

Psychological Outcomes Across Siblings: The Influence of Birth Order on Development

Hanan Nasarulla¹, Syeda Zoya Imran², Azeez Rizwana³

¹ BSc. (Hons) Psychology, Division of Psychology and Cognitive Neuroscience, JSS Academy of Higher Education and Research, Mysuru, Karnataka, India

² MSc. Cognitive Neuroscience, Division of Psychology and Cognitive Neuroscience, JSS Academy of Higher Education and Research, Mysuru, Karnataka, India

³ Assistant Professor, Division of Psychology and Cognitive Neuroscience, JSS Academy of Higher Education and Research, Mysuru, Karnataka, India

Correspondence Address: Azeez Rizwana³, Assistant Professor, Division of Psychology and Cognitive Neuroscience, JSS Academy of Higher Education and Research, Mysuru, Karnataka, India

ABSTRACT

Introduction: Family structure, particularly birth order and gender, plays a critical role in shaping psychological development, yet their joint influence on personality, well-being, regulation, and motivation remains insufficiently understood. This study aimed to assess how these psychological variables are interrelated within firstborn and second-born individuals, and to examine whether these patterns differ across gender within each birth order subgroup.

Methodology: A total of 149 young adults aged 18–25 from nuclear families with one male and one female child participated. Standardized tools were used to assess extraversion, neuroticism, psychological well-being, emotional and behavioral difficulties, and Achievement motivation. Spearman's rank-order correlation was used for statistical analysis due to the non-normal distribution of data.

Results: Findings revealed that psychological well-being was consistently associated with fewer emotional/behavioural dysregulation across all subgroups. Firstborns exhibited an

inverse association between extraversion and Achievement motivation, while neuroticism was more strongly linked to emotional/behavioral dysregulation in females. Achievement motivation in Second-born males demonstrated the strongest positive relationship with psychological well-being and a negative correlation with emotional/behavioural dysregulation.

Conclusion: These results underscore the importance of considering both ordinal position and gender in understanding individual differences in adjustment. The study contributes to a more integrative view of how familial structure and dispositional traits jointly inform psychological outcomes in emerging adulthood.

Keywords: Birth order, personality traits, psychological well-being, Emotional and Behavioural Regulation, Achievement motivation, Young Adults

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INTRODUCTION

Familial environment plays a fundamental role in shaping an individual's personality, emotional well-being, and motivational tendencies. Among the various familial influences, birth order—the sequence in which a child is born within a family—has garnered significant attention for its potential impact on developmental outcomes (Kour, 2022). First conceptualized by Adler, birth order theory posits that a child's ordinal position within the family contributes to distinct behavioral and personality patterns (Paulhus et al., 1999; Sulloway, 1996).

Birth order categories are commonly associated with distinct personality tendencies. Firstborns are often viewed as responsible, achievement-driven, and assertive, frequently adopting leadership roles (Kaizyn & Vaghchipawala, 2023; Kaul & Srivastava, 2018; Leman, 2015); middle child tend to be adaptable, diplomatic, and socially skilled, often developing strong negotiation abilities(Kaul & Srivastava, 2018), youngest one's generally described as

sociable, creative, and attention-seeking, with a greater tendency toward nonconformity (Iqbal, 2025) and single/ only child as typically mature, independent, and comfortable with adults, though may struggle with sharing and compromise (Xiao et al., 2022).

Personality, defined as a constellation of enduring thoughts, emotions, and behaviors that distinguish individuals from one another, is shaped by genetic factors and environmental influences such as family dynamics (Adler, 1937). Personality traits, especially extraversion and neuroticism, are well-documented predictors of psychological well-being and behavioral functioning (Gale et al., 2013). Extraversion is typically linked to greater life satisfaction and adaptive coping, whereas neuroticism is associated with emotional instability and dysregulation (Gomez et al., 2002; Harris et al., 2017). Birth order has been posited to shape these traits through differential parental investment and role expectations (Downey, 2001). Firstborns, for example, often report higher in responsibility and achievement orientation due to early responsibility and elevated parental expectations (Kaur & Sharma, 2025; Paulhus et al., 1999; Sulloway, 1996), while later-borns may develop greater adaptability and social ease due to more flexible roles and reduced scrutiny (Sahal & Sharma, 2025; Thye, 2013).

Psychological well-being, defined as a multidimensional construct encompassing self-acceptance, resilience, and life satisfaction (Ryan & Deci, 2001; Ryff, 1989, 2013; Ryff & Keyes, 1995) is shaped by both dispositional traits and environmental contexts such as sibling dynamics (Colman et al., 2016; Priyanshu & Pandey, 2025; Torres-Soto et al., 2022). Firstborns, often exposed to higher expectations, may experience increased stress and emotional pressure, while later-borns may benefit from more flexible parenting, fostering emotional adaptability and social ease (Ang et al., 2023; Chandola & Tiwari, 2016; Eckstein et al., 2010; Franklin & Bertelt, 2024; Shi, 2020). Although some studies suggest a meaningful association between birth order and psychological well-being (Ang et al., 2023; Eckstein et al., 2010; Shi, 2020), others argue that such effects are minimal when broader familial and cultural variables are considered (Kaemra & Singh, n.d.; Sangwan, 2023).

In continuation, *Psychological wellbeing* impact emotional regulation that may be reflected in behavioral outcomes such as conduct problems, hyperactivity, emotional dysregulation, and peer problems (Goodman, 1997). Firstborns may internalize pressure, leading to stress and anxiety, while later-borns often exhibit greater social adaptability due to more relaxed familial roles (Eckstein et al., 2010; Joy & Mathew, 2018). Studies suggest firstborns to experience fewer peer-related issues due to receiving more parental attention and

resources early in life, potentially leading to greater social confidence and fewer social challenges (Downey, 2001; Zhang et al., 2023), while middle and youngest siblings exhibit increased behavioral challenges linked to their position within family dynamics (Hayden et al., 2019). Furthermore, birth order contributes to shaping of emotional and behavioral outcomes in young adulthood however operates within a broader interplay of familial and environmental influences (Yadav & Singh, n.d.; 11). Its effects are not uniform, highlighting the need for continued research into its specific impact on the psychological, emotional and behavioural regulation of young adults (Joy & Mathew, 2018).

Achievement motivation, defined as an internal drive to pursue and attain goals, plays a critical role in an individual's success and personal growth (Brunstein & Heckhausen, 2008; Vandergriff & Rust, 1985) and birth order has been identified as a factor influencing this type of motivation (Carette et al., 2011a). The Resource Dilution Model suggests that parental resources—such as quality of time spent, attention paid, and financial support toward children is spread across siblings affect their developmental outcomes suggesting that firstborns receive undivided parental attention, fostering a stronger drive for achievement, often resulting in higher academic and career success (Downey, 2001); middle and youngest children may show lower Achievement motivation and often excel in social and creative skills (Eckstein et al., 2010); and single child benefits from exclusive attention, exhibit motivation levels similar to firstborns (Liu & Jiang, 2021). However, studies indicate that birth order's impact on Achievement motivation is not universally significant, with other factors such as socioeconomic status and parenting style playing crucial roles (Kour, 2022; Tripathy, 2018).

Although prior research has explored the influence of birth order on traits such as Achievement motivation, emotional regulation, and personality (Eckstein et al., 2010; Kaul & Srivastava, 2018; Leman, 2015), findings remain inconclusive, especially when examined alongside gender. In sociocultural settings like India, where gender norms shape familial expectations and individual roles, the intersection of birth order and gender becomes especially relevant yet underexamined. This study addresses this gap by investigating how these two factors jointly influence psychological well-being, personality traits (extraversion and neuroticism), emotional/behavioral regulation, and Achievement motivation.

METHODOLOGY

Research Design and Objectives

This study adopted a cross-sectional, comparative, and quantitative research design to investigate how birth order (firstborn vs. second-born) and gender (male vs. female) influence key psychological constructs: personality traits (extraversion and neuroticism), psychological well-being, emotional and behavioral regulation, and Achievement motivation.

Sample and Data Collection

The study included 149 young adults aged 18–25 (Firstborn: 75; Secondborn:74) residing in Mysuru, Karnataka. Participants were selected through convenience sampling based on the following inclusive criteria: individuals from nuclear families with exactly two biological children (one male and one female), currently residing with both biological parents, fluent in English with at least 18 years of formal education.

Exclusive criteria included individuals from divorced or single-parent families, those living in hostels despite having both parents, individuals from extreme socioeconomic backgrounds, and those identifying as transgender. Data were collected in person using standardized self-report measures, following informed consent. Participation was voluntary and confidential.

Measurement used

The study employed four standardized measures to assess key psychological variables. The Eysenck's Personality Inventory (EPI) assessed Extraversion and Neuroticism using 57 binary (Yes/No) items, including a Lie scale to detect social desirability bias, with higher scores indicating stronger trait presence. Ryff's Psychological Well-being Scale measured six dimensions of well-being—autonomy, environmental mastery, personal growth, positive relationships, purpose in life, and self-acceptance—and has demonstrated strong reliability ($r = 0.82$). The Strengths and Difficulties Questionnaire (SDQ) captured emotional symptoms, conduct problems, hyperactivity, and peer difficulties to yield a total difficulties score, reflecting emotional and behavioral dysregulation. Finally, the Rao Achievement motivation Scale evaluated intrinsic motivation and fear of failure through context-based scenarios, using normative scoring to determine individual differences in achievement drive.

RESULTS

The final sample consisted of 149 young adults (74 firstborns and 75 second-borns), Data were analyzed using IBM SPSS Statistics (Version 26). Prior to analysis, the dataset was screened for missing values, outliers, and violations of normality assumptions. Spearman’s rank-order correlation was used to examine the relationships among personality traits, *Psychological well-being*, *Emotional and Behavioural Difficulties*, and *Achievement motivation*. All statistical tests were two-tailed, with the significance level set at $p < 0.05$.

Table 01.
Descriptive Statistics (N, Mean, and Standard Deviation) for Psychological Variables by Birth Order and Gender

Birth order	Gender	N	Extraversion		Neuroticism		Psychological wellbeing		Emotional/ behavioral regulation		Achievement motivation	
			M	SD	M	SD	M	SD	M	SD	M	SD
First born	Male	29	11.86	3.31	13.62	5.00	162.79	22.93	17.75	5.76	42.62	5.63
	Female	46	12.26	3.79	12.82	5.11	166.89	23.97	16.17	5.84	40.73	5.15
	Total	75	12.10	3.60	13.13	5.05	165.30	23.50	16.78	5.82	41.46	5.38
Second born	Male	28	12.39	2.60	13.50	3.51	161.28	19.04	17.46	3.85	41.14	5.64
	Female	46	10.89	3.56	14.71	3.94	168.71	24.77	15.84	5.06	41.73	6.07
	Total	74	11.45	3.29	14.24	3.80	165.90	22.93	16.45	4.68	41.51	5.88
TOTAL		149	11.78	3.45	13.69	4.49	165.60	23.14	16.62	5.27	41.48	5.61

Table 01 presents the descriptive statistics for extraversion, neuroticism, *Psychological wellbeing*, emotional/behavioral regulation, and *Achievement motivation* across birth order and gender (N = 149).

Among first-born males (N = 29), the mean scores were: extraversion 11.86 (SD = 3.31), neuroticism 13.62 (5.00), *Psychological wellbeing* 162.79 (22.93), *Emotional and Behavioural Difficulties* 17.75 (5.76), and *Achievement motivation* 42.62 (5.63). First-born females (N = 46) scored: extraversion 12.26 (3.79), neuroticism 12.82 (5.11), *Psychological well-being* 166.89 (23.97), *Emotional and Behavioural Difficulties* 16.17 (5.84), and

Achievement motivation 40.73 (5.15). The combined first-born group (N = 75) had scores of: extraversion 12.10 (3.60), neuroticism 13.13 (5.05), *Psychological well-being* 165.30 (23.50), *Emotional and Behavioural Difficulties* 16.78 (5.82), and *Achievement motivation* 41.46 (5.38).

For second-born males (N = 28), the mean scores were: extraversion 12.39 (2.60), neuroticism 13.50 (3.51), *Psychological well-being* 161.28 (19.04), *Emotional and Behavioural Difficulties* 17.46 (3.85), and *Achievement motivation* 41.14 (5.64). Second-born females (N = 46) scored: extraversion 10.89 (3.56), neuroticism 14.71 (3.94), *Psychological well-being* 168.71 (24.77), *Emotional and Behavioural Difficulties* 15.84 (5.06), and *Achievement motivation* 41.73 (6.07). The total second-born group (N = 74) had scores of: extraversion 11.45 (3.29), neuroticism 14.24 (3.80), *Psychological well-being* 165.90 (22.93), *Emotional and Behavioural Difficulties* 16.45 (4.68), and *Achievement motivation* 41.51 (5.88).

Across the total sample (N = 149), the mean scores were: extraversion 11.78 (SD = 3.45), neuroticism 13.69 (4.49), *Psychological well-being* 165.60 (23.14), *Emotional and Behavioural Difficulties* 16.62 (5.27), and *Achievement motivation* 41.48 (5.61).

Table 02.
Descriptive Statistics (N, Median, and Interquartile Range (IQR)) for Psychological Variables by Birth Order and Gender

Variables	First Born					
	Male (N=29)		Female (N=46)		Total (N=75)	
	Median	IQR	Median	IQR	Median	IQR
Extraversion	12.00	4.00	12.00	3.00	12.00	5.00
Neuroticism	13.00	6.50	16.00	10.00	13.00	8.00
Psychological wellbeing	160.00	30.00	168.50	47.75	160.50	36.25
Emotional & Behavioral Difficulties	19.00	8.50	18.00	10.25	18.00	8.00
Achievement motivation	42.00	6.00	40.00	9.00	42.00	6.50
Second Born						

	Male (N=28)		Female (N=46)		Total (N=74)	
	Median	IQR	Median	IQR	Median	IQR
Extraversion	13.00	2.00	11.00	6.00	12.00	4.25
Neuroticism	14.00	4.75	15.00	6.75	14.00	7.00
Psychological wellbeing	155.00	27.50	161.50	30.25	159.00	32.75
Emotional & Behavioral Difficulties	18.00	7.00	15.50	6.75	17.00	8.00
Achievement motivation	39.00	11.50	44.00	9.00	42.00	10.50

Similarly, Firstborn males (N = 29) obtained the median (Interquartile range-IQR) scores of *Personality*- 12.00 (4.00) for extraversion & 13.00 (6.5) for neuroticism; 160 (30) for *Psychological well-being*; 19.00 (8.50) for *Emotional and Behavioural Difficulties*; and 42.00 (6) for *Achievement motivation*. Firstborn females (N = 46) scored *Personality*- 12(3) for extraversion & 16 (10) for neuroticism; 168.50 (47.75) in *Psychological well-being*; 18 (10.25) in *Emotional and Behavioural Difficulties* and 40 (9) in *Achievement motivation*. The combined first-born group (N = 75) had scores of: extraversion 12 (5) & neuroticism 13 (8); *Psychological wellbeing* 160.50 (36.25); *Emotional and Behavioural Difficulties* 18 (8); and *Achievement motivation* 42 (6.5).

For second-born males (N = 28), the median (Interquartile range-IQR) scores were: *Personality*- extraversion 13.00 (2) & neuroticism 14 (4.75); *Psychological wellbeing* 155 (27.5); *emotional/behavioral regulation* 18 (7) and *Achievement motivation* 39 (11.5). Second-born females (N = 46) scored: *Personality*- extraversion 11(6) & neuroticism 15(6.75); *Psychological wellbeing* 161.5(30.25); *emotional/behavioral regulation* 15.5 (6.75) and *Achievement motivation* 44 (9). The total second-born group (N = 74) had scores of: *Personality*- extraversion 12(4.25) & neuroticism 14(7), *Psychological wellbeing* 159(32.75), *Emotional and Behavioural regulation* 17 (8), and *Achievement motivation* 42(10.5).

Table 03.

Spearman Rank's Correlation Coefficients Among Psychological Variables by Birth Order (Firstborn: N=75; Secondborn: N=74)

Variables	1	2	3	4	5
First born					
1. Extraversion	1				
2. Neuroticism	-.223	1.			
3. Psychological well-being	-.024	-.146	1.		
4. Emotional & Behavioural Difficulties	.004	.362**	-.527***	1.	
5. Achievement motivation	-.244*	-.061	.238	-.299**	1.
Second born					
1. Extraversion	1				
2. Neuroticism	-.210	1			
3. Psychological well-being	-.048	.048	1		
4. Emotional & Behavioural Difficulties	.139	.193	-.504***	1	
5. Achievement motivation	-.100	.073	.272*	-.261*	1

Note. * Indicate significance at $p < 0.05$; ** indicate significance at $p < 0.01$ (highly significant); *** indicate significance at $p < 0.001$ (Very Highly Significant)

Spearman's correlations revealed distinct patterns across birth order (see Table 02). Among first-borns ($N = 75$), extraversion was significantly negatively correlated with Achievement motivation ($\rho = -.244, p < .05$), and neuroticism showed a strong positive association with *Emotional and Behavioural Difficulties* ($\rho = .362, p < .01$). In contrast, these associations were non-significant among second-borns ($N = 74$), indicating weaker emotional linkages with core traits in this group. Furthermore, First-borns exhibited a negative trend between neuroticism and both *psychological wellbeing* ($\rho = -.146; p > .05$) and Achievement motivation ($\rho = -.061; p > .05$), differing in direction from the associations observed among second-borns (*Psychological wellbeing*: $\rho = .048; p > .05$; Achievement motivation: $\rho = .073; p > .05$), though these correlations were not statistically significant.

Across both groups, *psychological wellbeing* was strongly and negatively associated with *Emotional and Behavioural Difficulties* (first-borns: $\rho = -.527, p < .001$; second-borns: $\rho = -.504, p < .001$), and positively with Achievement motivation (first-borns: $\rho = .238, p < .05$;

second-borns: $\rho = .272, p < .05$). Additionally, *Emotional and Behavioural Difficulties* were significantly negatively correlated with Achievement motivation in both groups (first-borns: $\rho = -.299, p < .01$; second-borns: $\rho = -.261, p < .01$).

Table 04.

Spearman Rank Correlation Coefficients Among Psychological Variables by Birth Order and Gender (First-born Male: $N = 29$; First-born Female: $N = 46$; Second-born Male: $N = 28$; Second-born Female: $N = 46$)

Variables	1	2	3	4	5
Firstborn male					
1. Extraversion	1				
2. Neuroticism	-.359	1.			
3. Psychological well-being	-.126	-.091	1.		
4. Emotional & Behavioural Difficulties	-.158	.362	-.429*	1.	
5. Achievement motivation	-.095	-.141	.175	-.257	1.
Firstborn Female					
1. Extraversion	1				
2. Neuroticism	-.160	1			
3. Psychological well-being	.060	-.167	1		
4. Emotional & Behavioural Difficulties	.113	.338*	-.570***	1	
5. Achievement motivation	-.278	-.015	.278	-.350*	1
Second-born male					
1. Extraversion	1				
2. Neuroticism	.082	1			
3. Psychological well-being	-.029	.308	1		
4. Emotional & Behavioural Difficulties	.168	-.045	-.402*	1	
5. Achievement motivation	.008	.153	.441*	-.650***	1
Second-born female					
1. Extraversion	1				
2. Neuroticism	-.331*	1			
3. Psychological well-being	-.011	-.138	1		

4. Emotional & Behavioural Difficulties	.041	.366*	-.562***	1
5. Achievement motivation	-.126	-.007	.201	-.100
				1

Note. * Indicate significance at $p < 0.0$; *** indicate significance at $p < 0.001$ (Very Highly Significant)

To further examine the role of gender within each birth order, Spearman correlation analyses were conducted separately for males and females in both first-born and second-born groups. The correlations between personality development, *Psychological well-being*, *Emotional and Behavioural Difficulties*, and Achievement motivation revealed (see Table 03):

- **Extraversion:** Only second-born females exhibited a significant inverse relationship between extraversion and neuroticism ($\rho = -.331, p < .05$), whereas no other subgroup showed notable correlations with extraversion.
- **Neuroticism:** All groups linked neuroticism to *Emotional and Behavioural Difficulties*—first-born males ($\rho = .362, p < .01$), first-born females ($\rho = .338, p < .05$), and second-born females ($\rho = .366, p < .05$)—highlighting a consistent trait–difficulties association except second born males ($\rho = -.045, p > .05$) which had a negative correlation yet non-significant.
- **Psychological wellbeing:** A robust, universal inverse association with *Emotional and Behavioural Difficulties* emerged in every subgroup, with females (First born females: $\rho = .570, p < .001$; secondborn females: $\rho = .562, p < .001$) showing very highly significant stronger correlation than males (First Born Males: $\rho = .429, p < .05$; Second born males: $\rho = .402, p < .05$).
- **Emotional and Behavioural Difficulties:** Beyond its universal link with wellbeing, difficulties also correlated negatively with Achievement motivation in first-born females ($\rho = -.350, p < .05$) and very strongly in second-born males ($\rho = -.650, p < .001$), but had no significant motivational ties in first-born males or second-born females.
- **Achievement motivation:** Second-born males showed a unique positive association between motivation and well-being ($\rho = .441, p < .05$), whereas first-born females displayed a negative link between motivation and difficulties ($\rho = .350, p < .05$), and no other subgroup demonstrated significant motivational correlations.

DISCUSSION

The present study examined how birth order and gender shape the interrelationships among core personality traits, psychological well-being, emotional/behavioral regulation, and Achievement motivation. The correlation results exhibited a distinct pattern in birth order and gender subgroups.

The findings underscore a universally protective role of psychological well-being: across all birth-order $\times$ gender subgroups, individuals who reported greater subjective well-being experienced markedly fewer Emotional and Behavioural difficulties. This finding supports self-determination theory by showing that higher life satisfaction enhances coping and reduces dysregulation (Ryan & Deci, 2000) and parallels large-scale evidence linking wellbeing to fewer internalizing symptoms (Diener et al., 2018).

Firstborns displayed a distinctive personality in the outcome profile. Extraversion—often associated with positive affect and social engagement (Daitkar Arun Rajaram, 2017; Hart et al., 2007; Komarraju et al., 2009) was inversely related to achievement striving in the eldest cohort. This counterintuitive finding suggests that, for first-borns, emotional reserve may actually potentiate the drive to achieve. One explanation lies in the role of internalized family expectations: first-born children often occupy positions of early responsibility, internalizing parental standards and channeling their efforts into compliance and self-regulation rather than overt assertiveness (Paulhus et al., 1999; Sulloway, 1996). Supporting this interpretation, Eckstein et al. (2010) observed that in cohorts under high familial pressure, lower extraversion predicted greater academic diligence—a pattern our data extend specifically to eldest children.

Neuroticism in first-borns emerged as a robust predictor of Emotional and Behavioural dysregulation, corroborating meta-analytic work linking trait anxiety to impaired inhibitory control and increased rumination (Goodman, 1997; Nolen-Hoeksema S, 2012). Critically, this dysregulation was most pronounced in eldest daughters, who demonstrated the strongest coupling between neuroticism and regulation difficulties. Gendered socialization processes—chiefly the encouragement of ruminative coping in young women—likely magnify the impact of neurotic predispositions under stress (Johnson & Whisman, 2013; Nolen-Hoeksema S, 2012; Tamres et al., 2002).

Moreover, when dysregulation did occur, first-born females withdrew from achievement goals more readily than their male counterparts. This suggests a gender-specific

pattern whereby self-control breakdown triggers goal disengagement among high-neuroticism daughters (Kumar, 2024).

Second-borns exhibited a distinct profile from their elder siblings. Extraversion and neuroticism bore little influence on regulation or motivation for second-borns, especially males, implying that reduced parental scrutiny and greater sibling flexibility characteristic of later-borns buffer trait-linked vulnerabilities (Sahal & Sharma, 2025). Second-born daughters, however, mirrored first-born females in showing a modest tie between neuroticism and dysregulation, perhaps reflecting persistent gender norms around emotional expression (Johnson & Whisman, 2013; Nolen-Hoeksema S, 2012; Tamres et al., 2002).

Among second-borns, the moderate positive correlation between psychological well-being and Achievement motivation suggests that individuals with higher mental well-being tend to display a stronger drive to achieve, aligning with research linking positive affect and self-efficacy to increased motivation (Carette et al., 2011b; Fukuya et al., 2021; Ryan & Deci, 2001). Crucially, later-born sons demonstrated the tightest well-being–motivation connection, indicating that when they experience flourishing, they more readily channel positive affect into goal-directed effort. This is consistent with family systems perspectives that later-born males, freed from perfectionist first-born pressures, convert well-being into ambition with greater fluidity (Sulloway, 1996).

Conversely, emotional and behavioral dysregulation led to the steepest motivational declines in second-born sons, suggesting that their drive to achieve is strongly linked to their ability to regulate their emotions and behaviors effectively. Later-born males often enjoy greater autonomy than their elder siblings (K, 2019), so when their emotion-regulation capacities falter, they lack the structured support and clear performance expectations that first-borns typically receive (Downey, 2001).

Taken together, our findings underscore that ordinal position within the family exerts a robust influence on the links between core personality traits, *Psychological wellbeing*, self-regulation, and Achievement motivation—and that this influence is meaningfully shaped by gender. Recognizing the combined impact of birth order and gender thus provides a more complex framework for understanding individual differences in personality, wellbeing, motivation and adjustment. These results call for future research to explore the underlying mechanisms and cultural variations of these effects, using longitudinal designs and diverse samples.

CONCLUSION

This study highlights the significant role of birth order and gender in shaping the interplay between personality traits, psychological well-being, emotional regulation, and Achievement motivation. While psychological well-being consistently served as a protective factor against *Emotional and Behavioural Difficulties* irrespective of birth order or gender, firstborn daughters were more prone to a decline in motivation when extraverted and exhibited high *Emotional and Behavioural Difficulties*. In contrast, second-born males showed stronger links between psychological well-being and Achievement motivation but were more vulnerable when emotional and behavioural regulation faltered. These findings suggest that both birth order and gender contribute meaningfully to individual differences in psychological outcomes; However, the cross-sectional design, non-representative sample, reliance on self-report measures, and lack of control for cultural, socioeconomic, and parental involvement factors limit the generalizability and causal interpretation of the findings. These insights may inform more tailored psychological support strategies that account for sibling dynamics and gender-specific vulnerabilities.

REFERENCES

- Adler, A. (1937). Position in family constellation influences lifestyle. *International Journal of Individual Differences*, 3, 211–227.
- Ang, K., Chrislie, J., Arnesto, N. M., Calalang, F. B., Ching, P., Enzo, D., Rios, C. M., & Napoles, J. S. (2023). *Shatter the stereotype: A phenomenological study on the pressure experience by first born child*.
- Brunstein, J. C., & Heckhausen, H. (2008). Achievement motivation. In *Motivation and Action* (pp. 137–183). Cambridge University Press. <https://doi.org/10.1017/CBO9780511499821.007>
- Carette, B., Anseel, F., & Van Yperen, N. W. (2011a). Born to learn or born to win? Birth order effects on achievement goals. *Journal of Research in Personality*, 45(5), 500–503. <https://doi.org/10.1016/j.jrp.2011.06.008>

- Carette, B., Anseel, F., & Van Yperen, N. W. (2011b). Born to learn or born to win? Birth order effects on achievement goals. *Journal of Research in Personality*, 45(5), 500–503. <https://doi.org/10.1016/j.jrp.2011.06.008>
- Chandola, R., & Tiwari, S. C. (2016). Birth Order Significantly Affects the Mental Health Emotionally As Well As Psychologically. *The International Journal of Indian Psychology*, 3(4). <http://www.ijip.in>
- Colman, D. E., Echon, R., Lemay, M. S., McDonald, J., Smith, K. R., Spencer, J., & Swift, J. K. (2016). The efficacy of self-care for graduate students in professional psychology: A meta-analysis. *Training and Education in Professional Psychology*, 10(4), 188.
- Daitkar Arun Rajaram. (2017). Effect of Achievement motivation on Personality Traits of Students. *International Journal of Indian Psychology*, 4(2). <https://doi.org/10.25215/0402.194>
- Diener, E., Oishi, S., & Tay, L. (2018). Advances in subjective well-being research. *Nature Human Behaviour*, 2(4), 253–260. <https://doi.org/10.1038/s41562-018-0307-6>
- Downey, D. B. (2001). Number of siblings and intellectual development: the resource dilution explanation. *American Psychologist*, 6.
- Eckstein, D., Aycock, K. J., Sperber, M. A., McDonald, J., Van Wiesner, V., Watts, R. E., & Ginsburg, P. (2010). A Review of 200 Birth-Order Studies: Lifestyle Characteristics. *The Journal of Individual Psychology*, 4.
- Franklin, B., & Bertelt, K. (2024). Anxiety and Depression Correlates at Age 10 in Children Born Extremely Preterm. *EpicResearch.Org*, 4. <https://doi.org/10.1093/jpepsy/jsaa118>
- Fukuya, Y., Fujiwara, T., Isumi, A., Doi, S., & Ochi, M. (2021). Association of Birth Order With Mental Health Problems, Self-Esteem, Resilience, and Happiness Among Children: Results From A-CHILD Study. *Frontiers in Psychiatry*, 12. <https://doi.org/10.3389/fpsy.2021.638088>
- Gale, C. R., Booth, T., Möttus, R., Kuh, D., & Deary, I. J. (2013). Neuroticism and Extraversion in youth predict mental wellbeing and life satisfaction 40 years later. *Journal of Research in Personality*, 47(6), 687–697. <https://doi.org/10.1016/j.jrp.2013.06.005>
- Gomez, R., Gomez, A., & Cooper, A. (2002). Neuroticism and extraversion as predictors of negative and positive emotional information processing: comparing Eysenck's, Gray's, and Newman's theories. *European Journal of Personality*, 16(5), 333–350.

- Goodman, R. (1997). The strengths and difficulties questionnaire: A research note. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 38(5), 581–586. <https://doi.org/10.1111/j.1469-7610.1997.tb01545.x>
- Harris, K., English, T., Harms, P., Gross, J., & Jackson, Joshua. (2017). Why are Extraverts more Satisfied? Personality, Social Experiences, and Subjective Well-being in College: Extraverts and social experience. *European Journal of Personality*, 31, 170–186.
- Hart, J. W., Stasson, M. F., Mahoney, J. M., & Story, P. (2007). *Individual Differences Research* *www.idr-journal* (Vol. 5, Issue 4). www.idr-journal.com
- Hayden, N. K., Hastings, R. P., Totsika, V., & Langley, E. (2019). A Population-Based Study of the Behavioral and Emotional Adjustment of Older Siblings of Children with and without Intellectual Disability. *Journal of Abnormal Child Psychology*, 47(8), 1409–1419. <https://doi.org/10.1007/s10802-018-00510-5>
- Iqbal, J. (2025). Does the birth order have any effect on a child's personality and accomplishments? If yes, then explain how and why? *The Academic: International Journal of Multidisciplinary Research*, 3(1). <https://doi.org/10.5281/zenodo.14845004>
- Johnson, D. P., & Whisman, M. A. (2013). Gender differences in rumination: A meta-analysis. *Personality and Individual Differences*, 55(4), 367–374.
- Joy, M., & Mathew, A. (2018). Impact of Birth Order on Emotional Maturity and General Well-being of Adolescents. *International Journal of Education and Psychological Research (IJEPR)*, 7(4).
- K, O. B. (2019). *The Relationship between Birth Order and Personality*. <https://www.researchgate.net/publication/343760528>
- Kaemra, T., & Singh, S. (n.d.). *Influence of Birth Order on Personality and Adjustment in Young Adults*. 9(2). <https://doi.org/10.25215/0902.166>
- Kaizyn, M., & Vaghchipawala, P. (2023). A Comparative Study of Birth-Order and Personality. *The International Journal of Indian Psychology*, 11(4). <https://doi.org/10.25215/1104.030>
- Kaul, A., & Srivastava, A. (2018). Birth order and personality. In *Indian Journal of Health and Well-being* (Vol. 2018, Issue 3). http://www.iahrw.com/index.php/home/journal_detail/19#list

- Kaur, S., & Sharma, S. (2025). Impact of Birth Order on Personality Traits of College Students. *The International Journal of Indian Psychology*, 13(2), 385–388. <https://doi.org/10.25215/1302.035>
- Komarraju, M., Karau, S. J., & Schmeck, R. R. (2009). Role of the Big Five personality traits in predicting college students' academic motivation and achievement. *Learning and Individual Differences*, 19(1), 47–52. <https://doi.org/10.1016/j.lindif.2008.07.001>
- Kour, J. (2022). Birth order and its relation to Achievement motive and Resilience. *Mind and Society*, 3, 91–96. <https://doi.org/10.56011/mind-mri-113-202210>
- Kumar, M. (2024). Adjustment of Students on The Basis of Personality and Motivation. *International Journal of Indian Psychology*, 12(3), 2254–2273.
- Leman, Kevin. (2015). *The birth order book : why you are the way you are*. Revell.
- Liu, Y., & Jiang, Q. (2021). Who Benefits From Being an Only Child? A Study of Parent–Child Relationship Among Chinese Junior High School Students. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.608995>
- Nolen-Hoeksema S. (2012). Emotion regulation and psychopathology: the role of gender. *Annual Review of Clinical Psychology*, 8, 161–187.
- Paulhus, D. L., Trapnell, P. D., & Chen, D. (1999). *BIRTH ORDER EFFECTS ON PERSONALITY AND ACHIEVEMENT WITHIN FAMILIES*.
- Priyanshu, M., & Pandey, N. (2025). Study of Birth Order, Personality Traits and Psychological Well-Being in Adolescents: A Review. *The International Journal of Indian Psychology*, 13(1), 128–137. <https://doi.org/10.25215/1301.012>
- Ryan, R. M., & Deci, E. L. (2000). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being Self-Determination Theory. *American Psychologist*.
- Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. In *Annual Review of Psychology* (Vol. 52, pp. 141–166). <https://doi.org/10.1146/annurev.psych.52.1.141>
- Ryff, C. D. (1989). Happiness Is Everything, or Is It? Explorations on the Meaning of Psychological Well-Being. In *Journal of Personality and Social Psychology* (Vol. 57, Issue 6).

- Ryff, C. D. (2013). Psychological well-being revisited: Advances in the science and practice of eudaimonia. *Psychotherapy and Psychosomatics*, 83(1), 10–28. <https://doi.org/10.1159/000353263>
- Ryff, C. D., & Keyes, C. L. M. (1995). The Structure of Psychological Well-Being Revisited. *Journal of Personality and Social Psychology*, 69(4), 719–727. <https://doi.org/10.1037/0022-3514.69.4.719>
- Sahal, M. A., & Sharma, S. (2025). Relationship Between Birth Order and Personality Traits: A Review Study. *The International Journal of Indian Psychology*, 13(1). <https://doi.org/10.25215/1301.216>
- Sangwan, T. (2023). *BIRTH ORDER INFLUENCE ON PROSOCIAL BEHAVIOUR AND LIFE SATISFACTION* (Vol. 11, Issue 7). www.ijert.org
- Shi, Q. (2020). Personal Birth Order Affects Subjective Well-Being—Empirical Analysis Based on CFPS Data. *Open Journal of Social Sciences*, 08(05), 377–391. <https://doi.org/10.4236/jss.2020.85026>
- Sulloway, F. J. (1996). *Born to rebel: Birth order, family dynamics, and creative lives*. Pantheon Books.
- Tamres, L. K., Janicki, D., & Helgeson, V. S. (2002). Sex differences in coping behavior: A meta-analytic review and an examination of relative coping. *Personality and Social Psychology Review*, 6(1), 2–30.
- Thye, M. D. (2013). *Assessing the Second Born: The Role of Competitiveness and Extrinsic Motivation in Birth Order*. <https://stars.library.ucf.edu/honorstheses1990-2015/1545>
- Torres-Soto, N. Y., Corral-Verdugo, V., & Corral-Frías, N. S. (2022). The relationship between self-care, positive family environment, and human wellbeing. *Wellbeing, Space and Society*, 3. <https://doi.org/10.1016/j.wss.2022.100076>
- Tripathy, M. (2018). To Study The Effect of Birth Orders On Achievement motivation Among Adolescent. *Mediterranean Journal of Basic and Applied Sciences (MJBAS)*, 2(1), 10–21. <https://doi.org/10.13140/RG.2.2.29192.52484>
- Vandergriff, L., & Rust, J. O. (1985). The relationship between classroom behavior and self-concept. *Education*, 106(2), 172–178.

- Xiao, E., Shen, J., & Harris, P. (2022). Children with siblings differ from only children in their sharing behaviour. *Early Child Development and Care*, 192(7), 1007–1019. <https://doi.org/10.1080/03004430.2020.1829610>
- Zhang, Q., Wu, W., Sheng, L., Xi, X., Zhou, Y., Wen, Y., & Liu, Q. (2023). Emotional and Behavioral Changes in Preschool Firstborn Children During Transition to Siblinghood: A Mixed Methods Study. *Psychology Research and Behavior Management*, 16, 2029–2044. <https://doi.org/10.2147/PRBM.S411729>