			

PCR17		.5			
		22			
PCR29		.5			
		09			
PCR14		.4			
		53			
PCR16					
PCR18					
PCR2			.8		
			13		
PCR3			.8		
			07		
PCR4			.7		
			34		
PCR1			.7		
			00		
PCR6			.6		
			59		
PCR5			.6		
			15		
PCR21			.4		
			24		
PCR7					
PCR64					
PCR46				.6	
				01	
PCR82				.5	
				37	
PCR35				.5	
				05	
PCR71				.4	
				93	

PCR63				.4	
				93	
PCR47				.4	
				88	
PCR26				.4	
				84	
PCR24				.4	
				75	
PCR66				.4	
				73	
PCR80				.4	
				58	
PCR28				.4	
				48	
PCR20				.4	
				31	
PCR54				.4	
				08	
PCR38					
PCR33					
PCR27					
PCR25					
PCR67					
PCR34					.5
					51
PCR45					.5
					47
PCR36					.5
					34
PCR52					.5
					26
PCR59					-

					.443	
PCR42					.4	
					24	
PCR44					.4	
					03	
PCR58						
PCR76						
PCR75						
PCR23						
PCR8						
PCR55						.5
						16
PCR61		.4				.4
	16					69
PCR56						.4
						53
PCR12						.4
						16
PCR78						.4
						07
PCR9						.4
						06
PCR81						
PCR77						
PCR60						
PCR41						
PCR19						

Confirmatory Factor Analysis (CFA)

In order to confirm the 6 factors, the data were subjected to CFA. Confirmatory factor analysis allows a statistical test of how well an a priori specified factor model explains the observed pattern of sample correlations or

covariances, commonly referred to as 'model fit' (Bollen, 1989; Hayduk, 1987; Pedhazur & Schmelkin, 1991). First order CFA and Second order CFA were carried out. First order CFA was employed to know whether the statements confirm to the 6 factors thereby providing a good model fit, whereas second order CFA was carried out to infer whether 6 factors (latent variables), are able to strongly measure the main construct i.e. Parent- child relationship. The diagrammatic representation (Figure 1 and 2) of first order and second order CFA is given below:

Figure 1: First Order Confirmatory Factor Analysis

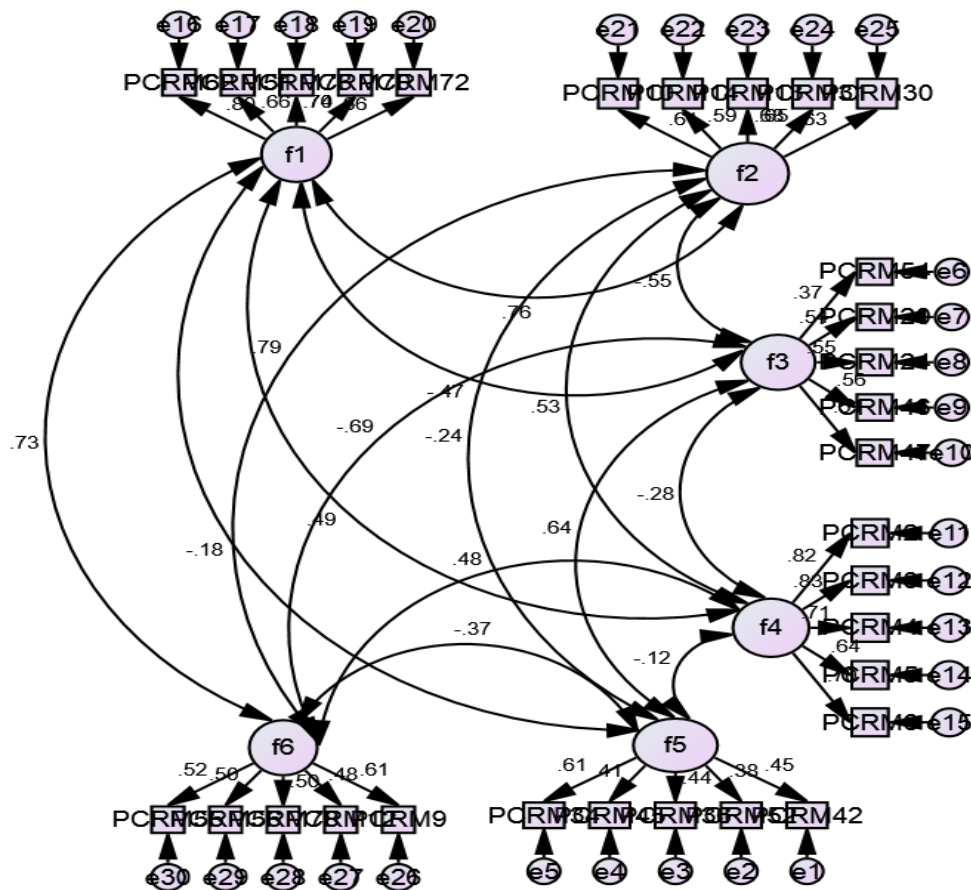


Figure 2: Second Order Confirmatory Factor Analysis

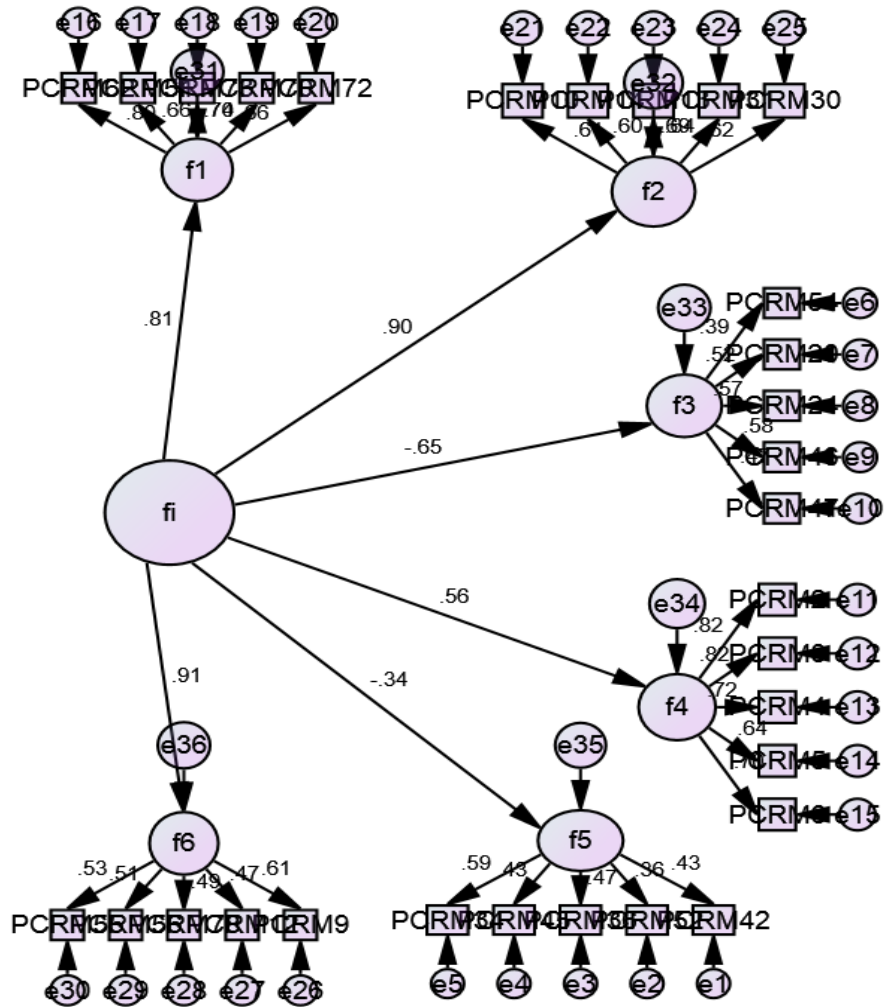


Table 3: Selected Amos output for hypothesized three-factor CFA model: goodness-of-fit statistics

Label	CFA model		Table values
Minimum discrepancy(CMIN)	1232.503	1303.676	-
Degrees of freedom (DF)	390	399	-
P (significant value)	0.000	.000	P<= 0.05
Chi-square (CMIN/DF)	3.160	3.267	<5.0
Goodness-of-fit index (GFI)	.855	.846	>0.90
Adjusted Goodness-of-fit index (AGFI)	.827	.821	>0.90
Comparative fit index (CFI)	.824	.811	>0.90
Root mean square error of approximation (RMSEA)	.066	.067	<0.08
Standardized Root mean square residual (SRMR)	.0645	.0701	<0.08

The models fit indices (Table 3) of first order and second order confirmatory factor analysis shows a chi-square value of 3.160 and 3.267 and RMSEA value of .066 and .067. Here the GFI and AGFI values 0.855 and 0.827 respectively shows an acceptable fit (Baumgartner and Homburg, 1996; Doll, Xia, and Torkzadeh, 1994; Byrne, 2001; Hair, Anderson, Tatham and Black, 1998). SRMR value is also satisfactory that the obtained values 0.0645 and 0.0701 for first order and second order CFA respectively is less than that of the table value 0.08. CFI value is 0.824 and 0.811 that is close to 0.9 which shows a relatively acceptable fit (Byrne, 2001; Hair, Anderson, Tatham and Black, 1998).

Factor analysis yielded 6 factors with a total of 30 items. Based on the commonality of items the factors were named as attitude towards parents, acceptance/recognition at home, receptivity /feeling towards parents, parental behavior, punitive parenting and parental involvement.

Reliability Analysis and Concurrent Validity

Table 5: Reliability Analysis

Dimensions	f1	f2	f3	f4	f5	f6	Overall
(No.of Items)	(5)	(5)	(5)	(5)	(5)	(5)	(30)
Cronbach's Alpha	0.889	0.802	0.907	0.619	0.664	0.639	0.856

Reliability analysis is done to infer whether the test yields consistent result overtime. As a part of step wise procedure for computing reliability and concurrent validity, a new set of 150 children aged 13-19 were selected as sample. Cronbach's alpha for parent-child relationship was calculated both for the overall tool and dimension wise. Overall internal consistency for 30 items was found to be 0.856. Internal consistencies for dimension are as follows: Factor I- 0.889, Factor II- 0.802, Factor III- 0.907, Factor IV- 0.619, Factor V- 0.664 and Factor VI- 0.639. For an

exploratory study, it is suggested that the reliability should be equal to or above 0.60 (Straub et al, 2004). Hinton et al (2004) suggests 4 levels of reliability based on the reliability value, excellent reliability (0.90 and above), high reliability (0.70-0.90), moderate reliability (0.50- 0.70), and low reliability (0.50- and below). Based on Hinton et al's classification the present tool maintains a high internal consistency.

Table 6: Concurrent Validity of the Tool

Measures	Sample(N)	Items	LEAP Scale
PCR Scale	150	30	0.494**

**Significant at 0.01 level

Concurrent validity is a type of evidence gathered to infer whether the test results correspond to those of a previously established measurement of a same construct (Taherdoost, 2016). A parallel tool Lum Emotional Availability of Parents (LEAP), developed and standardized by Lum (2005) was administered along with the new parent- child relationship tool to check the concurrent validity. The above table shows that the tool has a good concurrent validity with a score of 0.494 which is significant at 0.01 level. As per the guidelines for the interpretation of correlation coefficient, values between 0.3 and 0.7 indicate a moderate positive linear relationship (Ratner,2009).

III. DELIMITATIONS OF THE STUDY

1. The tool is limited only to children of age group 13-19.
2. Though clear instructions and care is taken while administering the tool, it may be subjected to response bias.
3. While carrying out second order CFA, factor five shows a value less than 50 percentage. Other variables that strengthen the factor could be explored in future studies.

IV. CONCLUSION

This tool helps to understand parent-child relationship from the child's perspective. This tool can be used in counseling to understand where the problem lies between the parent and the child. The tool is more culture specific.

REFERENCES

- [1] Baumgartner, H., Homburg, C. (1996). Applications of Structural Equation Modeling in Marketing and Consumer Research: a review. *International Journal of Research in Marketing* 13(2), 139-161.
- [2] Bharadwaj, R.L., Sharma, H., & Garg, A. (1998). Manual for parenting scale. Agra: Pankaj Mapan.
- [3] Bollen, K. A. (1989). *Structural equations with latent variables*. New York: Wiley.
- [4] Byrne, B. M. (2001). *Structural equation modeling with AMOS, EQS, and LISREL: Comparative approaches to testing for the factorial validity of a measuring instrument*. *International journal of testing*, 1(1), 55-86.
- [5] Chauhan, N. S., & Khokhar, C. P. (1985) *Multi-Dimensional Parenting scale*, Published by MAAPA-Publications, Meerut
- [6] Doll, W.J., Xia, W., Torkzadeh, G. (1994). A confirmatory factor analysis of the end-user computing satisfaction instrument, *MIS Quarterly* 18(4), 357-369.

- [7] Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate Data Analysis* Prentice Hall. *Upper Saddle River, NJ, 730*.
- [8] Hayduk, L. A. (1987). *Structural equation modeling using LISREL: essentials and advances*. Baltimore: John
- [9] Hinton, P. R., Brownlow, C., McMurray, I. & Cozens, B. (2004). *SPSS explained*, East Sussex, England, Routledge Inc. Hopkins University Press.
- [10] Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39, 31–36.
- [11] Lum, J. J., Phares, V. (2005). Assessing Emotional Availability of Parents. *Journal of Psychology and Behavioral Assessment* 27(3), DOI: 10.1007/s10862-005-0637-3.
- [12] Pajares, F. & Urdan, T. (2004) *Educating adolescents: challenges and strategies*. Retrieved, May 23, 2008, from http://edrev.asu.edu/review/rev_523.html.
- [13] Pedhazur, E., & Schmelkin, L. (1991). *Measurement, design and analysis: an integrated approach*. New York: Holt,
- [14] Rao, N. (1989). *Manual for Parent Child Relationship Scale*, Agra: National Psychological Corporation.
- [15] Ratner, B. J. (2009). Target Meas Anal Mark 17-139. <https://doi.org/10.1057/jt.2009.5>.
- [16] Rinehart & Winston.
- [17] Rohner, R.P. (2016). Introduction to interpersonal acceptance-rejection theory (IPAR Theory), methods, evidence, and implications. Retrieved from <http://csiar.uconn.edu/>.
- [18] Sharma, R. R. and Rajput, K. S. (1987). *Parental Encouragement Scale* Department of Education, Garhwal University.
- [19] Sherry, J. P., & Sinha, J. C. (1987). *Family Relations Inventory*. Agra: National Psychological Corporation.
- [20] Sroufe, L. A. (2001). From infant attachment to adolescent autonomy: Longitudinal data on the role of parents in development. In J. Borkowski, S. Ramey, & M. Bristol-Power (Eds.), *Parenting and your child's world*. (pp.187-202). Erlbaum, Hillsdale, NJ.
- [21] Steinberg, L. (2001). We know some things: Parent–adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence*, 11(1), 1-19. <https://doi.org/10.1111/1532-7795.00001>
- [22] Straub, D., Boudreau, M.-C. & Gefen, D. (2004). Validation guidelines for IS positivist research. *Communications of the Association for Information Systems*, 13, 380-427.
- [23] Tabachnick, B. G. and Fidell, L.S. (2014), *Using Multivariate Statistics*. 6th edn. Harlow: Pearson.
- [24] Tiwari, A. N. (1984). *Achievement Motivation in Deprived Society*, Agra: National Psychological Corporation.
- [25] Wicks-Nelson, R., & Israel, A. (1991). *Behavior disorders of children*. Englewood Cliffs, NJ: Prentice-Hall.