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Research Paper

Exploring the association of Cognitive Styles, Self Esteem, Birth Order among Different Stages of Life Span

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ABSTRACT

Background: The focus of the present study is to explore the link between birth order, self-esteem, and cognitive styles in late adolescents, early adulthood and middle adulthood. **Method**: In order to meet this objective, a study was conducted among 300 participants (150 males and 150 females) reached out via using convenient sampling and snowball sampling. Relevant standardized scales Cognitive Style Inventory (by Praveen Kumar Jha) and Rosenberg's Self Esteem Scale were administered. Multiple statistical procedures were carried out for data analysis including Chi Square Test of Independence, Pearson's Correlation and Analysis of Variance. **Conclusion**: The study's conclusions and outcomes shed light on the complex interactions between demographics, self-esteem, birth order, and cognitive styles, contributing to our understanding of developmental psychology and personal development. It is advised that these findings be confirmed and expanded upon in future research using bigger and more varied population.

Keywords: *Cognitive Style, Birth Order, Self Esteem*

"What lies behind us and what lies before us are tiny matters compared to what lies within us."- Haskins (1940)

The deep meaning quote very beautifully captures not only the spirit of human psychological development, but also the idea about our true strength, potential and identity not being completely shaped by past experiences or aspirations regarding future, the complex interactions happening within our inner world playing an imperative role too. It is within our individual self that all our experiences are nurtured, processed, internalized and interpreted. This inner world of ours is shaped by our cognitive styles – the way we see, perceive, think and make decisions and is reflected in our self-esteem shaping our overall sense of how worthy we feel of our love, success and personal fulfilment. Human development a lifelong, fascinating, dynamic lifelong process that is inclusive of progressive, orderly, predictable changes in physical, cognitive, social and emotional developmental domain that a person goes through in life span from the moment of conception till death stated; (Baltes, 1987; Sigelman & Rider, 2014). A remarkable and defining milestone of this developmental journey is the formation of self – an individuals'

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perception about their identity, worth and place in the world stated;(Erikson, 1950; Damon & Hart, 1988). The development of self of an individual is somewhere believed to be linked to both - the cognitive processes and social experiences which shapes how an individual sees themselves throughout their lives (Harter, 1999). Out of all the paramount aspects of cognitive development, cognitive styles play a major role. The ways in which individuals process information can result in significant implications on their self-perception and decision-making (Allinson & Hayes, 1996).

Cognitive Style

Initially in 1978, Ausburn and Ausburn proposed that "cognitive styles referred to consistencies in an individual's manner of cognitive functioning particularly in acquiring and processing information." Similarly, Witkin et.al. (1977) defined "cognitive styles as individual differences in the ways people perceive, think, solve problems, learn and relate to others."

Cognitive Style Types

- Systematic Style – This cognitive style is generally linked to organized and logical behaviour. Individuals who use this style tend to follow a clear, structured process when learning, analysing or resolving problems.
- Intuitive Style – People with this approach are believed to take a less predictable route when processing information. They often depend on past experiences, move quickly through possible options, and are comfortable discarding ideas that don't seem to work.
- Integrated Style – Individual with an integrated cognitive style are often considered effective problem solvers, as they consistently try to identify potential challenges and opportunities to improve processes. They are also flexible in their thinking and can shift between different cognitive style with ease.
- Undifferentiated Cognitive Style - Those with an undifferentiated cognitive style struggle to distinguish between the systematic and intuitive approaches. As a result, they do not display a consistent thinking pattern. In learning or problem-solving situations, they tend to depend heavily on external instructions or guidance. Such individuals are typically introspective, reserved, and passive, often relying on others for assistance in resolving issues.
- Split Style - Individuals who score moderately on both systematic and intuitive scales are considered to have a split cognitive style, reflecting a balanced presence of both types.

However, it is important to understand that this balance does not mean they respond in an integrated manner. Instead, they display elements of each style separately, depending on the specific situation. These individuals tend to adopt one cognitive approach at a time—choosing the method they find most suitable for the task or learning environment they are in.

Self Esteem

Harter (1993) defined self-esteem as an evaluative component of the self-concept and as the level of global regard one has for one self. Carl Rogers (1959) defined self-esteem as the congruence between one's current and ideal selves. According to sociometer theory (Leary and Baumeister, 2000; Leary et al., 1995), an individual's fundamental need to belong, their basic urge to fit in is the reason they have self esteem. According to TMT (Pyszczynski et

al., 2004), self-esteem exists as a result of human beings' unique cognitive capability to recognize their own death.

Birth Order

Adler (1927) defined biological birth order as one's place in the family. Psychological birth order is described as how a person views their place in the family in relation to birth order (Adler, 1927; Campbell, White, & Stewart, 1991). The biological birth order is simply the order of birth (Sulloway,1997). Psychological birth order, on the other hand, is how an individual perceives their birth order (Ansbacher & Ansbacher,1956). Adler believed that the setting in which a person is born has little impact on the biological impacts of birth (Ansbacher 2 & Ansbacher,1956).

The theory of birth order and personality was initially introduced by psychiatrist Alfred Adler (1870–1937). Our personalities have an impact on our careers, social circles, self-entertainment, and how we handle obstacles in life. Alfred Adler highlighted that a person's birth order has a lasting effect on their lifestyle, leading to a skewed perspective on friendship, love, and work.

Alfred Adler proposed that an individual's birth order significantly influences their personality traits, particularly distinguishing the behaviours of first-borns, middle children, and youngest siblings. First-borns receive full attention until a sibling arrives, fostering responsibility, discipline, and leadership. They are often seen as mature, organized, and achievement-oriented. Middle Child – often struggles to accept attention from parents due to feelings of being frequently neglected or dismissed, feels insecure. They are perceived to be competitive, ambitious, adaptable, diplomatic. Last Born – receive lavish treatment, are frequently referred to as the entertainer, the party animal, and aren't scared to try their luck. People view them as gregarious, charming, extroverted, attention-seeking, fun-loving, and lacking in independence. Single Child - with no siblings to compare, mimics adult behaviour, are mature of their age, perfectionists, conscientious, self - centred, struggling with peer interaction more prone to loneliness and pressure from high parental expectations.

REVIEW OF LITERATURE

Tazehkandi Z. M. (2025) investigated to predict popular psychology based on perfectionism, cognitive styles and emotional schemas revealing significant and positive impact of perfectionism and emotional schema on popular psychology and no correlation existing between cognitive style and popular psychology.

In a study to characterize the impact of cognitive style on undergraduate students' motivation, Blackburn J. and Roberts R. (2025) found no statistically significant difference between cognitive styles and motivation, and innovative students scored higher on motivation than adaptive students.

Chua et al. (2025) undertook a study examining the effect of cognitive style, cognitive ability and information breadth on anchoring bias in telemedicine uncovered that information breadth increased anchoring bias while composite debiasing strategy reduced it and debiasing was most effective for individuals with high cognitive ability and intuitive cognitive style.

Vijayan D & Paul S. (2024) conducted a study with an aim to bring in light the significant differences in Emotional Regulation among young adults across Birth Order and Perceived Parenting Styles on 377 participants revealing no association of birth order and perceived parenting Styles and no significant differences in Emotional regulation strategies across Birth Order.

METHODOLOGY

Objectives

- To examine the differences in cognitive styles between males and females across different stages of life span (Late Adolescents, Early Adulthood and Middle Adulthood)
- To examine the impact of birth order on cognitive styles of male population and female population across different stages of life span (Late Adolescents, Early Adulthood and Middle Adulthood)
- To examine the association between stages of life span and cognitive styles.
- To examine the relationship of cognitive dimensions (systematic & intuitive) and self-esteem.
- To compare self-esteem levels among participants having different cognitive styles.
- To look at the predictive role of cognitive styles, gender, birth order, and age group on self-esteem.

Hypotheses

- A significant difference in cognitive styles among gender across different stages of life span.
- Birth order will have a significant effect on the cognitive styles of the male population and female population across different stages of the lifespan.
- There will be significant association between different stages of life span and cognitive style.
- A significant relationship exists between cognitive dimensions (systematic and intuitive) and self esteem.
- Significant differences exist between self-esteem levels of people with different cognitive style.
- Cognitive styles and other demographic group (gender, birth order and age) have impact on self-esteem.

Sample and Population Size

This research study was conducted on population size of 300 people (150 males and 150 female) divided into three age groups i.e. late adolescents, early adulthood and middle adulthood. The participants involved both non-working professionals or students and working professionals selected via convenience sampling and snowball sampling.

Instruments Used

Cognitive Styles Inventory (CSI) by Praveen Kumar Jha (2001) and Rosenberg's Self Esteem Scale were used to collect data.

1. ***Cognitive Style Inventory (Jha,2001):*** developed by Praveen Kumar Jha in 2001, CSI is a 40-item self-assessment tool designed to evaluate two cognitive dimensions: the systematic style and the intuitive style. It uses a 5-point Likert scale, where responses range from 1 (strongly disagree) to 5 (strongly agree). The reliability of the

instrument was evaluated through internal consistency, yielding reliability coefficients of 0.70 for the systematic style and 0.67 for the intuitive style. Additionally, the test-retest reliability was assessed, with correlation values of 0.58 and 0.56 for the respective dimensions, suggesting moderate stability over time. The validity of the inventory was confirmed using three approaches: expert judgment (judge's validity), concurrent validity, and internal validity measures.

2. ***Rosenberg's Self-Esteem Scale:*** is a unidimensional self-report measure consisting of 10 items that assess self-worth by examining both affirmative and negative perceptions of the self. It employs a 4-point Likert scale format, ranging from "strongly agree" to "strongly disagree." The instrument demonstrated high reliability, with a coefficient of .92, reflecting strong internal consistency. Furthermore, the test-retest reliability indicated high temporal stability, with correlation coefficients of .85 and .88. The scale's validity was established through concurrent, predictive, and construct validation methods.

Statistical Methods Used

The SPSS 2.0 Version was used to do analysis. Chi square, ANOVA, Pearson's correlation were used for performing the analysis.

Procedure

The research study began with the extensive review of literature and identification of research gaps after which research study topic was finalised as an attempt aimed addressing the current research gaps and as an attempt to bring in light or touch the novelty among the selected variables such as cognitive styles, self esteem and birth order. After the topic was finalised relevant standardized scales were selected in order to be utilized for data collection. The sample size of 300 participants was decided and were reached out via convenience sampling and snowball sampling. Every participant was briefed about the motto behind the research study in clear and understandable manner and were assured confidentiality of responses and anonymity of their identities and responses, followed by obtaining their consents. Participants were then provided with the self report measures, along with clear instructions and ample time to fill the responses. Upon completion, the participants were thanked as a token of appreciation. At last the participants' responses were scored according to the norms of the manual and scales, the results were statistically interpreted and analysed and conclusion were derived.

RESULTS

Table: 1 Cognitive Style, Gender , Age Group Crosstabulation

Age Group				Gender		Total
				Female	Male	
Early Adulthood	Cognitive Style	Integrated Cognitive Style	Expected Count	8.5	8.5	17.0
			% within Gender	20.0%	14.0%	17.0%
		Intuitive Cognitive Style	Expected Count	1.5	1.5	3.0
			% within Gender	2.0%	4.0%	3.0%
		Split Cognitive Style	Expected Count	4.0	4.0	8.0
			% within Gender	4.0%	12.0%	8.0%
		Systematic Cognitive Style	Expected Count	35.0	35.0	70.0
			% within Gender	74.0%	66.0%	70.0%

Late Adolescent	Cognitive Style	Undifferentiated Cognitive Style	Expected Count	1.0	1.0	2.0
			% within Gender	0.0%	4.0%	2.0%
	Total		Expected Count	50.0	50.0	100.0
			% within Gender	100.0%	100.0%	100.0%
		Integrated Cognitive Style	Expected Count	6.0	6.0	12.0
			% within Gender	10.0%	14.0%	12.0%
		Intuitive Cognitive Style	Expected Count	3.5	3.5	7.0
			% within Gender	2.0%	12.0%	7.0%
		Split Cognitive Style	Expected Count	17.0	17.0	34.0
			% within Gender	28.0%	40.0%	34.0%
		Systematic Cognitive Style	Expected Count	23.0	23.0	46.0
			% within Gender	58.0%	34.0%	46.0%
Middle Adulthood	Cognitive Style	Undifferentiated Cognitive Style	Expected Count	.5	.5	1.0
			% within Gender	2.0%	0.0%	1.0%
	Total		Expected Count	50.0	50.0	100.0
			% within Gender	100.0%	100.0%	100.0%
		Integrated Cognitive Style	Expected Count	5.0	5.0	10.0
			% within Gender	12.0%	8.0%	10.0%
		Intuitive Cognitive Style	Expected Count	2.0	2.0	4.0
			% within Gender	0.0%	8.0%	4.0%
		Split Cognitive Style	Expected Count	6.5	6.5	13.0
			% within Gender	2.0%	24.0%	13.0%
		Systematic Cognitive Style	Expected Count	36.5	36.5	73.0
			% within Gender	86.0%	60.0%	73.0%
	Total		Expected Count	50.0	50.0	100.0
			% within Gender	100.0%	100.0%	100.0%
Total	Cognitive Style	Integrated Cognitive Style	Expected Count	19.5	19.5	39.0
			% within Gender	14.0%	12.0%	13.0%
		Intuitive Cognitive Style	Expected Count	7.0	7.0	14.0
			% within Gender	1.3%	8.0%	4.7%
		Split Cognitive Style	Expected Count	27.5	27.5	55.0
			% within Gender	11.3%	25.3%	18.3%
		Systematic Cognitive Style	Expected Count	94.5	94.5	189.0
			% within Gender	72.7%	53.3%	63.0%
		Undifferentiated Cognitive Style	Expected Count	1.5	1.5	3.0
			% within Gender	0.7%	1.3%	1.0%
	Total		Expected Count	150.0	150.0	300.0
			% within Gender	100.0%	100.0%	100.0%

Table 1 shows cognitive style distribution by gender across life stages. In late adolescence, the systematic style was most common, with split style more frequent in males (40%) than females (28%). Systematic style predominated in both genders (66% males, 74% females), while intuitive and undifferentiated styles were minimal. In middle adulthood, females continued to show a higher preference for the systematic style, whereas males showed a greater tendency toward the split style. Undifferentiated style was rare in both genders.

Table: 2 Chi-Square Tests

Age Group		Value	df	Asymp. Sig. (2-sided)
Early Adulthood	Pearson Chi-Square	5.091[b]	4	.278
	Likelihood Ratio	5.966	4	.202
	N of Valid Cases	100		
Late Adolescent	Pearson Chi-Square	9.094[c]	4	.059
	Likelihood Ratio	9.915	4	.042
	N of Valid Cases	100		
Middle Adulthood	Pearson Chi-Square	16.023[d]	3	.001
	Likelihood Ratio	19.246	3	.000
	N of Valid Cases	100		
Total	Pearson Chi-Square	20.175[a]	4	.000
	Likelihood Ratio	21.188	4	.000
	N of Valid Cases	300		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 1.50.

b. 6 cells (60.0%) have expected count less than 5. The minimum expected count is 1.00.

c. 4 cells (40.0%) have expected count less than 5. The minimum expected count is .50.

d. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 2.00.

Table 2 presents Chi-Square test results. A marginal effect of gender on cognitive styles was found in late adolescence (p = 0.059), while early adulthood showed no significant gender impact (p = 0.278). In middle adulthood, a significant gender-based difference emerged (p = 0.001). Overall, results suggest a partial association between gender and cognitive styles, supporting the hypothesis to some extent.

Table: 3 Chi-Square Tests

Gender		Value	Df	Asymp. Sig. (2-sided)
Female	Pearson Chi-Square	1.660[b]	4	.798
	Likelihood Ratio	2.049	4	.727
	N of Valid Cases	150		
Male	Pearson Chi-Square	2.377[c]	4	.667
	Likelihood Ratio	2.411	4	.661
	N of Valid Cases	150		
Total	Pearson Chi-Square	1.730[a]	4	.785
	Likelihood Ratio	1.753	4	.781
	N of Valid Cases	300		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 1.50.
b. 4 cells (40.0%) have expected count less than 5. The minimum expected count is .50.
c. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 1.00.

Table 3 gives insights about the relationship between cognitive style and birth order based on gender. The total chi square value across the entire sample was 1.370 with p value of

.785. Among, the data analyzed for female group, the chi square value were found to be 1.660 (p =.798) and for male group the chi square values was 2.377 (p=.667).

Table: 4 Chi Square Tests

Age Group		Value	df	Asymp. Sig. (2-sided)
Early Adulthood	Pearson Chi-Square	.892[b]	4	.926
	Likelihood Ratio	.904	4	.924
	N of Valid Cases	100		
Late Adolescent	Pearson Chi-Square	4.338[c]	4	.362
	Likelihood Ratio	4.759	4	.313
	N of Valid Cases	100		
Middle Adulthood	Pearson Chi-Square	5.148[d]	3	.161
	Likelihood Ratio	6.697	3	.082
	N of Valid Cases	100		
Total	Pearson Chi-Square	1.730[a]	4	.785
	Likelihood Ratio	1.753	4	.781
	N of Valid Cases	300		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 1.50.

b. 6 cells (60.0%) have expected count less than 5. The minimum expected count is 1.00.

c. 4 cells (40.0%) have expected count less than 5. The minimum expected count is .50.

d. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 2.00.

Table 4 shows no significant link between birth order and cognitive style across age groups, with all p-values above 0.05. However, the middle adulthood group ($\chi^2 = 5.148$, $p = .161$) suggests a need for further research with a larger or more diverse sample.

Table: 5 Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	33.573[a]	8	.000
Likelihood Ratio	33.637	8	.000
N of Valid Cases	300		

6 cells (40.0%) have expected count less than 5. The minimum expected count is 1.00.

Table 5 illustrates and reflects about the relationship between different stages of life span and cognitive styles showing a Pearson Chi-Square value of 33.573 with 8 degrees of freedom, and a p-value of .000. The p-value is less than the standard significance level of 0.05, highlights that cognitive styles of an individual do change with their age.

Table: 6 Cognitive Dimensions and Self Esteem Score

		Systematic Style Dimension	Intuitive Style Dimension	Self Esteem Score
Systematic Style Dimension	Pearson Correlation	1	.666**	.150**
	Sig. (2-tailed)		.000	.009
	N	300	300	300
Intuitive Style Dimension	Pearson Correlation	.666**	1	.070
	Sig. (2-tailed)	.000		.228
	N	300	300	300
Self Esteem Score	Pearson Correlation	.150**	.070	1
	Sig. (2-tailed)	.009	.228	
	N	300	300	300

Correlation is significant at the 0.01 level (2-tailed).

Table 6 shows a moderate positive correlation between systematic and intuitive cognitive dimensions ($r = .666$, $p < .001$). Systematic style has a weak but significant correlation with self-esteem ($r = .150$, $p = .009$), while intuitive style shows no significant link to self-esteem ($r = .070$, $p = .228$).

Table: 7 Self Esteem Scores

Tukey HSD

Cognitive Style	N	Subset for alpha = 0.05	
		1	2
Undifferentiated	3	13.00	
Intuitive	14	14.07	14.07
Split	55	15.09	15.09
Systematic	189	15.27	15.27
Integrated	39		15.54
Sig.		.069	.440

Table 7 presents one-way ANOVA results comparing self-esteem across five cognitive styles. Although differences were not statistically significant ($F(4, 295) = 2.319$, $p = .057$), the p-value suggests a possible trend. Descriptively, those with an Integrated style had the highest self-esteem ($M = 15.54$), while the Undifferentiated group had the lowest ($M = 13.00$).

Table: 8 Multiple Comparisons Dependent Variable: Self Esteem Score

(I) Cog StyN	(J) CogStyN	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	1.198	.563	.211	-.35	2.74
	3.00	-.269	.358	.944	-1.25	.71
	4.00	.179	.312	.979	-.68	1.03
	5.00	2.270	1.184	.310	-.98	5.52
2.00	1.00	-1.198	.563	.211	-2.74	.35
	3.00	-1.467	.634	.143	-3.21	.27
	4.00	-1.019	.609	.451	-2.69	.65
	5.00	1.071	1.294	.922	-2.48	4.62
3.00	1.00	.269	.358	.944	-.71	1.25

(I) Cog StyN	(J) CogStyN	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
4.00	2.00	1.467	.634	.143	-.27	3.21
	4.00	.448	.426	.831	-.72	1.62
	5.00	2.538	1.219	.230	-.81	5.88
	1.00	-.179	.312	.979	-1.03	.68
	2.00	1.019	.609	.451	-.65	2.69
	3.00	-.448	.426	.831	-1.62	.72
	5.00	2.091	1.206	.415	-1.22	5.40
5.00	1.00	-2.270	1.184	.310	-5.52	.98
	2.00	-1.071	1.294	.922	-4.62	2.48
	3.00	-2.538	1.219	.230	-5.88	.81
	4.00	-2.091	1.206	.415	-5.40	1.22

Table 8 shows that Tukey HSD post hoc tests found no significant differences between cognitive style groups (all $p > .05$). However, mean differences suggested that individuals with an Undifferentiated style tended to have lower self-esteem than those with Systematic or Integrated styles.

Table: 9 Model Summary

Model	Change Statistics				
	R Square Change	F Change	df1	df2	Sig. F Change
1	.039[a]	2.405	5	294	.037

a. Predictors: (Constant), Age Group, Birth Order, Gender, Intuitive Style Dimension, Systematic Style Dimension

Table 9 presents a multiple linear regression analysing the impact of cognitive styles and demographics on self-esteem. The model was statistically significant ($R^2 = .039$, $F(5, 294) = 2.405$, $p = .037$), explaining 3.9% of the variance, indicating a small but meaningful effect.

Table: 10 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	12.770	1.160		11.009	.000		
	Systematic Style Dimension	.036	.019	.155	1.902	.058	.489	2.044
	Intuitive Style Dimension	-.009	.020	-.036	-.446	.656	.507	1.973
	Gender	.422	.244	.103	1.734	.084	.925	1.081
	Birth Order	.293	.235	.071	1.248	.213	.997	1.003
	Age Group	-.026	.148	-.010	-.174	.862	.937	1.067

a. Dependent Variable: Self Esteem Score

In table 10 Regression Coefficients reflected upon Systematic Style Dimension showing a positive trend toward predicting self-esteem ($\beta = .155$, $p = .058$), though it narrowly missed the conventional level of significance ($p < .05$), further suggesting a marginal influence of

systematic thinking on self-esteem. On the other side, Intuitive Style and demographic variables (Gender, Birth Order, Age Group) did not significantly predict the self-esteem. Multicollinearity Diagnostics VIF values ranged from 1.003 to 2.044

Table: 11 Collinearity Diagnostics[a]

Dimension	Eigenvalue	Condition Index	Variance Proportions					
			(Constant)	Systematic Style Dimension	Intuitive Style Dimension	Gender	Birth Order	Age group
1	4.981	1.000	.00	.00	.00	.01	.01	.00
2	.500	3.155	.00	.00	.00	.44	.52	.00
3	.396	3.547	.00	.00	.00	.46	.45	.03
4	.112	6.681	.01	.00	.01	.02	.01	.86
5	.007	26.476	.98	.17	.12	.00	.00	.03
6	.004	35.920	.01	.82	.87	.07	.00	.07

In table 11, values indicate no multicollinearity concerns and Condition indices and variance proportions did not show any problematic collinearity among the predictors.

DISCUSSION

According to the first hypothesis there will be differences in cognitive styles of males and females across different stages of the life span. In order to test this hypothesis, chi square test of independence was administered. The value (p=0.059) during late adolescents, (p=0.278) during early adulthood and (p=0.001) during middle adulthood showed significant relationship. But during early adulthood, no significant difference was observed. As a result of this, hypothesis is partially accepted. Theoretically, gender differences among cognitive styles have been studied numerous times before. One such study was conducted by Nath I.(2017) to explore the differences in cognitive styles of male and female college students. The findings of the study concluded that there were women who scored high on both intuitive and systematic cognitive dimension than boys.

As per the second hypothesis proposed, Birth Order will have a significant effect on the Cognitive Styles among population of from different gender across different stages of life span. For this, chi square test of independence was administered, revealing that the chi - square value across the entire sample was 1.370 with p value of .785. Among, the data which was analysed for female group, the chi-square value was found to be 1.660 (p =.798) and for male group the chi square values was 2.377 (p=.667). The findings concluded that the birth order do not play a significant role in shaping cognitive styles of individuals regardless of their age span. The impact of birth order is being studied since ages. A fair study was conducted by Chertkova Y. et.al. (2013) analysing the influence of birth order and family size on the relationship between cognitive abilities and personality traits revealing birth order mediates the relationship between intelligence parameters (a cognitive component) and personality traits. Acknowledging the fact that there is limited studies comparing the cognitive style of first born and last born, this hypothesis is worth exploring to provide concrete evidences supporting or contradicting the hypothesis.

The third hypothesis proposed that there will be association of cognitive styles and different stages of life span. In order to test this hypothesis, Pearson's chi square was administered showing a Pearson Chi-Square value 33.573 with 8 degree of freedom, and a p-value of .000. The p-value is less than the standard level of 0.05 concluding that cognitive styles of

individuals do change with their age. The past studies did explore numerous changes happening in cognitive domain throughout the stages of life span but no fair study could be identified particularly exploring the impact of different age spans of cognitive style. One such study was conducted by Boccia et al.(2019) aimed at assessing the effect of field dependence-independence cognitive style on performances of children across life span revealing higher field independence cognitive style was associated with better performance in children but not in adolescents and adults suggesting cognitive style influences learning differently across different age groups.

The fourth hypothesis aimed to test significant relationship of systematic and intuitive cognitive dimension and self esteem. The results of Pearson's correlation analysis for this specific hypothesis showed a moderately positive correlation between systematic and intuitive style, meaning that people with high systematic values also had high intuitive values; a significant but weakly positive relationship between systematic and self-esteem; and no significant relationship between intuitive and self-esteem. A lot of past researches have examined the link between self-esteem and cognitive styles, despite the fact that many have examined the relationship between the two. Sagiv.et al. (2017) carried out one such study to look at cognitive style in relation to personality traits. The study's conclusions showed that an intuitive cognitive style was strongly correlated with extraversion and stimulation values, whereas a systematic cognitive style was favorably correlated with conscientiousness and security values. Although the study did not evaluate self-esteem directly, it should be noted that these personality qualities are frequently associated with levels of self-esteem, indicating an indirect association between self-esteem and cognitive styles.

The fifth hypothesis was aimed to test significant differences in self-esteem levels among participants with varying cognitive styles for which ANOVA was administered. The findings revealed that that there wasn't a strong enough difference in self-esteem levels between the different cognitive style groups. For the fact that the results were close to the cut off, it hints that there might be a possibility of for significance worth exploring in future by increasing the sample size. Also looking at the average scores, it was noted that people with integrated cognitive style had high self esteem followed by those who have intuitive cognitive style. It was noted that people who had undifferentiated cognitive style tended to have lowest self-esteem.

According to the sixth hypothesis proposed, self-esteem is influenced by cognitive types as well as other demographics, such as gender, birth order, and life phases. Multiple linear regression was used to examine the predictive influence of these characteristics on self-esteem. The results indicated that, except from the systematic cognitive component, the other variables did not substantially predict self-esteem. Systematic Cognitive dimension showed a positive trend towards predicting the self-esteem but narrowly missed the conventional level of significance.

CONCLUSION

The implications of the current study shed light upon complex interplay and relationship of cognitive styles, birth order, self-esteem and different stages of life span. The findings of the study to an extent supported the proposed hypothesis, showing meaningful yet nuanced patterns. Gender differences in cognitive styles were observed among late adolescents and middle adulthood, they were not evident in early adulthood, giving insights about

developmental and contextual shifts in cognitive functioning. Birth order showed no significant influence on cognitive styles across the lifespan, suggesting a weaker role in comparison to what was assumed. In addition to the above learning, this study also enlightened us about a weak but noteworthy correlation relationship in between of systematic cognitive style and self-esteem being emerged, while intuitive style showed no such link. All in all these findings contribute to the expanding field of cognitive-personality dynamics and highlight the value of considering multiple developmental and demographic variables.

Limitations of the present study

- Limited number of participants in context of their birth order.
- Biasness due to convenience and snowball sampling.
- Decreased generalizability for other cultures due to sample size being representative of Indian population only.
- Response biases due social desirability of self-report measures and inaccurate perception about self.
- Heavily depends on individual difference hence it is difficult to generalize the findings over a large population.

Future Implications/Suggestions

- Future researches should consider studying these variables with much larger population size.
- Exploring factors such as emotional intelligence, personality traits, or family dynamics as mediators or moderators could provide a richer understanding.
- The future researches should consider using brief self-report measures, particularly for Cognitive Style Inventory.

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Conflict of Interest

The author(s) declared no conflict of interest.

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