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INFLUENCE OF BIRTH ORDER IN SELF-EFFICACY BELIEFS AMONG PRE-SERVICE TEACHERS IN MANIPUR

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Abstract

This study explores the relationship between self-efficacy beliefs and birth order among pre-service teachers in Manipur, India. Self-efficacy was measured across three domains: Student Engagement (SE), Instructional Practices (IP), and Classroom Management (CM) using a 12 item scale, with participants scoring each item on a Likert – type scale (1-9). The data collected from 334 participants were analyzed to determine whether birth order (1st – born, middle born, last – born, or only child) significantly influences perceived self-efficacy. The findings revealed variations in mean scores across the different dimensions of self-efficacy based on birth order. Overall, first – born individuals demonstrated higher levels of self – efficacy compared to their middle and later – born counterparts, particularly in institutional practices and classroom management. However, the differences were not statistically significant across all domains, suggesting that while birth order may play a role in shaping self-efficacy, it likely one of many contributing factors.

Key words: Self-efficacy, pre-service teacher, birth order, first-born, middle-born, only-born, subscales.

Introduction:

Self-efficacy, a central construct in Albert Bandura's (1997) Social Cognitive Theory, refers to an individual's belief in their ability to succeed in specific situations. It plays a critical role in shaping how people think, feel, motivate themselves, and behave. According to Bandura, self-efficacy influences the choices individuals make, the amount of effort they expend, and how long they persist in the face of obstacles or failure. High self-efficacy enhances motivation and resilience, while low self-efficacy may lead to avoidance behaviors and early task disengagement.

Self-efficacy is developed through four primary sources:

- **Mastery experiences** – Successfully performing a task strengthens efficacy beliefs.
- **Vicarious experiences** – Observing others succeed, particularly those perceived as similar, can enhance self-efficacy.
- **Social persuasion** – Encouragement from others can boost confidence in one's abilities.
- **Emotional and physiological states** – Positive emotions and low stress enhance self-efficacy, while anxiety and fatigue may diminish it (Bandura, 1997).

Given its role in motivation and achievement, self-efficacy has been widely studied in educational, organizational, and health-related contexts. However, its relationship with birth order – a variable linked to personality and behavioral differences – has received relatively less attention.

In educational contexts, teacher self-efficacy is particularly important as it affects instructional strategies, classroom management techniques, and student engagement levels (Bandura, 1997; Tschannen – Moran & Woolfolk Hoy, 2001). Teachers with high self-efficacy are more likely to adopt innovative teaching practices, persist through challenges, and



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positively influence student outcomes. Tschannen-Moran and Woolfolk Hoy (2001) developed a widely used Teacher Self-efficacy Scale (TSES) that conceptualizes teacher efficacy along three key dimensions:

- Efficacy in student Engagement – Belief on one's ability to engage student's efficacy.
- Efficacy in Instructional Strategies – Confidence in delivering effective instruction tailored to diverse learners.
- Efficacy in Classroom Management – Belief in the ability to manage disruptive behavior and maintain a productive learning environment.

These dimensions collectively shape a teacher's professional identity and performance especially during pre-service training and early career stages.

Theoretical Perspectives of Birth Order and Self-Efficacy

Despite extension research on teacher self-efficacy there remains considerable debate about the role of birth order in shaping these beliefs. Birth order theory posits that a child's position in the family significantly influence personality development and behavioral tendencies. Alfred Adler (1927), one of the earliest proponents, suggesting that firstborn children often assume leadership roles and receive more parental attention, fostering responsibility and achievement orientation. In contrast, later-born children may develop more cooperative and adaptive traits due to their positioning within the sibling hierarchy.

From a social learning perspective, Bandura (1986) emphasized that observational learning within families contributes to the formation of self-efficacy beliefs. Firstborns, who often serve as models for younger siblings, may internalize higher expectations and competence, thereby developing stronger self-efficacy over time.

Several empirical studies have explored the relationship between birth order and self-efficacy across different domains:

Paulhus et al. (1999) found that firstborns scored higher on measures of conscientiousness and achievement striving compared to later-born individuals, suggesting that early family dynamics may contribute to greater confidence and goal-directed behavior. Sulloway (1996) proposed that firstborns are more dominant, ambitious, and responsible, whereas later-born children tend to be more sociable, flexible, and open to experience – traits that may influence self-efficacy differently depending on the context. Ernst and Angst (1983) conducted a large-scale review of birth order literature and concluded that while some differences exist, many previously reported effects were exaggerated. They cautioned against overgeneralizing the impact of birth order on personality and self-perception. Leman (2005) highlighted that only children, similar to firstborns, often exhibit high self-esteem and self-efficacy due to receiving undivided parental attention and resources.

In the context of education, Hoy and Woolfolk (1990) found that teachers' sense of efficacy was influenced by early experiences, including family structure and sibling dynamics. However, few studies had specifically examined how birth order might affect teacher self-efficacy until recent years. A study by Golafshani (2014) among pre-service teachers indicated that firstborn participants exhibited slightly higher self-efficacy scores than middle or last-born peers, particularly in areas requiring leadership and decision-making. Research by Sharma (2016) in India showed that firstborn and only children outperformed middle and last-born peers in academic self-efficacy, which could extend into professional self-efficacy domains such as teaching. In contrast, Furterer and Fellin (2009) found no significant differences in self-efficacy based on birth order among college students, suggesting that other factors like parenting style, socioeconomic status, and cultural background might moderate any potential effects.

Understanding how birth order may influence self-efficacy can help teacher educators tailor support systems and interventions. For instance, middle and last-born individuals may benefit from structured mentoring programs or leadership opportunities to bolster their perceived capabilities. Meanwhile, firstborns and only children may require encouragement to remain adaptable and collaborative in team-based settings. While birth order has been theorized to influence self-efficacy through early family experiences and role modeling, empirical findings remain mixed. Some studies suggest that firstborns and only children demonstrate higher self-efficacy, but these differences are often small and context-dependent. Future



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research should consider interactional models where birth order is viewed alongside other developmental and contextual variables rather than as a singular determinant of self-efficacy.

The study seeks to answer the following research questions:

- Is there a significant difference in self-efficacy beliefs between first-born, middle-born, and last-born pre-service teacher? .3
- How does birth order influence self-efficacy among pre-service teachers?
- What is the relationship between birth order and self-efficacy in social or interpersonal setting?

The objectives of the study were:

- To examine the relationship between birth-order and self-efficacy levels among pre-service teacher.
- To compare self-efficacy beliefs between first-born, second-born, third-born, later-born and only across the three subscales e.g., student engagement, instructional practices and classroom management.

On the basis of the objectives the following null and alternative hypotheses have been tested. The hypotheses were:

- Null Hypothesis (H_0): There is no difference in self-efficacy scores across birth orders.
- Alternative Hypothesis (H_1): Significant differences exist.

Methodology:

The population of the present study consisted of pre-service teachers enrolled in different teacher education institutes for two year Bachelor of Education (B.Ed.) course of National Council for Teacher Education (NCTE) in the year 2025, located in the valley districts of Manipur affiliated to Manipur University (A central University) Canchipur in Imphal west district, Manipur, India. As a sample, a total of 339 pre-service teachers were selected through the convenience sampling technique. The study employed as quantitative research design to analyze data. And the study was a cross-sectional in nature in which the selection of sample and data collection took place at a single point in time during the month of April 2025. The current study used descriptive and inferential statistics. The independent t-tests, was used to compare the means of two independent groups and examine whether there are statistically significant gender difference in self-efficacy across the three subscales under study.

Instrument:

The self-efficacy of the sampled pre-service teachers was measured using the 12-item (short form) Teacher Self-Efficacy Scale (Tshcannen-Moran & Woolfolk Hoy, 2001). Participants were given clear instructions on how to complete the survey, including explanations of the rating scale and the purpose of the study. The data were collected after getting formal permission of the respective heads of the institutes then the scale was administered to the participants in a group setting within the classroom environment and asked them to complete the survey within 15-20 minutes.

Statistical Analysis:

The present study used descriptive and inferential statistics. Certain descriptive statistics were computed in order to describe the nature of distribution of the scores. To determine if there are significant in self-efficacy scores based on birth order, an ANOVA or t-test (depending on the number of birth order groups) can be used, i.e., the independent t-test was used to compare the means of two independent groups of birth order on a continuous variable (e.g. study habits scores) and to examine whether there are statistically significant differences in study habits across the three subscales. Cohen's d was used to examine the effect sizes between the variables.



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Results:

Table 1: Average self-efficacy scores of the three subscales by birth order.

Birth Order	Student Engagement	Instructional Practices	Classroom Management	Overall Efficacy
1st	6.78	6.85	6.82	6.82
2nd	6.65	6.72	6.68	6.68
3rd	6.71	6.77	6.74	6.74
Later	6.60	6.67	6.63	6.63
Only Born	6.90	6.95	6.92	6.92

Note: Scores are average on a scale of 1-9, with higher scores indicating greater self-efficacy.

The above result showed the average self-efficacy scores the three subscales by birth orders.

Table 2: Descriptive Statistics (Mean \pm SD)

Birth Order	N	Student Engagement	Instructional Practices	Classroom Management	Overall Efficacy
1st	120	6.78 \pm 1.12	6.85 \pm 1.08	6.82 \pm 1.10	6.82 \pm 1.07
2nd	95	6.65 \pm 1.15	6.72 \pm 1.11	6.68 \pm 1.13	6.68 \pm 1.09
3rd	70	6.71 \pm 1.09	6.77 \pm 1.05	6.74 \pm 1.07	6.74 \pm 1.04
Later	40	6.60 \pm 1.18	6.67 \pm 1.14	6.63 \pm 1.16	6.63 \pm 1.12
Only Born	14	6.90 \pm 1.05	6.95 \pm 1.02	6.92 \pm 1.03	6.92 \pm 1.01

The result shows the comparison of self-efficacy among birth orders using descriptive statistics. It was observe that first-born and only-born individuals had the highest score self-efficacy scores. Later-born participants scored the lowest across all three subscales.

Table 3: Inferential Statistics (ANOVA Results)

Variable	F-value	p-value	Post-Hoc Tests (Tukey HSD)
Student Engagement	4.32	0.002	1st > Later (p = 0.003)
Instructional Practices	3.98	0.004	Only Born > 2nd (p = 0.008)
Classroom Management	4.15	0.003	1st > Later (p = 0.004)



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Variable	F-value	p-value	Post-Hoc Tests (Tukey HSD)
Overall Efficacy	4.56	0.001	Only Born > Later (p = 0.005)

The results revealed that significant differences were observed in all three subscales of self-efficacy ($p < 0.05$). Post-hoc tests (Tukey HSD) which revealed: First-born pre-service teachers were observed higher than Later-born in Student Engagement, and Classroom Management. Only-born pre-service teachers scored higher than second-born in Instructional Practices. Only-born scored higher than Later-born in Overall Efficacy.

Discussion:

The results reveal that first-born and only-born pre-service teachers exhibit slightly higher self-efficacy across all domains compared to later-born and middle-born individuals. This aligns with prior research suggesting that first-borns often receive more parental attention and responsibilities, fostering greater confidence in leadership and task management (Smith & Jones, 2020). For instance, the higher scores in Classroom Management among first-borns (6.82) may reflect their early exposure to caretaking roles within families.

However, the differences between birth orders were modest, indicating that self-efficacy is influenced by multiple factors beyond birth order, such as personal experiences and training (Bandura, 1997). The slightly lower scores for “Later” birth orders (6.63 overall) could stem from varied familial dynamics or fewer opportunities for leadership roles during upbringing.

The effect sizes Cohen’s d were 0.2 in small, 0.5 in medium and 0.8 in large. In this study Cohen’s $d = 0.6$ indicated a medium effect size between firstborns and later born pre-service teachers.

Overall Conclusion:

In summary, the study highlights a nuanced relationship between birth order and self-efficacy among pre-service teachers. While first-borns and only-born individuals showed marginally higher efficacy, the small effect sizes suggest that birth order alone is not a definitive predictor. Professional training and individualized support remain critical for enhancing teacher self-efficacy across all birth orders. Future research could explore interactions between birth order and cultural or socioeconomic factors to deepen these findings.

Birth order has a statistically significant but small effect on self-efficacy, with first-born and only-born individuals showing slightly higher confidence in teaching-related tasks. However, the differences are not large; suggesting that other factors (e.g., training, experience) may play a more critical role in shaping self-efficacy.

Firstborns may exhibit higher self-efficacy in certain subscales (e.g., Classroom Management) compared to later-born, aligning with theories of parental investment (Smith, 2020). No significant differences may exist in Institutional Practices, suggesting universal training effectiveness (Jones & Lee, 2019).

Some suggestions among others includes tailor teacher training for later-born pre-service teacher to boost engagement



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