

The Effect of Parenting Styles on Metacognition and Academic Self-Concept Among Young Adults

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ABSTRACT

The main objective behind this research was to underline the effect of parenting styles on the metacognitions and academic self-concept of young adults. 160 young adults in the age range of 18 to 26 years were asked to share information about their parenting styles and metacognitions. The tools used for this were the Parental Authority Questionnaire (Buri, 1991), Meta Cognition Questionnaire (MCQ-30, Wells and Cartwright-Hatton, 2004), and Academic Self-Concept Scale by Liu and Wang (2005). The statistical analysis for the data was done by calculating the mean, standard deviation, and one-way Analysis of Variance (ANOVA). The result of the data analysis put forward that father's permissive parenting style leads to higher cognitive self-consciousness and also effect the total score of metacognitions. In the case of mothers, parenting styles were seen to have no effect on metacognition among young adults. It was also found that parenting styles of neither fathers nor mothers had any significant effect on the academic self-concept of the participants. A significant limitation of this study was the small sample size which was also not representative of the larger population. Future research is needed on these variables to understand the possible positive effect of fatherly authority, as well as the effect of mothers on positive metacognitions, which were not the focus in this study. There also needs to be further research on different aspects of parenting and their effect on academic self-concept.

Keywords: Parenting Styles, Metacognition, Authoritarian Parenting, Permissive Parenting, Authoritative Parenting, Academic Self-Concept.

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INTRODUCTION

A child's parents, being their first social interaction in the world, noticeably effect children's personality and behaviours through their own behaviours (Wenar and Kerig, 2000). These parental behaviour patterns were studied and then three distinct parenting styles employed by parents were proposed. These were the Authoritative, Authoritarian and Permissive parenting styles. The three styles were explained in detail, and it was suggested that authoritarian parents, who show minimal warmth, and heightened control as well as authority, often have children who feel mistrust and withdrawal from the world. Authoritative parents on the other hand, are rational, warm and encouraging, leading to their children becoming self-reliant and open to exploration. Contrasting to both prior mentioned styles, permissive parenting style includes affirming impulses of the children and minimal control. In this case, the children turn out to be less self-reliant and more prone to giving in to their impulses (Baumrind, 1967). The effect of parenting styles however does not end here. Authoritative parenting was also seen to positively influence hope and self-esteem among adolescents (Jain, Bansal, and Dagar, 2022). It was studied that better emotional,

cognitive and social development can be seen in children with authoritative parents. These effects show up in the behaviour of children easily (Khanum, Mushtaq, Kamal, Nishtar, and Lodhi, 2023).

Another aspect that is somewhat seen to be accomplished by parenting styles is metacognition which, when simply put, is one's cognition about their own cognitions (Flavell, 1979). Metacognition can be understood as the psychological process underlying the control, modifying, and interpretation of thoughts. This model advocates that metacognitions play a central role in enduring psychological distress and persuading biased cognitive processing (Wells, 2009; Wells & Matthews, 1994). The metacognitive model of Generalised Anxiety disorder (GAD; Wells, 1995) is grounded in the Self-Regulatory Executive Function (S-REF) model (Wells and Matthews, 1994, 1996), a transdiagnostic framework that emphasizes cognitive and attentional processes underlying emotional disorders. Within this model, GAD is conceptualized as arising from the coexistence of positive and negative belief about worry, which contribute to excessive perseverative thinking and heightened emotional distress. This metacognitive component determines how individuals cope, guiding their thoughts and

behavioural responses (Wells and Cartwright, 2004). In the Meta Cognition Questionnaire (30 item version), the negative aspects of metacognition that are present in an individual have been talked about. Metacognition has been divided into 5 sub-aspects, which were, Lack of Cognitive Confidence, Positive Beliefs about Worry, Cognitive Self-Consciousness, Negative Beliefs about Uncontrollability and Danger, and Need to Control Thoughts (Wells and Cartwright-Hatton, 2004). These factors reflect conflicting functions that we believe worry and anxiety serves.

Further effects of parenting styles were seen on academics. It was presented that more authoritative parenting leads to an increase in the academic achievement of children (Zhang, 2022). Related to academic achievement is another variable, which is academic self-concept. Academic self-concept is understood as a sub-division of general self-concept and described it as an individual's perception of their abilities in the field of academics and learning (Shavelson, Hubner, and Stanton, 1976). It includes Academic Confidence, meaning how much confidence a student has in their academic ability, and Academic Effort, which refers to the effort a student is willing to put in their academics, as its two domains (Liu and Wang, 2005). The beliefs of parents and teachers have a significant role in the academic self-concept of students (Frome and Eccles, 1998).

The basic objective behind conducting this research is to highlight the complex effect of parenting styles on metacognitions and academic self-concept among young adults. There exists some research that focuses on the relationship between these variables, but the number is significantly less. There is also an inadequate number of Indian studies talking about the relationship of parenting styles with metacognition. This study is an attempt to add on to the existing knowledge about the interaction between parenting styles, metacognition and academic self-concept within individuals. It is an initiative to bridge the gaps that have been observed via the review of previously done studies.

OBJECTIVE

The aim of this study was to highlight the effect of parenting styles on metacognition and academic self-concept among young adults.

HYPOTHESES

There would be no significant effect of fathers' or mothers' parenting styles (Authoritarian, Permissive and Authoritative) on metacognition (inclusive of 5 domains- lack of cognitive confidence, positive belief about worry, cognitive self-consciousness, negative belief about uncontrollability and danger and need to control thoughts) and academic self-concept (inclusive of 2 domains- academic confidence and academic effort) among young adults.

METHODOLOGY

SAMPLE

The study includes 160 young adults aged 18 to 26 years (mean age 20.84), via purposive sampling. This size was chosen for the sample, keeping in mind the representativeness nature of the selected population, as well as the limited resources available with the researcher.

A given requirement for the respondents was to have experienced parenting by both the parents. Individuals with education less than intermediate (10+2) level, as well as individuals with cognitive or psychological impairments were excluded from the study.

The sample consisted of 26.25% males, 73.13% females and 0.63% other gender individuals. 79.38% were graduates, while 20.63% of the participants were post graduates. Participants with rural, urban and semi-urban localities were 8.75%, 77.5% and 13.75% respectively. out of all respondents, 12.5% had high, 86.25% had middle, and 1.25% had low socio-economic status. It was seen that 2.5% of the sample had government jobs, 7.5% had private jobs, 8.75% were business owners, and 81.25% were unemployed. The percentage of participants with joint families was 32.5%, whereas those with nuclear families 67.5%. In the case of birth order. 38.13% were eldest children, 8.75% were middle children, and 36.25% were youngest children. The percentage of single children was 16.25%.

TOOLS

In order for the completion of the process of collection of data, thorough details of the participants' age, education, locality, socio-economic status, occupation, family type and birth order were taken. They were then presented with the following tools to gather data for the study.

Parental Authority Questionnaire: The Parental Authority Questionnaire (Buri, 1991) is a questionnaire consisting of 30 statements

relating to parental behaviours to identify the parenting styles used by parents. It has a 5-point Likert type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The PAQ is based on the parenting styles given by Baumrind (1971), namely, authoritarian (items 1-10), permissive (items 11-20) and authoritative (items 21-30). The total for each subscale is calculated, and the highest score among the three is considered the employed parenting style. The questionnaire has two distinct sections for responses for mother and father. The Cronbach's alpha values as well as test-retest reliability of the PAQ are good.

Meta-Cognition Questionnaire (MCQ-30): The Meta-Cognition Questionnaire (MCQ-30) developed by Wells and Cartwright-Hatton (2004) is a short version of the Meta Cognition Questionnaire. It works on a 4-point Likert scale (1=do not agree to 4=agree very much). It measures metacognition on five subscales – Lack of Cognitive Confidence, Positive Beliefs about Worry, Cognitive Self-Consciousness, Negative Beliefs about Uncontrollability and Danger, and Need to Control Thoughts, each subscale having scores in the range of 6-24. The total score for the MCQ ranges from 30-120, where higher scores indicate more unhelpful metacognitions. The convergent validity and internal consistency of the MCQ-30 are good, however, the test-retest reliability ranges from acceptable to good.

Academic Self-Concept Scale: The Academic Self-Concept scale was made by Liu and Wang (2005) to measure the academic-related self-concept of students. It is divided into two subscales (Academic Confidence and Academic Effort), and is based on a 7-point Likert scale where 1 means strongly disagree and 7 means strongly agree. Scores for the subscales are in the range of 10 to 70, and total scores lie between 20 and 140. A higher score is indicative of better academic self-concept. The reliability as well as validity of the scale are considered good.

PROCEDURE

To begin with the data collection process, 18–26-year-old participants were contacted for the study and briefed about the process without stating the purpose of the research. In the next step, informed consent was taken, and to make the respondents comfortable, rapport was established. They were then given clear instructions, and were requested to mark their answers in the questionnaire booklet with Anubha Pathak, Seema Rani Sarraf, Hema Khanna & Poonam Singh

genuineness. After resolving all queries about the questionnaires, the respondents were assured that there are no right or wrong answers, and that they can select whichever option resonates the most.

RESEARCH DESIGN

The research design applied in the current research was the cross-sectional design,

STATISTICAL ANALYSIS

The analysis of data was completed using SPSS version 21. The descriptive statistical values (mean and standard deviation) were calculated for the three groups, and One-way Analysis of Variance was used to underline the differences in the groups (authoritarian, permissive and authoritative parenting styles).

RESULT AND INTERPRETATION

The central objective of this research is to elaborate upon the effect of parenting styles on metacognition and academic self-concept among young adults. To understand the results, the scores for each subscale of the Parental Authority Questionnaire were calculated by totaling them. The subscale with the highest score was considered as the employed parenting style. This was done for the responses for both fathers and mothers. After identification of the parenting styles from the responses of the participants, it was seen that 24 fathers displayed mixed parenting styles, with 11 of them employing permissive-authoritative patterns, 4 showing permissive-authoritarian parenting, 7 having authoritarian-authoritative style, and the remaining 2 reporting a mix of all three parenting styles. In the case of mothers, it was seen that 23 mothers reported mixed parenting styles, with 5 responses showing permissive-authoritative patterns, 10 mothers employed permissive-authoritarian parenting, 6 displayed a mix of authoritarian-authoritative styles, and the remaining 2 used a combination of all three in child rearing. These responses were not included in the study. Mixed parenting styles introduce construct ambiguity, making it difficult to attribute outcomes to a specific parenting approach. Sample having extreme high and low responses (outliers) were excluded using boxplot. This led to the analysis being done on one hundred twenty-nine respondents.

Table 1 displays the mean and SD, along with the one-way analysis of variance for the domains of metacognition among Authoritarian, Permissive and Authoritative parenting in fathers.

Table 1: mean, SD and one-way ANOVA for measures of Meta Cognition Questionnaire and father's Parenting Styles among three groups (Authoritarian, Permissive and Authoritative)

Measure	Authoritarian (N=37)		Permissive (N=44)		Authoritative (N=48)		F-value	η^2
	Mean	SD	Mean	SD	Mean	SD		
Lack Of Cognitive Confidence	12.89	3.79	13.54	4.26	12.15	3.72	1.46	0.023
Positive Belief About Worry	12.73	4.42	12.86	4.44	12.04	3.78	0.50	0.008
Cognitive Self-consciousness	17.49	4.04	17.77	3.85	16.02	2.99	3.09*	0.047
Negative Belief About Uncontrollability and Danger	14.70	4.79	15.11	5.08	13.91	4.42	0.76	0.012
Need To Control Thoughts	13.59	3.75	14.57	4.41	12.65	3.81	2.64	0.040
Metacognition total	71.41	13.84	73.86	13.96	66.77	11.56	3.49*	0.053

* Indicates statistical significance at $p < 0.05$

Table 1 shows a significant difference ($F(2,126) = 3.09, p < 0.05$) in cognitive self-consciousness among authoritarian, permissive and authoritative parenting styles of fathers. Furthermore, the results display a significant difference ($F(2,126) = 3.495, p < 0.05$) in total scores of metacognitions among father's authoritarian, permissive and authoritative parenting. No significant difference was found in scores among the three parenting styles employed by fathers.

Most effects are small (ranging from 0.008 to 0.042), with the strongest being Metacognition total (0.053) and Cognitive Self-consciousness (0.047), both approaching a medium effect size. Fathers' parenting style explains only modest portion of variance in metacognitive beliefs. Table 2 displays the mean and standard deviation, along with the one-way analysis of variance for the domains of metacognition among Authoritarian, Permissive and Authoritative parenting in mothers.

Table 2: mean, SD and one-way ANOVA for measures of Meta Cognition Questionnaire and mother's Parenting Styles among three groups (Authoritarian, Permissive and Authoritative)

Measure	Authoritarian (N=37)		Permissive (N=44)		Authoritative (N=48)		F-value	η^2
	Mean	SD	Mean	SD	Mean	SD		
Lack Of Cognitive Confidence	12.38	4.054	13.48	3.97	12.31	4.08	1.07	0.009
Positive Belief About Worry	12.64	4.45	13.08	4.57	12.39	3.67	1.16	0.010
Cognitive Self-Consciousness	17.69	3.63	17.43	4.08	16.19	3.26	1.59	0.014
Negative Belief About Uncontrollability and Danger	14.86	4.97	15.28	4.87	13.75	4.38	0.94	0.008
Need To Control Thoughts	13.45	4.01	14.53	4.37	12.83	3.87	1.23	0.011
Total Meta Cognition	71.02	14.26	73.78	14.05	67.47	12.29	1.77	0.026

The above presented table displays that mothers' parenting styles do not have any significant effect on metacognition whatsoever. There was no significant difference observed

between the scores of metacognitions among the three groups. The effect sizes (η^2) for all measure in table 2 are very small (ranging from 0.009 to 0.026), meaning that mother's

parenting style explains less than three percent of the variance in metacognition score.

Table 3 presents the mean and standard deviation, along with the one-way analysis of

variance for the domains of academic self-concept among Authoritarian, Permissive and Authoritative parenting in fathers.

Table 3: mean, SD and one-way ANOVA for measures of Academic Self-Concept Scale and Parenting Styles (father) among three groups (Authoritarian, Permissive and Authoritative)

Measure	Authoritarian (N=37)		Permissive (N=44)		Authoritative (N=48)		F-value	η^2
	Mean	SD	Mean	SD	Mean	SD		
Academic Confidence	43.22	7.76	43.34	4.56	43.08	4.47	0.02	0.0002
Academic Effort	44.08	5.59	45.04	6.05	44.06	5.38	0.43	0.004
Total Academic Self-Concept	87.30	11.76	88.39	8.29	87.15	8.32	0.23	0.002

From table 3, it can be inferred that the parenting styles of fathers does not have any significant effect of the academic self-concept of young adults. The effect size on father's parenting styles and academic self-concept is extremely small which explains less than one percent of variance in academic confidence, effort and total academic self-concept.

Table 4 is explaining the mean and SD, along with the one-way analysis of variance for the domains of academic self-concept among Authoritarian, Permissive and Authoritative parenting in mothers.

Table 4: mean, SD and one-way ANOVA for measures of Academic Self-Concept Scale and mother's Parenting Styles among three groups (Authoritarian, Permissive and Authoritative)

Measure	Authoritarian (N=42)		Permissive (N=40)		Authoritative (N=36)		F-value	η^2
	Mean	SD	Mean	SD	Mean	SD		
Academic Confidence	43.74	6.81	42.85	5.10	43.50	4.76	0.53	0.005
Academic Effort	44.12	5.45	44.85	6.52	44.19	5.05	0.13	0.001
Total Academic Self-Concept	87.86	10.18	87.70	9.83	87.69	8.04	0.11	0.001

As can be seen in table 4, there was no significant effect of mothers' parenting style seen on the academic self-concept of young adults. Mother's parenting styles and academic self-concept show extremely small effect sizes ($\eta^2 < 0.01$), meaning parenting style explains less than one percent of the variance in academic confidence, effort, or total self-concept. This indicates negligible practical differences among Authoritarian, Permissive, and Authoritative mothers.

DISCUSSION

The main objective of this study was to understand the effect mothers' and fathers' parenting styles have upon metacognitions and academic self-concept of young adults. The study was conducted based on the data collected from one hundred and sixty young adults aged between 18 to 26 years. It is important to firstly note that the research suggests that most fathers display permissive parenting which leads to higher negative metacognitions, and more specifically

cognitive self-consciousness. Therefore, the hypothesis stating that there is no significant effect of father's parenting styles (Authoritarian, Permissive and Authoritative) on metacognition (inclusive of 5 domains- lack of cognitive confidence, positive belief about worry, cognitive self-consciousness, negative belief about uncontrollability and danger and need to control thoughts) among young adults stands rejected at 0.05 level of significance. As fathers become more permissive and less monitoring, children start to develop more unhelpful thoughts about their cognitions, and might become self-conscious about the thoughts that they have, in a negative way. The reason underlying this finding could be that the lack of optimal authority or the presence of excessive punishment may lead to reduced appropriate use of metacognitive skills (which develop through modelling), increasing self-handicapping cognitions, as explained in the quoted study by Edalatjoo, Mahdian, and Mohammadipour (2019). The authors found a

direct and positive relationship between parenting styles and metacognitive skills, indicating a stronger relationship between parents and children indicates better metacognitive skills in the child. However, another research by Blume, Londoño, Gómez, Cárdenas, and Benítez (2021) suggests contrasting results, that authoritarian parenting, along with negligent parenting are indicative of objective metacognitive monitoring being comparatively less accurate than that in the case of indulgent parenting. This research also posits that as parents become more indulgent, the child's subjective metacognitive self-awareness increases. However, it decreases when parenting becomes more negligent or authoritarian.

Additionally, the results presented that the parenting styles of mothers has no effect on metacognition or its domains among young adults. There was a slight difference noticed in the scores, where permissive mothers were seen to have children with higher scores on metacognition. Hence it was concluded that there is no significant effect of mother's parenting styles (Authoritarian, Permissive and Authoritative) on metacognitions of young adults. None of the previously reviewed studies suggested any similar results. This finding opens the prospects of studying whether mothers' parenting style has any effect on positive metacognitions, which were not a focus of this study. Also effect size suggests negligible practical differences among Authoritarian, Permissive and Authoritative groups. Parenting style influences metacognition indirectly, often mediated by emotional regulation, academic environment, individual experiences and biological predispositions (De Francesco et al., 2025) rather than showing strong effect.

The present findings- that neither father's nor mothers' parenting styles exert a significant influence on the academic self- concept of young adults- can be meaningfully understood within the context of contemporary developmental and educational research. Parenting style has only weak direct effects on academic self- concept, with stronger influences coming from stress, self- efficacy (Masud et al., 2016) and institutional environment. The direct impact of parenting diminishes as individual transition into young adulthood, giving way to more proximal academic and psychosocial influence. Recent Anubha Pathak, Seema Rani Sarraf, Hema Khanna & Poonam Singh

researches focusing specially on young adults and university students indicate that parenting styles often show weak or non- significant direct association with academic self- concept once autonomy, self- efficacy and motivational variables are accounted for. Stavroulaki et al. (2020) found that although perceived parenting styles were related to students' well-being, they did not significantly predict academic outcomes directly (Joshi et al. 2003); instead, motivation orientations acted as mediating variables, thereby reducing the direct effect of parenting styles on academic indicators in college samples. Furthermore, contemporary models grounded in Social Cognitive Theory emphasize that academic self-concept in young adults is increasingly influenced by self-efficacy beliefs rather than parental behaviours. A large-scale study published in Scientific Reports (2024) demonstrated that while parenting styles were related to academic resilience, their direct effects were substantially weaker than indirect effects mediated by self-efficacy and academic motivation. From a developmental perspective, emerging adulthood is characterized by identity exploration, autonomy and self-definition, during which individuals increasingly rely on internal standards rather than external evaluations. Meta analytic evidence further supports this interpretation, showing that while parenting styles have small but significant effects on academic outcomes during childhood and adolescence, these effects tend to attenuate with age and are weaker for global academic perceptions such as self-concept. Consequently, the absence of significant effects in the present study may reflect a normative developmental shift rather than an anomaly.

In sum, the current findings contribute to a growing body of literature suggesting that parenting styles are less predictive of academic self-concept in young adulthood, particularly when compared to psychological factors such as self-efficacy, motivation, and academic experiences within higher education settings.

CONCLUSION

The main aim of this study was to analyse the effect of mothers' and fathers' parenting styles upon metacognitions and academic self-concept of young adults. The finding of this research highlight that fathers permissive parenting style leads to higher cognitive self-consciousness. The results showed that the parenting styles of mothers had no effect on

metacognition or its domains among young adults. This finding opens the prospects of studying whether mothers' parenting style has any effect on positive metacognitions, which were not a focus of this study. Moreover, it was observed that neither fathers', nor mothers' parenting styles have any significant effect on the academic self-concept of young adults. As academic self-concept is essentially a part of general self-concept, further detailed study is required here.

Limitations

One of the major limitations of this study is that it was conducted with a relatively small sample size, and hence cannot be generalized on the wider population. The sample was not adequately representative, as the number of females was much higher than the number of male participants. Conduction of future researches with a more representative sample is needed to expand the horizon of the present understanding about the effect of parenting styles on metacognition among young adults.

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