

Perceived Paternal Acceptance as Predictor of Emotional Intelligence in Adolescents

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Abstract



The study aimed to investigate perceived paternal acceptance and emotional intelligence in adolescents. The research hypothesis stated a predictive relationship between emotional intelligence and perceived father's acceptance-rejection of adolescents. The sample of the study included 600 children (300 males and 300 females) enrolled in 6th to 10th grade, with age ranges between 13 to 17 years (mean=14 SD=1.150). Data was collected using the Trait Emotional Intelligence Questionnaire-Adolescent Short Form (TEIQue-ASF) Urdu version and Parental Acceptance-Rejection Questionnaire (PARQ) short form Urdu version. Information collected from the respondents was analyzed through descriptive statistics and linear regression. According to the findings of the study emotional intelligence was significantly predicted by perceived paternal acceptance-rejection in adolescents ($R^2= 0.045$, $F(1,599)=17.261$, $p<0.000$). It can be concluded that perceived parental acceptance is a significant predictor of emotional intelligence in adolescents.

Keywords: Paternal Acceptance-Rejection, Emotional Intelligence, Adolescents

Introduction

The relationship between parents and infants holds a prominent position in the theoretical foundations of understanding the psychological and emotional development of an individual. Various researchers have deduced that different facets of human development are influenced by the parent and child connection. For instance, Campo and Rohner (1992) have indicated that early relationships with parents in terms of the sense of acceptance or rejection can influence the possibility of involvement in drug abuse. Moreover, the component of psychological adjustment is also compromised because of negative perception about self and others, suggesting that the perception of an individual holds significant influence. The perception of an attitude of warmth from parents has been emphasized by Rohner (2004), who argued that this perception defines the way through which psychological well-being unfolds.

One of the critical elements that foster a healthy psychological and emotional development of a child is that of parental acceptance and warmth. A lack of empathy and warmth from the parents is viewed as a lack of acceptance, which gives rise to a feeling of being unwanted. One of the likely consequences of such a perception is maladapted beliefs about self and others, adoption of problematic behaviors, and development of psychological disorders (Bouma, Ormel, Verhulst & Oldehinkel, 2008; Hale, Vander Valk, Akse & Meeus, 2008; Kazarian, Moghnie & Martin, 2010).

A similar opinion has been shared by Rohner (2008), who highlighted the role of perceived parental acceptance and rejection on psychological adjustment in the early years, as well as relationship building as an adult. In an earlier study, Chen (1994) has found that lack of parental warmth and acceptance acted as a trigger of childhood aggression, making the children more likely to display hostility as compared to the children whose parents showed acceptance and warmth towards them. Likewise, Hipwell et al. (2008) suggested that parental acceptance and rejection affects the development of depressive symptomatology and behavioral issues of female adolescents.

Literature Review

Two theories outline the basic concepts embodied in parental warmth and affection; PAR theory and IPAR theory.

PAR Theory

PAR (parental acceptance and rejection) theory centers on the attitude of the warmth of parents and the influence on an infant's social and psychological growth. On the positive end, the parent's acceptance is placed, while the negative end represents rejection from the parents. The parenting

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behavior can fall on this continuum ranging from acceptance to rejection. Acceptance from the parents is marked by showing signs of affection towards the child through actions or words.

On the other hand, the dimension of rejection involves a lack of empathy, care, and affection from the parents, and in some cases, involves parental hostility as well. Apart from this general framework, three other theories formulate a part of the PAR theory. As discussed by Rohner, Khaleque & Cournoyer (2005), PAR theory outlines the effect of warmth on personality development, coping mechanisms adopted by an individual, and degree of psycho-social adjustment displayed by a person. This interaction with parents in terms of presence or lack of warmth leads to the development of behavioral adjustment or maladjustment, depending on the positive and negative behaviors displayed by the parents.

IPAR Theory

IPAR (Interpersonal acceptance-rejection) theory focuses on the acceptance and rejection dimensions in the context of interpersonal interaction, including the intimate relations an individual forms over the period of life. Despite this inclusion of intimate relationship variables, the parental acceptance and rejection model holds relevance in the IPAR model as the basis of adult relationships is connected with the way a child experiences a relationship with his care providers.

Apart from parental acceptance and rejection, the component of an individual's perception towards parent's behavior has also been examined, keeping a distinction between perceived maternal and paternal acceptance (Bebes, Samarova, Shilo & Diamond, 2015). Furthermore, Uddin, Khaleque, Aktar, and Hossain (2014) stated that maternal acceptance and rejection had a greater effect on the psychological development of children, while paternal influence was slightly less significant in comparison. Putnick et al. (2015) have focused on the way that perception of rejection from the parents can lead to different issues, which can be classified as internalizing and externalizing problems.

Most of the studies in the domain of parental rejection and acceptance have focused on the mother's role in developing a psychologically well-adjusted child, depicting less focus on the way paternal acceptance can influence a child's mental and emotional development (Khaleque & Rohner, 2002). Putnick et al. (2015) have also stressed the need to investigate the role of perceived father's acceptance in the psychological development of a child.

The concept of parental behavior in terms of two dimensions; warmth (acceptance and rejection) and control (permissiveness and strictness) has been a focal point for researchers for many years (Rohner & Pettengill, 1985). Earlier work is attributed to the theoretical underpinnings of Sears, who considered mothers to hold a primary influence on the child's psychological and social development (O'Boyle, 2014). Later work on parenting dimensions of authoritarian, permissive, and authoritative has further elaborated on the conceptual framework of parenting and the role of emotional warmth (Darling & Steinberg, 1993; Pappalardo & Maccoby, 1985), linking it with the probability of development of emotional issues (Bukatko & Daehler, 2011).

The theme of emotional intelligence and the role of parenting has received considerable attention in the literature (Asghari & Besharat, 2011; Sung, 2010). Alegre (2011) has elaborated on the way parenting can influence the development of emotional regulation and emotional intelligence. It has been concluded that responding to the needs of an infant positively and maintaining positive involvement with the child gives rise to higher emotional intelligence. In environments where parents are not positively involved in the upbringing of the infant, the result is evident in the form of lower emotional intelligence in the children. Furthermore, Kotaman (2016) indicated that facing neglect in childhood can have negative effects on the emotional intelligence of an individual, which further influences their social interaction as an adult.

Earlier researches have shown the existence of a relationship between the variables of paternal warmth and the emotional well-being of a child. A significant number of studies have reflected a greater impact of maternal acceptance, while paternal warmth had comparatively less effect on psychological well-being. However, the academic performance of adolescents and has been linked with perceived paternal acceptance (Grolnick, Ryan & Deci, 1991). In addition, emotional intelligence has also been connected with the component of parenting (Linares, Fernández, Rusillo & Arias, 2018), indicating that emotional health and regulation are an outcome of parental warmth (Veneziano, 2000). Keeping the perceived parental acceptance-rejection model, the present study has evaluated the impact of perceived father's acceptance on emotional intelligence.

The review of literature has led to the development of the following research hypothesis:

Hypothesis:

There would be a predictive relationship between emotional intelligence and perceived father’s acceptance-rejection of adolescents

Research Methodology:

The study has used a quantitative research design to analyze the relationship between perceived paternal acceptance and emotional intelligence.

Sample of the Study

The participants of the study included 600 (300 males and 300 females) school-going children, ages 13 to 17 years (mean=14 years SD= 1.150), enrolled in 6th to 10th grades. The participants were selected from schools located in Karachi, Pakistan, by using purposive sampling. The majority of the respondents were studying in classes 8 and 9, comprising almost two-thirds of all participants (64.30%). A large number of respondents (57.40%) are 1st born (32.20%), followed by the category of 2nd born (25.20%), while the smallest percentage (2.50%) comprises respondents whose birth order is 7th or more.

Further details of the distribution of the sample are provided in table 1:

Table 1: Family Structure and Sibling information

		N	%
Gender	Male	300	50
	Female	300	50
Class	6	30	5
	7	126	21
	8	231	38.50
	9	155	25.80
	10	58	9.70
	1	193	32.20
	2	151	25.20
Birth order	3	115	19.20
	4	61	10.20
	5	42	7
	6	23	3.80
	7 or more	15	2.50

75% of the children included in the sample belonged to households with middle socioeconomic status. The sample included 65.3% of children living in nuclear families, which suggests that both parents are involved in child-rearing responsibilities, with little involvement from the extended family.

Table 2: Characteristics of study adolescents’ parents and family

		N	%
Family Structure	Joint	208	34.7
	Nuclear	392	65.3
	Middle	456	76
Income	Upper Middle	101	16.8
	High	43	7.2

Procedure

First, the study was approved by the departmental research committee of the Institute of Clinical Psychology, University of Karachi, subsequently by the board of advanced studies & research university of Karachi. The researcher obtained permission from the authorities of the school and discussed the purpose and ethical considerations of this study. Consent by the authorities to collect data and ascent by the participants to participate in the study was taken. Confidentiality was emphasized. Afterward, demographic information form, questionnaire of Emotional Intelligence scale was initially administered, followed by Child Parental Acceptance Rejection Questionnaire- Father (Short form) form.

Measures

The following measures were used in the current study:

Demographic Information Form:

The form consisted of personal information of the participants such as age, gender, birth order, number of siblings, school grades of children. Family structure, religion, educational level, and socioeconomic status of the parents were also part of the demographic form. The demographic characteristics of the sample are mentioned in Tables 1 & 2.

Trait Emotional Intelligence Questionnaire for Adolescents (TEIQue-ASF):

Emotional intelligence was measured by using Trait Emotional Intelligence Questionnaire–Adolescent Short Form (TEIQue-ASF) developed by Petrides, Sangareau, Furnham & Frederickson (2006). TEIQue-ASF is specifically designed to measure the level of emotional intelligence in adolescents (Stamatopoulou, Galanis, Tzavella, Petrides & Prezerakos, 2017), indicating the relevance of this measure for the present study. The Urdu version of the questionnaire was used to gather data so that the language barrier doesn’t have any negative influence on the interpretation of questions by the respondents in the study.

Parental Acceptance Rejection Questionnaire PARQ (Father’s version-short form)

To examine perceived paternal acceptance, Parental Acceptance-Rejection Questionnaire (PARQ) short form, developed by Rohner was administered. For PARQ as well, the Urdu version was used to collect data from the respondents. The scale consisted of 24 items based on four subscales. The responses for PARQ are based on the four-point Likert-type scale with the response options ranging from 1= strongly agree to 4=strongly disagree. Cronbach’s alpha value was found to be 0.92 which reflects the high internal consistency of the measure. The validity and reliability of the Urdu version by Malik and Butt (2012) are 0.80 to 0.95, respectively.

Ethical Consideration

The ethical principles that frame the part of the studies in social sciences were considered in this study. Participants have described the nature of the study, the right to withdraw from the study at any point, and confidentiality was explained before obtaining consent from them. Moreover, the data obtained was used only for the purpose of this study, with no unauthorized person having access to the data.

The study was approved by the Institute of Clinical Psychology, University of Karachi’s departmental research committee, and board of advanced studies & research university of Karachi.

Statistical Analysis

The collected data was entered and analyzed by statistical packages for Social Sciences (SPSS 21.0). Linear regression was applied to measure perceived paternal acceptance-rejection as a predictor of emotional intelligence in adolescents

Results

The statistical investigation was supported by using descriptive and *Linear Regression* to investigate the perceived paternal acceptance-rejection as a predictor of emotional intelligence in adolescents.

Table 3. Cronbach’s Alpha for the Research Measures

Research Measures	No of items	α
Parental Acceptance-Rejection Scale Child Form (Father) (PARQ)	24	.87
TEIQ (ASF)	30	.84

The internal consistency of the study variables was determined using Cronbach’s alpha test. Results depict that the framework of this study is significantly reliable. And the results can be utilized for statistical analysis to get generalized results.

Table 4. Linear Regression Analysis with Father’s acceptance-rejection (FA-R) as a predictor of Emotional Intelligence

Predictor	R	R ²	F	Sig.
Father’s Acceptance-rejection	.167	.028	17.26	.00*

* $p < .05$, $df = 1,599$

Table 5. Coefficients for Linear Regression father’s acceptance-rejection as a predictor of Emotional Intelligence

Model		<i>B</i>	<i>SE B</i>	β	<i>T</i>	<i>Sig.</i>
Constant		152.278	2.863		53.19	.00
Father's rejection	Acceptance-	-0.285	0.069	-0167	-4.16	.00

It was hypothesized that the father's acceptance-rejection (FA-R) would predict EI in adolescents. FA-R was set as a predictor variable and EI was determined as the independent/explanatory variable. Table 6 depicts the results of simple linear regression showing that FA-R accounts for 0.028 variances in the score of EI. Moreover, FA-R has significantly predicted TEI as hypothesized before. ($R^2= 0.045$, $F(1,599)=17.261$, $p<0.000$). Moreover, it shows that the lower the scores on perceived acceptance of father (lower scores indicate greater perceived paternal acceptance), the higher will be emotional intelligence of the adolescents.

Discussion

The research hypothesis stated that "there would be a predictive association between perceived paternal (father's) acceptance-rejection and emotional intelligence in adolescents." The results derived in the research suggest that the perceived parental acceptance-rejection is a predictor of emotional intelligence in the adolescent. This postulation has been analyzed by other researchers as well, who have used the variables of quality of parenting style and its impact on emotional intelligence displayed by adolescents.

According to Lila, Garcia, and Gracia(2007), experiencing parental acceptance in childhood has a positive effect on the emotional and psychological development of the children, making them experience emotional stability and strength. Perception of being accepted by parents leads to positive social behaviors as well, such as positively viewing themselves and considering themselves to have value. On the other hand, children who come from families where fathers were seen as controlling and disciplining, with little focus on showing warmth towards the children, the children developed into adolescents who had trouble adjusting with peers and maintaining functional relations with others. Webster, Low, Siller, and Hackett (2013) have stated that fathers who are seen as supporting and warm, the children can develop confidence and social skills, which help them in adjusting to different areas of life. Social skills as a part of the Emotional Intelligence framework are, therefore, affected by the way a child sees paternal behavior and interaction.

Emotional regulation is another area that is adversely affected due to a perceived lack of a father's acceptance. In cases where perceived acceptance from the father is low, the children are susceptible to psychological maladjustment (Dwairy, 2010). This finding reflects the way a component of psychosocial adjustment in PAR theory) is effected through paternal care and acceptance. Khaleque (2013) has emphasized that the emotional regulation of a child in terms of responsiveness and stability is dependent on the early interaction with parents. Hostility, unpredictability, and indifference from parents are perceived as a sign of rejection by the children. By the time they step into adolescence, they have developed inaccurate beliefs about themselves and others, thus finding it hard to practice the required social skills to develop close relations. In some cases, adolescents who perceive that their father was rejecting develop a debilitating pattern of social interaction, which is termed rejection syndrome (Khaleque, 2013). Some of the outcomes of parental rejection are the inability to regulate one's emotions, poor self-awareness, having firmly embedded erroneous beliefs about self and others, and lacking social skills which can be summed up as signs of having low emotional intelligence.

Taking IPAR theory into consideration in the context of the present study, it can be seen from the findings that positive perception towards the father's role in the life of children (acceptance and warmth) facilitates the development of positive interactions in later life. The adolescents who had high emotional intelligence and perceived paternal acceptance are likely to form close relationships in later life, fostered by a healthy sense of self and others. A similar notion has been offered by Parmar and Rohner (2005), who specified that perceived acceptance of father influences the way a person can adjust and develop a bond in a close relationship. The degree to which an individual can accept their partner is affected by the perception that they hold about the degree of acceptance exhibited by their father in their childhood.

It can be concluded that children who perceive their fathers as compassionate, nurturing, and accepting develop a positive sense of self, which further guides the development of high emotional intelligence. Conversely, children who have experienced (perceived) paternal rejection, have issues

with adjusting in social relationships, regulating their emotions, and adjusting in life, showing the negative effect of perceived paternal rejection on their emotional intelligence.

Conclusion and recommended

In the end, it is concluded that young people who perceived their fathers as accepting are found to have improved EI than those who thought otherwise. Given the variances in the research investigations conducted in the World and the studies conducted specifically in Pakistan on this theme, the discrepancy in societal and educational aspects must not be ignored. It is suggested to researchers to take in varied economic and societal aspects for the additional elaboration of parental acceptance-rejection and its influences of EI in Pakistan by taking the sample from all economic and community groups.

Acknowledgment

We would like to thanks the authorities and principles of the schools, who permitted the data collection. In addition, the cooperation of the researchers who granted permission to use their scales and the participants of the study is highly appreciated.

References

- Alegre, A. (2011). Parenting styles and children's emotional intelligence: What do we know? *The Family Journal*, 19(1), 56-62. <https://doi.org/10.1177/1066480710387486>
- Asghari, M. S., & Besharat, M. A. (2011). The relation of perceived parenting with emotional intelligence. *Procedia-Social and Behavioral Sciences*, 30, 231-235. <https://doi.org/10.1016/j.sbspro.2011.10.046>
- Bebes, A., Samarova, V., Shilo, G., & Diamond, G. M. (2015). Parental acceptance, parental psychological control and psychological symptoms among sexual minority adolescents. *Journal of Child and Family Studies*, 24(4), 882-890. <https://doi.org/10.1007/s10826-013-9897-9>
- Bouma, E. M., Ormel, J., Verhulst, F. C., & Oldehinkel, A. J. (2008). Stressful life events and depressive problems in early adolescent boys and girls: The influence of parental depression, temperament and family environment. *Journal of affective disorders*, 105(1), 185-193. DOI: <https://doi.org/10.1016/j.jad.2007.05.007>
- Bukatko, D., & Daehler, M. (2011). *Child development: A thematic approach*. Nelson Education.
- Campo, A. T., & Rohner, R. P. (1992). Relationships between perceived parental acceptance-rejection, psychological adjustment, and substance abuse among young adults. *Child Abuse & Neglect*, 16(3), 429-440. [https://doi.org/10.1016/0145-2134\(92\)90052-S](https://doi.org/10.1016/0145-2134(92)90052-S)
- Chen, X. (1994). Family conditions, parental acceptance, and social competence and aggression in Chinese children. *Social Development*, 3(3), 269-290. <https://doi.org/10.1111/j.1467-9507.1994.tb00045.x>
- Darling, N., & Steinberg, L. (1993). Parenting Style as Context: An Integrative Model. *Psychological Bulletin*, 113(3), 487-496. <http://dx.doi.org/10.1037/0033-2909.113.3.487>
- Dwairy, M. (2010). Parental acceptance-rejection: a fourth cross-cultural research on parenting and psychological adjustment of children. *Journal of Child and Family Studies*, 19(1), 30-35. DOI 10.1007/s10826-009-9338-y
- Grolnick, W. S., Ryan, R. M., & Deci, E. L. (1991). Inner resources for school achievement: Motivational mediators of children's perceptions of their parents. *Journal of educational psychology*, 83(4), 508. <http://dx.doi.org/10.1037/0022-0663.83.4.508>
- Hale, W. W., VanderValk, I., Akse, J., & Meeus, W. (2008). The interplay of early adolescents' depressive symptoms, aggression and perceived parental rejection: A four-year community study. *Journal of Youth and Adolescence*, 37(8), 928-940. <https://doi.org/10.1007/s10964-008-9280-0>
- Hipwell, A., Keenan, K., Kasza, K., Loeber, R., Stouthamer-Loeber, M., & Bean, T. (2008). Reciprocal influences between girls' conduct problems and depression, and parental punishment and warmth: A six year prospective analysis. *Journal of abnormal child psychology*, 36(5), 663-677. <https://doi.org/10.1007/s10802-007-9206-4>
- Kazarian, S. S., Moghnie, L., & Martin, R. A. (2010). Perceived parental warmth and rejection in childhood as predictors of humor styles and subjective happiness. *Europe's Journal of Psychology*, 6(3), 71-93. <https://doi.org/10.5964/ejop.v6i3.209>

- Khaleque, A. (2013). Perceived parental warmth, and children's psychological adjustment, and personality dispositions: A meta-analysis. *Journal of child and Family studies*, 22(2), 297-306. DOI 10.1007/s10826-012-9579-z
- Khaleque, A., & Rohner, R. P. (2002). Perceived parental acceptance-rejection and psychological adjustment: A meta-analysis of cross-cultural and intracultural studies. *Journal of Marriage and Family*, 64(1), 54-64. <https://doi.org/10.1111/j.1741-3737.2002.00054.x>
- Kotaman, H. (2016). Turkish prospective early childhood teachers' emotional intelligence level and its relationship to their parents' parenting styles. *Teacher Development*, 20(1), 106-122. <https://doi.org/10.1080/13664530.2015.1101391>
- Lila, M., Garcia, F., & Gracia, E. (2007). Perceived paternal and maternal acceptance and children's outcomes in Colombia. *Social Behavior and Personality: an international journal*, 35(1), 115-124. DOI: <https://doi.org/10.2224/sbp.2007.35.1.115>
- Linares, M. C. G., Fernández, M. V. C., Rusillo, M. T. C., & Arias, P. F. C. (2018). Emotional Intelligence Profiles in College Students and Their Fathers' and Mothers' Parenting Practices. *Journal of Adult Development*, 1-9. <https://doi.org/10.1007/s10804-018-9286-0>
- O'Boyle, C. G. (2014). *History of psychology: A cultural perspective*. USA: Psychology Press.
- Parmar, P., & Rohner, R. P. (2005). Relations among perceived intimate partner acceptance, remembered parental acceptance, and psychological adjustment among young adults in India. *Ethos*, 33(3), 402-413. <https://doi.org/10.1525/eth.2005.33.3.402>
- Parpal, M., & Maccoby, E. E. (1985). Maternal responsiveness and subsequent child compliance. *Child Development*, 1326-1334. <https://www.jstor.org/stable/1130247>
- Petrides, K. V., Sangareau, Y., Furnham, A., & Frederickson, N. (2006). Trait emotional intelligence and children's peer relations at school. *Social Development*, 15(3), 537-547. <https://doi.org/10.1111/j.1467-9507.2006.00355.x>
- Putnick, D. L., Bornstein, M. H., Lansford, J. E., Malone, P. S., Pastorelli, C., Skinner, A. T., ... & Alampay, L. P. (2015). Perceived mother and father acceptance-rejection predict four unique aspects of child adjustment across nine countries. *Journal of Child Psychology and Psychiatry*, 56(8), 923-932. <https://doi.org/10.1111/jcpp.12366>
- Rohner, R. P. (2004). The parental "acceptance-rejection syndrome": universal correlates of perceived rejection. *American psychologist*, 59(8), 830. <http://dx.doi.org/10.1037/0003-066X.59.8.830>
- Rohner, R. P. (2008). Parental Acceptance-Rejection Theory Studies of Intimate Adult Relationship. *Cross-Cultural Research*, 42(1), 5-12. <https://doi.org/10.1177/1069397107309749>
- Rohner, R. P., & Pettengill, S. M. (1985). Perceived parental acceptance-rejection and parental control among Korean adolescents. *Child development*, 524-528. DOI: 10.2307/1129739
- Rohner, R. P., Khaleque, A., & Cournoyer, D. E. (2005). Parental acceptance-rejection: Theory, methods, cross-cultural evidence, and implications. *Ethos*, 33(3), 299-334. <https://doi.org/10.1525/eth.2005.33.3.299>
- Stamatopoulou, M., Galanis, P., Tzavella, F., Petrides, K. V., & Prezerakos, P. (2017). Trait Emotional Intelligence Questionnaire-Adolescent Short Form: A Psychometric Investigation in Greek Context. *Journal of Psychoeducational Assessment*, 36(5) 436-445. <https://doi.org/10.1177/0734282916687706>
- Sung, H. Y. (2010). The influence of culture on parenting practices of East Asian families and emotional intelligence of older adolescents: A qualitative study. *School Psychology International*, 31(2), 199-214. <https://doi.org/10.1177/0143034309352268>
- Uddin, M. K., Khaleque, A., Aktar, R., & Hossain, K. N. (2014). Relations between perceived parental acceptance and children's psychological adjustment in the context of differential parental power and prestige in Bangladesh. *Cross-Cultural Research*, 48(3), 214-222. <https://doi.org/10.1177/1069397114528675>
- Veneziano, R. A. (2000). Perceived paternal and maternal acceptance and rural African American and European American youths' psychological adjustment. *Journal of Marriage and Family*, 62(1), 123-132. <https://doi.org/10.1111/j.1741-3737.2000.00123.x>
- Webster, L., Low, J., Siller, C., & Hackett, R. K. (2013). Understanding The Contribution Of A Father's Warmth On His Child's Social Skills. *Fathering*, 11(1), 90. <https://doi.org/10.3149/fth.1101.90>