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Perceived Parenting Styles And Personal Growth Among Young Adults

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Abstract

This study investigates the influence of perceived permissive, authoritarian, and authoritative parenting styles on the personal growth of young adults. While also investigating gender discrepancies and parental differences in personal growth. The data was collected from 400 young adults' both males and females, ages 18-26. Parental Authority Questionnaire (PAQ) was used to measure perceived parenting styles, while the Personal Growth Initiative Scale (PGIS) was used to measure personal growth, respectively. Results showed that authoritative and permissive pare nting styles had a significant positive relation with personal growth, while authoritarian parenting style had a non-significant negative relation with the personal growth of young adults. Findings indicated a higher paternal influence on the personal growth of young adults than maternal. No significant gender discrepancies among young adults' personal growth were found. The findings also indicated a significant influence of educational level on the personal growth of young adults and offered conclusions about parenting, socioeconomic status, and birth order. These findings give valuable insights to future parents on ways to foster personal growth in their children and a vessel for policymakers to promote nurturing parenting in Pakistan.

Keywords: Parenting, Personal Growth, Self-efficacy, Young adults, Self-actualization, Authoritative parenting, Perceived parenting.

INTRODUCTION

Parenting styles have significant effects on children's development, and parents are crucial to their growth and adult readiness (Khanum et al., 2023). This effect continues throughout early adulthood in Pakistan, where it is typical to live with many generations. Islamic values and cultural norms have influenced parenting styles, which are different from those in individualistic nations (Zaman, 2014). Pakistan's popular authoritarian parenting style (Hassan et al., 2022) is frequently seen favorably, although it has been connected to poor personal growth (Khalid et al., 2020). Recent studies have called into doubt its efficacy, underscoring the necessity for thorough investigations into the effects of different parenting in culturally heterogeneous environments such as Pakistan.

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Parenting style

Baumrind (1966) distinguished three main parenting styles: authoritarian (demanding but not receptive), authoritative (balanced demanding and receptiveness), and permissive (low demandingness and high responsiveness). Parenting styles are the techniques parents use to discipline and socialize their children (Lightfoot et al., 2009). Furthermore, a person's subjective evaluation of their parents' parenting style is known as perceived parenting style (Hashmi & Singh, 2023).

Personal growth

The conviction that one can alter behavior and navigate life's transitions is known as personal growth (Ryff, 1989; DeCarvalho, 1990). The urge for change and progress is known as the personal growth initiative (PGI), and it is associated with self-actualization and adaptive coping strategies. (Robitschek & Keyes, 2009).

Literature review

Parenting in Pakistan

Influenced by Islamic and South Asian values, traditional parenting in Pakistan places a strong emphasis on social cohesiveness and intergenerational stability (Amin, 2020). According to Zaman (2014), mothers are primarily responsible for raising their children, but extended families also teach cultural and religious values. Eventually, children are expected to return the favor. Fathers and mothers have various effects on a child's development due to their diverse parental responsibilities (Khalid et al., 2020).

Parental Influence on Personal Growth

The growth of youngsters is greatly influenced by parental figures. Teenagers' psychological strengths are influenced by both parents, and unhealthy parental interactions are detrimental to development as a whole (Midha, 2014). Self-efficacy is significantly impacted by parental rejection (Wang & Ding, 2021). Adolescents' mental health and self-esteem are enhanced when parents get life skills training (Aruslsubila & Subasree, 2017).

Parenting Styles and Personal Growth Initiative

Personal growth is associated with self-actualization, autonomy, and psychological well-being (Robitschek & Keyes, 2009). Good parenting is associated with good psychological well-being (Gul et al., 2021), whereas authoritarian parenting is associated with psychological suffering (Parra et al., 2019). Emotional intelligence and personal development are badly impacted by permissive parenting (Wischerth et al., 2016).

Personal growth initiative (PGI) and self-esteem are greatly impacted by authoritative parenting, and not by authoritarian and permissive parenting (Hirata & Kamakura, 2018; Aslam & Sultan, 2014). Emerging adults' personal development is favorably correlated with authoritative parenting (Khalid et al., 2020). Authoritarian parenting and children's psychological wellbeing are positively correlated, according to a recent Pakistani study (Malik et al., 2023). This suggests that authoritarian parenting is a reflection of parental participation and care (Chao, 1994; Zaman, 2014). Authoritarian parenting is necessary for young children, but as they become older, it might backfire (Satrio et al., 2024; Lavasani et al., 2011).

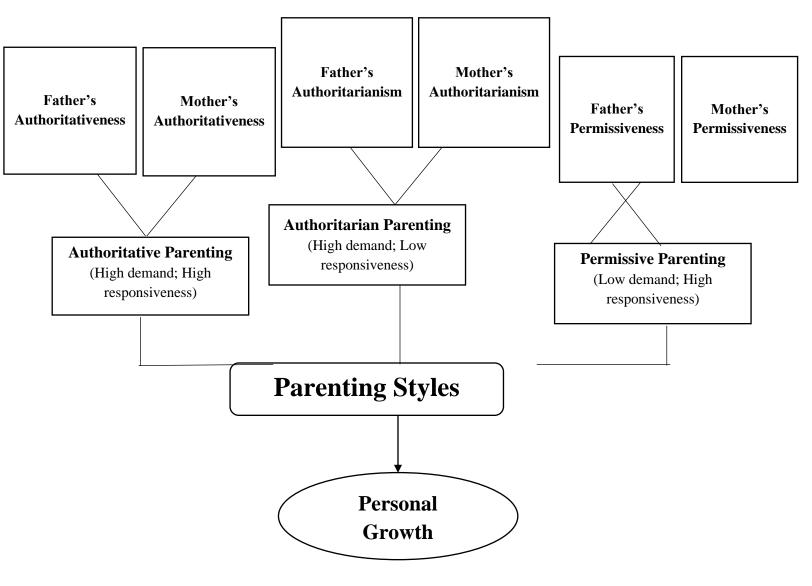
Theoretical framework

The influence of parenting on a child's growth into early adulthood is emphasized by Maslow's Hierarchy of Needs. Warm and reasonable expectations characterize authoritative parenting, which establishes a secure atmosphere that satisfies fundamental needs and promotes higher-order development like self-actualization (McLeod, 2018; Muraco et al., 2020). This parenting approach fosters a child's sense of competence, autonomy, and self-worth, which supports their general wellbeing and personal development (Kuppens & Ceulemans, 2019). The journey a child takes towards self-actualization is thus greatly influenced by their parenting style, which is in line with Maslow's thesis.

Rationale

This study fills a gap in the literature by examining how young adults' impressions of their parents' parenting affect their personal development. Traditionally, the literature has concentrated on children, adolescents, or older people. This study attempts to offer more trustworthy conclusions by examining parental disparities, the impact of demographics, and surveying young individuals with a bigger sample size. The results will guide Pakistani parent education initiatives and policies, encouraging the use of good parenting practices.

Conceptual Framework



METHODOLOGY

Objectives

The aim of this study is:

- 1. To investigate how parenting styles (authoritative, authoritarian, and permissive) influence personal growth in young adults.
- 2. To identify the impact of maternal and paternal parenting styles on young adults' personal growth.
- 3. To identify the impact of education level on personal growth in young adults.

Hypotheses

H1= Authoritative parenting style will positively influence personal growth among young adults.

H2= Authoritarian parenting style will negatively influence personal growth among young adults.

H3= Permissive parenting style will positively influence personal growth among young adults.

H4= The influence of paternal parenting styles on the personal growth of young adults will be significantly greater than that of maternal parenting styles.

H5= High schoolers will have higher personal growth.

Operational definition

Parenting styles

The Parental Authority Questionnaire (PAQ) developed by Buri (1989), will be utilized to operationalize parenting style.

Personal growth

The Personal Growth Initiative Scale-I (PGIS-I) by Robitschek et al. (1998) will be utilized to operationalize personal growth.

Research design

This research followed a quantitative research design, following a cross-sectional survey method. The sampling technique opted for this research was purposive sampling

Instruments

The instruments used in the study included a form for informed consent, a demographic form, the PAQ to evaluate parenting methods, and the PGIS to gauge personal growth initiative. Parental Authority Questionnaire (PAQ) consist of 30 items The PAQ scales showed a Cronbach's alpha coefficient of 0.75 for maternal permissiveness, 0.85 for maternal authoritarianism, 0.82 for maternal authoritativeness, and 0.74 for paternal permissiveness, 0.87 for authoritarianism, and 0.85 for authoritativeness. While the Personal Growth Initiative Scale consists of 9 items and has 0.89 reliability.

Sample

A sample of 400 participants both male and female aged 18-26, living in Islamabad and twin cities were chosen to participate in the study.

Procedure

This study used questionnaires to gather data from 400 participants, focusing on their perspectives on parenting methods and personal development. Participants were given permission to read and complete forms, followed by measures evaluating parenting styles and personal growth. The study involved authentic data collection and interpretation, with volunteers representing the sample, regardless of gender. No manipulation was used, ensuring sincerity in the findings.

Results

Scale		M	50	Hange	Cronbuch's o
Parental Authority Questions	sier				
Fethers' Authoriteiscusse	10	33.76	6.90	12-50	.81
Patiers' Authoritanism	10	30.76	8.32	10-50	.86
Fathers' Pennissiveness	10	31.11	7.16	10-50	.79
Personal Growth Initiative		38.9	1.99	14-54	.84
Scale					

Table 1 reveals the scales' psychometric characteristics. For fathers, the Cronbach's α values show strong internal consistency (> .80) with authoritativeness at .81 and authoritarianism at .86. An acceptable α of .79 (> .70) is found for the permissiveness scale. The personal growth initiative scale's Cronbach's α of .84, which indicates strong internal consistency, is slightly less than original value i.e., .90 reported by Robitschek (1998).

Scale	k	M	SD	Range	Cronbach's o
Parental Authority Questionnaire					
Mothers' Authoritativeness	10	36.41	7.22	10-50	.52
Mothers' Authoritarianism	10	32.75	9.11	10-50	.88
Mothers' Permissivenese	10	32.74	8.37	11-49	.84
Personal Growth Initiative Scale	9	39.03	8.00	14-54	.85

Table 2 reveals the scales' psychometric characteristics. The Cronbach's α values for permissiveness, authoritarianism, and authoritativeness among mothers are .84, .88, and .82, respectively, showing strong internal consistency (> .80). These values are higher than those of the Buri (1991) original scales as well as recent studies (Mahvish et al., 2024). Good internal consistency is also indicated by the personal growth initiative scale's Cronbach's α of .85.

Variables		M	SD	1	2	3	4
Fathers' Authoritativeness	398	33.71	6.99	-			_
Fathers' Authoritarianism	398	30.77	8.32	17**	-		
Fathers' Permissiveness	397	31.11	7.16	.53**	-15**		
PGIS	400	38.98	7.99	.43**	-0.33	3.12**	

Table 3 revealed that fathers' authoritativeness and permissiveness have a significant positive relation with personal growth (r = .43, p < .01 and r = .31, p < .01 respectively). Whereas

fathers' authoritarianism has a non-significant negative relation with personal growth of young adults (r = -.03, p > .05).

Table 4

Correlation for Study Variables for Mothers

Variables	η	M	SD	1	2	3	4
Mothers' Authoritativeness	396	36.42	7.23	=			_
Mothers' Authoritarianism	397	32,75	9.11	03	-		
Mothers' Permissiveness	398	32.74	8.38	.57**	.21**	2	
PGIS	400	39.04		36**	04	29**	_

Table 4 revealed that mothers' authoritativeness and permissiveness have a significant positive relation with personal growth (r = .36, p < .01 and r = .29, p < .01 respectively). While mothers' authoritarianism has a non-significant negative relation with personal growth of young adults (r = -.04, p > .05).

Table 5

Regression Coefficients for Perceived Parenting Styles on Personal Growth

		Model 1			Model 2	
		Mother			Father	
Variable	В	β	SE	В	β	SE
Constant	23,48**		1.99	20.59**		1.95
Authoritativeness	.32**	.29	.06	.43**	.37	.062
Permissiveness	.12*	.12	.06	.13*	.11	.060
R#	.14			.2		

Note. N= 400. We distinctly examined the impact of authoritative and permissive parenting styles of mothers and fathers on personal growth among young adults. *p < .05. **p < .01.

Table 5 illustrates how the permissive and authoritarian parenting styles of mothers and fathers affect the personal growth of young adults. These variables explain fathers' personal growth variance to the extent that fathers have an R^2 value of .2, F(1, 393) = 47.92, p < .01. Personal growth is significantly predicted by both permissive ($\beta = .11$, p < .05) and authoritative ($\beta = .37$, p < .01) styles. The R^2 value of .14 for mothers indicates that these variables explain 14% of the variation, F(1, 392) = 31.57, p < .01. Personal growth is significantly predicted by both permissive ($\beta = .12$, p < .05) and authoritative ($\beta = .29$, p < .01) styles.

Table 6	
Mean, Standard Deviation and One-Way Analysis of Variance in Parenting Styles and Po Across Education for Fathers	trsonal Growth

	High s	chool.	Colleg	10	Gradu	ste	Post-gr	nduate		
Variables	М	SD	М	SD	М	SD	М	SD	P(3,394)	η^3
Authoritativeness	33.29	5.35	32.41	7.09	34.18	7.16	34.07	6.01	1.75	.01
Authoritarianium	28.86	7.69	30.77	9.26	31,08	8.11	29.65	7.45	.553	.00
Permissiveness	27.71	7,70	30.03	7.74	31.64	6.98	31.35	6.59	1.77	:01
PGIS	40.14	9.25	37,15	11.10	40.08	7.47	37,72	9.06	3.91**	,03

Table 6 shows the means, standard deviation, and F-values for authoritativeness, authoritarianism, permissiveness, and personal growth i.e., PGIS across education levels. Results indicated that high schoolers exhibit higher levels of personal growth which is statistically significant with F (3, 396) = 3.91, p < .05, as compared to other groups. These findings support our hypothesis: "H4= High schoolers will have higher personal growth".

Variables	High school (Colleg	ollege Graduate			Post-gr	aduste		
	M	SD	М	SD	М	SD	М	SD	F(3,392)	ηξ
Authoritativeness	36.71	3.09	35.14	7.49	36.58	7.28	38.11	6,50	2.14	0
Authoritarianism	28.71	8.17	31.78	9,47			34.14	9.05	1.35	.01
Permissiveness	26.71	6.79	31.86	11.59	32.80	8.12	34.94	8.72	2.88*	.00

*p < 05, **p < 01, ***p < 001. PGIS = Personal Growth Instance Scale.

40.15 9.24 37.18 8.11 40.14 7.49 37.81 9.03 3.93** .02

Table 7 shows the means, standard deviation, and F-values for authoritativeness, authoritarianism, permissiveness, and personal growth i.e., PGIS across education levels. Results revealed that high schoolers exhibited significantly higher levels of personal growth as compared to other groups F (3, 396) = 3.93 p < .01 and post-graduates have more permissive mothers F (3, 394) = 2.88, p < .05 as compared to other groups.

Discussions

Filling a vacuum in the research, this study looked at how young people in Pakistan experienced personal development in relation to their perceptions of parenting approaches. Our results show that parenting approaches that are both permissive and authoritative have a major impact on personal development. According to other studies (Khalid et al., 2020; Aslam & Sultan, 2014; Tiwari, 2022) young adults who saw their parents as active, firm, warm, and adaptable demonstrated high levels of personal growth. Authoritative parenting increases emotional intelligence and self-esteem by striking a balance between independence and support (Tripathi & Jadon, 2017; Yadav et al., 2021).

Our findings imply that permissive parenting can have a beneficial effect on personal growth, which is consistent with current studies (Malik et al., 2023; Chen et al., 2024; McDermott et al., 2014), in contrast to prior research (Aslam & Sultan, 2014; Wischerth et al.,

2016). Parenting styles that are permissive can mitigate issues with self-worth and self-concept (Chen et al., 2024). Furthermore, Hassan et al., (2022) found that authoritarian and permissive styles are highly prevalent in Pakistani society. Nevertheless, in line with Hirata & Kamakura (2017), authoritarian parenting demonstrated a non-significant negative connection with personal development.

Consistent with Khalid et al., (2020), our study likewise showed the stronger impact of authoritative fathers than mothers on personal development. The sex-role theory explains this disparity by depicting fathers as providers, goal-oriented, and strict individuals who have a greater influence on personal development (Hosley & Montemayor, 1997).

Personal growth is influenced by educational attainment as well; high school students showed the greatest levels since they are going through a substantial time of cognitive and emotional development. Post-graduates, since they were more independent and mature, reported having more permissive mothers.

Limitations

This study has only been conducted in specific locations, institutions, and communities of Rawalpindi and Islamabad, the urban areas of Pakistan, meanwhile disregarding the rural areas and other cities. Followed by the fact that this study was carried out in Pakistan may have prevented it from capturing many cultural elements that influence parenting behaviors and personal development among the various ethnic groups or geographical areas of the nation. Therefore, the results may not apply to all Pakistani cultural situations. Furthermore, self-reporting bias may have affected the participants' replies on how they perceived their parents' parenting methods and their own personal development, by leading them to give socially acceptable answers. Hence, to reduce self-reporting bias, future research should take into account techniques like using different measurements, triangulating data sources, or combining qualitative and quantitative methodologies.

Moreover, the study mainly concentrated on the impact of perceived parenting methods on personal development, possibly ignoring other significant elements like peer connections, cultural norms, or personal experiences outside of the home. Not only this, bias may be introduced by a low response rate as a result of some groups being overrepresented or underrepresented. Furthermore, identifying clear cause-and-effect links between perceived parenting styles and personal development is more difficult due to the cross-sectional nature of the study.

Recommendations

Several recommendations are put forward in light of the findings. In order to establish a loving atmosphere with appropriate boundaries, parents should first take part in educational programs that support authoritative parenting. To better assist their children's personal development, these programs can help parents become more skilled communicators and mediators. Moreover, partnerships between educational institutions, neighborhood initiatives, community organizations, and mental health specialists should be formed readily offering available resources such as young adult-focused courses, mentorship programs, peer support groups, and counseling services, to assist young adults who are having difficulties with their personal development.

Furthermore, mental health education and services in schools, colleges, universities, healthcare institutions, and community organizations should be supported by policymakers. Young people's resilience and well-being may be improved, supporting their personal development in a variety of circumstances, by implementing a mental health curriculum and expanding access to counseling services.

References

- Amin, H., Jamal, A., & Dhingra, S. (2020). Neoliberalism and the Changing Parenting Practices in Pakistani Society. Authorea Preprints. https://doi.org/10.31124/advance.12692117.v1
- Arulsubila, M., & Subasree, R. (2017). Parenting and psychological wellbeing of adolescents-an intervention study. IOSR Journal of Humanities and Social Science (IOSR-JHSS), 1-9.
- Aslam, M. A., & Sultan, S. (2014). Parenting Styles: A Key Factor to Self Determination and Personal Growth of Adults. Journal on Educational Psychology, 8(2), 20-24.
- Buri, J. R. (1989). An Instrument for the Measurement of Parental Authority Prototypes.
- Baumrind, D. (1966). Effects of authoritative parental control on child behavior. Child Development, 37(4), 887–907. https://doi.org/10.2307/1126611
- Chen, F., Garcia, O. F., Alcaide, M., Garcia-Ros, R., & Garcia, F. (2024). Do We Know Enough about Negative Parenting? Recent Evidence on Parenting Styles and Child Maladjustment. European Journal of Psychology Applied to Legal Context, 16(1), 37-48.
- Chao, R. K. (1994). Beyond parental control and authoritarian parenting style: Understanding Chinese parenting through the cultural notion of training. Child Development, 65, 11-111. https://doi.org/10.2307/1131308
- DeCarvalho, R. J. (1990). The growth hypothesis and self-actualization: An existential alternative. The Humanistic Psychologist, 18(3), 252–258. https://doi.org/10.1080/08873267.1990.9976893
- Gul, N., Khan, H., & Nawaz, A. (2021). Parenting styles out comes on psychological well-being of children. Rawal Medical Journal, 46(3), 652–655.
- Hassan, M., Malik, A. S., Sang, G., Rizwan, M., Mushtaque, I., & Naveed, S. (2022). Examine the parenting style effect on the academic achievement orientation of secondary school students: The moderating role of digital literacy. Frontiers in Psychology, 13. https://doi.org/10.3389/fpsyg.2022.1063682
- Hashmi, S., & Singh, P. (2023). The relationship between perceived Parenting styles and learning styles amongst adolescents. International Journal of Creative Research Thoughts, 11(6), 2320–2882. https://ijcrt.org/papers/IJCRT2306247.pdf
- Hirata, H., & Kamakura, T. (2018). The effects of parenting styles on each personal growth initiative and self-esteem among Japanese university students. International Journal of Adolescence and Youth, 23(3), 325-333.
- Hosley, C. A., &Montemayor, R. (1997). Fathers and adolescents. In M. E. Lamb (Ed.), The role of the father in child development (p. 162–178). John Wiley & Sons Inc.
- Khanum, S., Mushtaq, R., Kamal, M. D., Nishtar, Z., & Lodhi, K. (2023). The Influence of Parenting Styles on Child Development. Journal of Policy Research, 9(2), 808–816. https://doi.org/10.61506/02.00022
- Khalid, S., Batool, S., Zaman, S., & Ashraf, S. (2020). A Retrospective Investigation of Differential Parenting Styles and Its Impact on Personal Growth of Emerging Adults. Ilkogretim Online, 20(5), 7285-7290.
- Kuppens, S., & Ceulemans, E. (2019). Parenting styles: A closer look at a well-known concept. Journal of Child and Family Studies, 28(1), 168-181. https://doi.org/10.1007/s10826-018-1242-x
- Lightfoot, C., Cole, M., & Cole, S. (2009). The Development of Children. New York: Worth Publishers.
- Lavasani, M. G., Borhanzadeh, S., Afzali, L., & Hejazi, E. (2011). The relationship between perceived parenting styles, social support with psychological well-being. Procedia-Social and Behavioral Sciences, 15, 1852-1856.
- Midha, P., & Geetanjali (2014). Fathering vs. mothering in fostering psychological strengths among adolescents. Indian Journal of Health and Wellbeing, 5, 726-728.
- McDermott, P. S., Somers, C. L., Ceresnie, A. R., Hillman, S. B., & Partridge, R. T. (2014). Maternal and paternal parenting style patterns and adolescent emotional and behavioural outcomes. Marriage and Family Review, 50, 342-359.
- Malik, A. S., Butt, K., & Mobeen, M. (2023). A quantitative analysis of the impact of parenting style on psychological well-being of youth and adolescents in Lahore, Pakistan. Liberal Arts and Social Sciences International Journal (LASSIJ), 7(1), 39–57.

- https://doi.org/10.47264/idea.lassij/7.1.3
- McLeod, S. A. (2018). Maslow's hierarchy of needs. Retrieved from https://www.simplypsychology.org/maslow.html
- Muraco, J. A., Ruiz, W., Laff, R., Thompson, R., & D. (2020, May 18). Baumrind's parenting styles. Pressbooks. https://iastate.pressbooks.pub/parentingfamilydiversity/chapter/chapter-1-2/
- Mahvish, K., Sarah, E., & Rabia, T. (2024). Relationship between Parenting Styles and Self-Efficacy of Undergraduate Students. Journal of Development and Social Sciences, 5(I). https://doi.org/10.47205/jdss.2024(5-i)13
- Parra, Á., Sánchez-Queija, I., García-Mendoza, M. del C., Coimbra, S., Egídio Oliveira, J., & Díez, M. (2019). Perceived Parenting Styles and Adjustment during Emerging Adulthood: A Cross-National Perspective. International Journal of Environmental Research and Public Health, 16(15), 27-57. https://doi.org/10.3390/ijerph16152757
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. Journal of Personality and Social Psychology, 57(6), 1069–1081. https://doi.org/10.1037/0022-3514.57.6.1069
- Robitschek, C., & Keyes, C. L. M. (2009). Keyes's model of mental health with personal growth initiative as a parsimonious predictor. Journal of Counseling Psychology, 56(2), 321–329. https://doi.org/10.1037/a0013954
- Robitschek, C. (1998). Personal growth initiative: The construct and its measure. Measurement And Evaluation in Counseling and Development, 30(4), 183-198.
- Satrio, P., Wu, L., Cheng, C., Qian, K., Ho, Y. M., & Prihadi, K. D. (2024). Parenting style and students' happiness in China. Journal of Education and Learning (EduLearn), 18(1), 185-193.
- Tiwari, A.P. (2022). Authoritative Parenting: The Best Style in Children's Learning. American Journal of Education and Technology.
- Tripathi, S., & Jadon, P.S. (2017). Effect of Authoritarian Parenting style on self esteem of the Child A Systematic Review. International Journal of Advance Research and Innovative Ideas in Education, 3, 909-913.
- Wang, L., & Ding, X. (2021). Influence of Parenting Style on Self-efficacy of Children. Lecture Notes in Education Psychology and Public Media, 1(1), 270–274. https://doi.org/10.54254/lnep.iceipi.2021215
- Wischerth, G. A., Mulvaney, M. K., Brackett, M. A., & Perkins, D. (2016). The adverse influence of permissive parenting on personal growth and the mediating role of emotional intelligence. The Journal of Genetic Psychology, 177(5), 185-189.
- Yadav, P., Shukla, P., Padhi, D., & Chaudhury, S. (2021). A correlational study between perceived parenting style, psychological well-being, and emotional intelligence among adolescents. Industrial Psychiatry Journal, 30(Suppl 1), S108–S114. https://doi.org/10.4103/0972-6748.328798
- Zaman, R.M. (2014). Parenting in Pakistan: An Overview. In: Selin, H. (eds) Parenting Across Cultures. Science Across Cultures: The History of Non-Western Science, vol 7. Springer, Dordrecht. https://doi.org/10.1007/978-94-007-7503-9_8