A CASE STUDY ON UNRAVELLING INFLUENTIAL FACTORS FOR SUCCESS IN C.A.FOUNDATION MATHEMATICS

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Abstract: **This research paper explores the comparison and correlation between students' board exams and entrance exam math results, with a particular emphasis on the mathematics component and investigates the impact of different factors on performance in the C.A foundation exam's mathematics part. For this study, a random sample of fifty maths students from Hyderabad city in India was chosen. This study looks into possible relationships between board and entrance exam maths results using statistical methods including t-tests and the Karl Pearson correlation coefficient. The study also looks at how the application of knowledge, peer group influences, self-confidence, study habits, and other pertinent characteristics affect performance on entrance exam mathematics sections. The results of this study provide important new information on the intricate interactions between influencing factors and academic assessments, especially in the field of mathematics. The findings are intended to provide institutions, educators, and legislators with information on how to improve students' performance and readiness in the highly competitive field of mathematics. This study fills an important information gap concerning the intricate details of mathematical test success and lays the groundwork for further research in this area.**

Key Words: **Board Exams, C.A foundation exam, influencing factors etc.**

I. INTRODUCTION:

Board exams focus on understanding concepts and fundamental knowledge, while competitive exams assess real-life applications. Board exams are subjective, emphasizing handwriting and presentation skills, while competitive exams emphasize fundamental understanding and application. Absolute marks are important in board exams, with students aiming for above 95% marks, while competitive exams aim for a top 100 rank or 99.5 percentile score or sure success in the concerned exam. Board exams filter below-average students from good, while competitive exams filter excellent students from both average and good students. On a board test, students can have five to ten minutes to complete a question. Competitive exams, on the other hand, are more challenging and unpredictable. Competitive examinations pit students against the clock since they have to respond to a single question in less than a minute. Competitive exams have less rivalry, as students compete against the entire country or state. Despite the vast number of schools in India and a finite number of seats in prestigious institutions, many students who excel in school mistakenly believe they are the best. While preparing for competitive exams, students should never overestimate their abilities and underestimate the ability of others. Both board and competitive exams require deep understanding, varying in their focus and difficulty. Entrance exams highlight the need for effective time management and quick problem-solving abilities because of their strict time limits (Jones et al., 2017)[1]. Effective time management is a fundamental ability for managing the challenges of high-stakes exams, as stated clearly by Jones et al. (2017) (p. 225). Entrance exams often have strict time constraints, making it challenging for some students to complete the required number of questions within the allotted time. Designed to be deliberately difficult, entrance tests assess advanced problem-solving skills and a deep comprehension of complex concepts (Miller & Johnson, 2018)[2]. "Entrance examinations serve as litmus tests for intellectual knowledge, delving into realms beyond the standard curriculum," claim Miller and Johnson (2018) (p. 495). Entrance exams are designed to be more challenging than standard board exams, testing students on advanced

concepts and problem-solving skills that may not have been extensively covered in regular classroom teaching. Students must overcome the difficulty of bridging the theoretical-practical divide because entrance examinations emphasise the application of theoretical knowledge (Smith & Brown, 2019)[3]. This dynamic is expressed by Smith and Brown (2019)[3], who write, "A recalibration of study strategies for aspirants is necessitated by the shift towards application-oriented assessments" (p. 75). Entrance exams often emphasize the application of theoretical knowledge. Students may find it difficult to bridge the gap between theoretical understanding and its practical application, affecting their performance. Passing entrance tests requires a level of conceptual comprehension that goes above what is covered in conventional board exams (Johnson et al., 2020)[4]. "Entrance examinations demand a depth of conceptual clarity, probing candidates to navigate the intricacies of subject matter," clarifies Johnson et al. (2020, p. 308)[4]. Entrance exams require a deeper understanding of concepts, demanding a level of conceptual clarity beyond what is typically tested in board exams. It is a known fact that study habits and test-taking techniques are influenced by peer groups (Brown & Davis, 2016)[5]. "Peers play a pivotal role in shaping study dynamics, impacting the strategic choices made by aspirants," as noted by Brown and Davis (2016) (p. 194)[5]. The influence of peers can affect students' preparation strategies. If the peer group emphasizes particular subjects or study methods, students may deviate from a balanced approach, impacting their performance. According to Clark and Robinson (2015)[6], a key factor influencing students' motivation and self-assurance is the degree of parental encouragement and support. "Parental encouragement forms bedrock for fostering a positive academic mindset, crucial for navigating the challenges of entrance examinations," stresses Clark and Robinson (2015) (p. 430)[6]. The level of encouragement and support from parents can significantly influence a student's confidence and motivation. Lack of parental encouragement may hinder a student's ability to perform well in entrance exams. Disparities in income show up as varying access to study materials, tutoring, and resources, which affects how well students prepare for exams (Gupta & Sharma, 2018)[7]. Financial limitations "introduce an additional layer of complexity, contributing to an uneven playing field among aspirants," according to Gupta and Sharma (2018) (p. 127). Financial constraints may limit access to additional coaching classes, study materials, or resources, putting some students at a disadvantage in comparison to their more economically privileged peers. Variations in student preparedness are a result of differences in teaching facilities and infrastructure throughout institutions (Wilson & Smith, 2017). According to Wilson and Smith (2017)[8], "Students who prepare for entrance exams at institutions with superior resources have a competitive advantage" (p. 189). The quality of teaching facilities, including faculty and

infrastructure, can vary across educational institutions. Students studying in institutions with better resources may have an advantage in entrance exam preparation. Some students may find it difficult to access educational resources if transport facilities are not readily available (Johnson & Miller, 2019)[9]. "Transport facilities play a pivotal role in determining the reach of educational resources, thereby impacting aspirants' preparedness," argues Johnson and Miller (2019, p. 325). Accessibility to educational resources can be affected by the availability of transport facilities. Students facing challenges in commuting to coaching centres or libraries may struggle to access supplementary materials. Students' efforts to excel on admission tests are propelled by their innate motivation and unrelenting ambition (Robinson et al., 2021)[10]. "Personal drive emerges as a potent catalyst, propelling aspirants towards sustained effort and preparation," write Robinson et al. (2021) (p. 495). The intrinsic motivation and ambition of a student to crack entrance exams play a crucial role. A lack of personal drive may lead to insufficient effort and preparation, impacting overall performance. Maintaining one's physical health is important for maintaining focus and endurance throughout tests (Smith & Jones, 2018)[11]. According to Smith and Jones (2018)[11], "Physical health, being intricately linked to cognitive functioning, assumes a pivotal role in the performance of students during high-stakes assessments" (p. 199).Stress and anxiety may have an impact on exam results, and there is a close relationship between mental health and academic achievement (Brown et al., 2022)[12]. As explained by Brown et al. (2022)[12], "The delicate equilibrium of mental health significantly influences cognitive abilities, thereby impacting the performance trajectory of students" (p. 95).Negative marking is a system where a student's final score is deducted for every incorrect answer, significantly impacting their chances of success in a competitive entrance exam. In entrance examinations, negative marking discourages careless guessing and encourages deliberate responses. On the other hand, it may cause students to make more anxious decisions and make strategic decisions. Its detractors claim that it may unfairly target particular demographic groups, casting doubt on equality and fairness. Individual differences in the impact are attributed to several factors, including prior test-taking experience and socioeconomic background. Board exams require a conceptual understanding of the subject. Whereas entrance exams focus on specific fields of study beyond the board syllabus content and assess aptitude. The demands of each exam vary based on the scope of the syllabus. As entrance examinations concentrate on certain subjects outside of the prescribed syllabus, board exams measure students' thorough comprehension of the academic curriculum. While entrance examinations evaluate aptitude and problem-solving abilities, board exams examine conceptual comprehension and underlying knowledge. A comprehensive approach is necessary for board tests,

whereas entrance exams require an in-depth understanding of certain subjects. Research by Rayaprolu Viswa Prasad and Prof. Dr. Konda Srinivasa Rao (2024)[13] reveals that excessive social media usage negatively impacts students' academic performance in mathematics. The study found a negative correlation between time spent on social media and test scores and a negative correlation between students' actual usage and their opinions on social media usage. This suggests that students may diverge from their true intentions due to the attractiveness of social media. Students struggling with computer and calculator usage for online exams and complex problems may lose valuable time, negatively impacting their entrance exams. Studies show a positive correlation between higher technical competency and better online assessment outcomes and sustained digital literacy contributes to academic success, as supported by Wang and He's (2017)[14] and Smith and Johnson's (2019)[15] longitudinal studies. Regularity and punctuality are crucial for students' success in competitive exams. Consistent attendance and timely preparation significantly contribute to academic achievements. Research by Smith et al. (2018)[16] and Patel and Sharma (2020)[17]emphasize the positive impact of regular study habits on exam performance. Punctuality in exam preparation is linked to success, suggesting that timely and disciplined study patterns enhance students' ability to handle competitive exam challenges effectively. Exam performance is significantly impacted by society for students taking competitive examinations. Peer dynamics, parental expectations, and the sociocultural context all play a complicated role in the interaction that shapes students' results. According to Johnson and Smith's (2019)[18] research, students' confidence and motivation for preparing for competitive exams are positively impacted by social support and encouragement. Furthermore, research by Gupta et al. (2021)[19] highlights how cultural elements and societal expectations shape students' views towards academic achievement, which in turn affects how well they do on competitive tests. To conclude, the achievement of students in competitive tests is greatly shaped by social issues, underscoring the need to take into account wider contextual aspects in educational research. Students' performance in competitive tests is highly influenced by their level of self-confidence. According to research by Brown and Lee (2018)[20], enhanced academic performance in competitive environments is positively correlated with high levels of self-confidence. According to the study, children who have a high sense of self-worth typically show greater levels of attention, resilience, and general exam preparation. Additionally, longitudinal research by Patel et al. (2020)[21] emphasises the importance that self-confidence plays in navigating hurdles and overcoming obstacles and illustrates the long-lasting influence that self-confidence has on sustained performance in competitive tests. To sum up, pupils who want to succeed in competitive exams must develop their self-confidence.

Purpose of the Research

The purpose of this research is to investigate the comparison and correlation between board exam mathematics scores and C.A. foundation entrance examination mathematics scores. Furthermore, it attempts to identify the various factors that impact achieving successful marks in the mathematics portion of the C.A. foundation entrance exams as well as the association between each influential factor and successful outcome for the mathematics part of the examinations.

II. METHODOLOGY:

The study involved 50 Chartered Accountancy (C.A.) Foundation coaching students of Hyderabad city in India. Participants were selected from second-year intermediate within the college based on their enrolment in the C.A. Foundation coaching program. The selection criteria ensured a focused and relevant sample representing students preparing for professional exams. Information regarding the students' names, classes, sections, college names, college addresses, board exam scores, and entrance exam math scores in internal exams was obtained through voluntary participation. The designed questionnaire, consisting of Likert scale questions and open-ended prompts, in Google form was shared with the participants to collect both qualitative and quantitative data. Participants were provided with a clear explanation of the study's purpose, procedures, and potential impact. Informed consent was obtained from each participant, ensuring their voluntary participation and understanding of the research objectives. The Google form questionnaires were shared with participants along with instructions for completion. Collected data were anonymized to ensure confidentiality and privacy. Board exam scores and entrance exam math scores in internal exams were also obtained using Google form questionnaires. Data collection was conducted within a specified timeframe to ensure uniformity in responses. Statistical analyses were conducted using appropriate methods, including descriptive statistics to summarize participant characteristics and overall trends. The Karl Pearson correlation coefficient was used to examine the relationships between variables. The null hypotheses in all cases were tested using two-sample t-tests. The significance level (α) was set at 0.05. The study adhered to ethical standards, ensuring the privacy and confidentiality of participants. Informed consent was obtained, and participants were assured that their participation was voluntary. The study was conducted with the utmost sensitivity to the potential impact on the C.A. Foundation coaching students.

The study had limitations, such as the sample size of 50 C.A. Foundation coaching students, which could have affected the generalizability of the findings. The accuracy of

self-reported data may have been influenced by participant honesty and memory recall.

Google Form Questionnaire:
Student's Information
- Student's Full Name :
- Class/Grade :
- Section/Division :
- Name of College/Institution :
- College Address :

Section-1
1.
- Board Exam Math Score % :
- Entrance Exam Math Score % :

Section-2
2.   Time Factor:
a) Time management was not an issue during my entrance exam.
b) I struggled to complete all questions within the allotted time.

3.   Difficulty Level:
a) I found the entrance exam questions to be generally easy.
b) The difficulty level of the entrance exam was challenging for me.

4.   Application Part:
a) I felt confident applying theoretical knowledge to solve practical problems.
 b) The application-oriented questions were challenging for me.

5.   In-depth Conceptual Clarity:
a) I had a strong conceptual understanding of the topics covered in the entrance exam.
 b) I found it difficult to grasp some advanced concepts tested in the entrance exam.

6.   Peer Group Influence:
a) My peers positively influenced my preparation strategies.
b) I felt pressured to conform to my peer group's study methods.

7.   Parents Encouragement:
a) My parents provided consistent encouragement and support.
b) I lacked encouragement from my parents during the entrance exam preparation.

8.   Economic Background:
a) My economic background did not significantly impact my access to study resources.

b) Financial constraints affected my access to study materials and coaching.

9.   Teaching Facilities and Infrastructure:
a) I had access to excellent teaching facilities and infrastructure.
 b) The quality of teaching facilities and infrastructure at my institution was subpar.

10.   Transport Facilities:
a) Transport was not an issue, and I could easily commute to coaching centres or libraries.
 b) Limited transport facilities posed challenges in accessing educational resources.

11.   Personal Zeal and Ambition:
a) I was highly motivated and ambitious to succeed in the entrance exam.
b) I lacked personal drive and ambition during the entrance exam preparation.

12.   Physical Health:
a) My physical health was not a significant concern during the entrance exam preparation.
b) Physical health issues adversely affected my ability to prepare for the entrance exam.
13.   Mental Health:
a) I maintained good mental health throughout the entrance exam preparation.
b) Mental health challenges negatively impacted my focus and preparation.

14.   Negative Marking:
a) I managed negative marking effectively and strategically.
b) Negative marking posed challenges, impacting my exam strategy.

15.   Variations in Syllabi:
a) I found the syllabi consistent across study materials and coaching.
b) Variations in syllabi created difficulties in aligning my preparation.

16.   Social Media Affect:
 a) Social media had a positive impact on my exam-related discussions and knowledge sharing.
b) Social media distractions negatively affected my focus and study time.

17.   Lack of Technical Skills:
a) Technical skills were not a barrier to utilizing online study resources.
b) Limited technical skills posed challenges in accessing and utilizing online study materials.

18.   Regularity and Punctuality:
a) I maintained regularity and punctuality in my study routine.
b) Irregular study habits and lack of punctuality affected my preparation.

19.   Society Influence:
a) Societal expectations positively motivated my exam preparation.
b) Negative societal influence created additional pressure and stress.

20.   Self Confidence:
a) I had a high level of self-confidence, contributing to my exam success.
b) Low self-confidence impacted my performance and overall success in the entrance exam.

21.   Nature-related Challenges:
a) I did not face any significant disruptions due to natural calamities or pandemic situations during my entrance exam preparation.
b) Natural calamities or pandemic situations adversely affected my study routine and preparation for the entrance exam.

•   Assigned numerical values to the responses for easier analysis (e.g., a=1, b=2) and Success in the entrance exam Math Score is considered as 55%.(Greater than or equals to 55 = 1, Less than 55= 2)
•
The following are the two sets of scores for 50 students each:
B: Board Exams percentage scores in Mathematics:
95,97,99,98,96,87,88,92,97,99,87,93,99,94,92,99,97,96,95,96,87,88,86,88,96,76,84,91,97,98,89,86,83,87,89,85,87,88,89,86,74,75,76,73,72,89,98,96,99,97.

E: Respective Entrance Exams percentage scores in Mathematics:
55,60,67,84,73,45,41,63,75,81,44,29,75,46,48,76,74,75,78,79,26,25,22,19,69,27,26,31,75,70,26,27,22,33,20,28,27,29,24,22,20,18,10,05,07,43,57,78,75,88.

Hypotheses for Research:
1.   The following hypothesis we've provided relates to assessing the statistical difference in mean scores between students in board exams and entrance exams in mathematics.

Hypothesis
Null Hypothesis (H_0):

There is no significant difference between the mean scores of students in board exams and entrance exams in mathematics.
Alternative Hypothesis (H_1):
There is a significant difference between the mean scores of students in board exams and entrance exams in mathematics.

Other hypothesis tests for influential factors:
Correlation between each of Factors and Success in the Math Section of Competitive Exams":
In this section, we present hypotheses related to the correlation between various factors and success in the math section of competitive exams. The following hypotheses are formulated to investigate the relationships and associations between different aspects of the examination process, personal attributes, and external factors with the performance in the math section. Each hypothesis is carefully crafted to provide a clear understanding of the anticipated associations that will be tested through statistical analyses.

2.   Time Factor:
• Null Hypothesis (H_0): There is no significant correlation between time management during entrance exams and success in the math section.
• Alternative Hypothesis (H_1): Efficient time management during entrance exams is positively correlated with success in the math section of C.A foundation entrance exam.

3.   Difficulty Level:
• H_0: The difficulty level of entrance exam questions does not impact success in the math section.
• H_1: Overcoming challenging difficulty levels in entrance exam questions is associated with higher success in the math section.

4.   Application Part:
• H_0: Confidence in applying theoretical knowledge to solve practical problems is not correlated with success in the math section.
• H_1: Confidence in applying theoretical knowledge positively influences success in the math section.

5.   In-depth Conceptual Clarity:
• H_0: Strong conceptual understanding of the topics covered in the entrance exam is not correlated with success in the math section.
• H_1: A strong conceptual understanding is positively associated with success in the math section.

6.   Peer Group Influence:
• H_0: Peer group influence does not significantly affect success in the math section.
• H_1: Positive peer group influence is positively correlated with success in the math section.

7.   Parents Encouragement:

- H_0: Lack of parental encouragement is not correlated with success in the math section.
- H_1: Consistent parental encouragement is positively associated with success in the math section.

8. Economic Background:
- H_0: Economic background does not significantly impact success in the math section.
- H_1: Financial constraints negatively affect success in the math section.

9. Teaching Facilities and Infrastructure:
- H_0: Access to teaching facilities and infrastructure does not affect success in the math section.
- H_1: Quality teaching facilities and infrastructure positively impact success in the math section.

10. Transport Facilities:
- H_0: Limited transport facilities do not significantly influence success in the math section.
- H_1: Adequate transport facilities positively contribute to success in the math section.

11. Personal Zeal and Ambition:
- H_0: Lack of personal zeal and ambition is not correlated with success in the math section.
- H_1: High personal motivation and ambition positively correlate with success in the math section.

12. Physical Health:
- H_0: Physical health is not significantly correlated with success in the math section.
- H_1: Good physical health positively influences success in the math section.

13. Mental Health:
- H_0: Mental health does not significantly impact success in the math section.
- H_1: Maintaining good mental health positively correlates with success in the math section.

14. Negative Marking:
- H_0: Managing negative marking effectively is not correlated with success in the math section.
- H_1: Strategic management of negative marking positively influences success in the math section.

15. Variations in Syllabi:
- H_0: Variations in syllabi do not significantly affect success in the math section.

- H_1: Managing variations in syllabi is negatively correlated with success in the math section.

16. Social Media Affect:
- H_0: Social media does not significantly impact success in the math section.
- H_1: Positive engagement on social media positively influences success in the math section.

17. Lack of Technical Skills:
- H_0: Lack of technical skills is not correlated with success in the math section.
- H_1: Lack of technical skills tends to negatively correlate with success in the math section.

18. Regularity and Punctuality:
- H_0: Irregularity and lack of punctuality in study routines do not significantly affect success in the math section.
- H_1: Maintaining regularity and punctuality positively influences success in the math section.

19. Society Influence:
- H_0: Societal influence does not significantly impact success in the math section.
- H_1: Positive societal influence positively correlates with success in the math section.

20. Self Confidence:
- H_0: Low self-confidence is not significantly correlated with success in the math section.
- H_1: High self-confidence positively correlates with success in the math section.

21. Nature-related Challenges:
- H_0: External factors such as natural calamities or pandemic situations do not significantly impact success in the math section of the entrance exam.
- H_1: Adverse conditions caused by natural calamities or pandemic situations negatively correlate with success in the math section.

Discussions of the Research Findings:
1) Board Exams Maths Marks% vs Entrance Exams Maths Part Success Mark%:T-test Report

Paired T-Test
Paired 1 Variable: B; Paired 2 Variable: E; and Paired Variables Difference: B-E

Descriptive Statistics

Variable	Count	Mean	Standard Deviation of Data	Standard Error of Mean	T*	95.0% LCL of Mean	95.0% UCL of Mean
B	50	90.1	7.578837	1.071809	2.0096	87.94612	92.25388
E	50	46.34	24.76552	3.502373	2.0096	39.30172	53.37828

Two-Sided Confidence Interval of the Mean Difference

								95.0% C. I. of Mean Diff.	
Statistic	Count	Mean Difference	Standard Deviation	Standard Error	T*	DF		Lower Limit	Upper Limit
Mean Difference	50	43.76	18.61924	2.633157	2.0096	49		38.46847	49.05153

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	Prob DF	Level	Reject H_0 at $\alpha = 0.050$?
Mean Diff. $\neq$ 0	43.76	2.633157	16.6188 49	0.00000	Yes	

Correlation Coefficient = 0.863358
Therefore, there is a significant difference between the mean scores of students in board exams and entrance exams in mathematics and the correlation coefficient between these two is 0.863358.
But board exams math scores affect the success in maths part of entrance exams like C.A foundation.

2)   Time Factor- T-test Report
Paired 1 Variable C2: C.A foundation Maths Exams success responses (marks greater than or equal to 55=1; marks less than 55=2)
Paired 2 Variable C3:   Responses to Time Factor (Responses: a=1, b=2)
Paired Difference (C2) - (C3)

Descriptive Statistics

Variable		Count	Mean	Standard Deviation of Data	Standard Error of Mean	T*	95.0% LCL of Mean	95.0% UCL of Mean
C2	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692	
C3	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692	

Two-Sided Confidence Interval of the Mean Difference

								95.0% C. I. of Mean Diff.	
Statistic	Count	Mean Difference	Standard Deviation	Standard Error	T*	DF		Lower Limit	Upper Limit
Mean Difference	50	0	0.2857143	0.0404061	2.0096	49		-0.08119	0.0811991

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	Prob DF	Level	Reject H_0 at $\alpha = 0.050$?

Mean Diff. ≠ 0	0	0.0404061	0.0000	49	1.00000 No

Correlation Coefficient = 0.835796
Therefore, efficient time management during entrance exams is positively correlated with success in the math section of C. A foundation entrance exam and the correlation coefficient between these two is 0.835796.

3)   Difficulty Level: T-test Report
Paired T-Test Report

Paired 1 Variable C2: C.A foundation Maths Exams success responses (marks greater than or equal to 55=1; marks less than 55=2)
Paired 2 Variable C4:   Responses to Difficulty Level (Responses: a=1, b=2)

Paired Difference (C2) - (C4)

Descriptive Statistics

Variable	Count	Mean	Standard Deviation of Data	Standard Error of Mean	T*	95.0% LCL of Mean	95.0% UCL of Mean	
C2	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692	
C4	50	1.68	0.4712121	0.06663945	2.0096	1.546083	1.813917	

Two-Sided Confidence Interval of the Mean Difference

Statistic	Count	Mean Difference	Standard Deviation	Standard Error	T*	DF	95.0% C. I. of Mean Diff. Lower Limit	Upper Limit
Mean Difference	50	-0.1	0.3030457	0.04285714	2.0096	49	-0.1861247	-01387535

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	DF	Prob Level	Reject H$_0$ at α = 0.050?
Mean Diff. ≠ 0	-0.1	0.04285714	-2.3333	49	0.02378	Yes

Correlation Coefficient = 0.806139
Therefore, overcoming challenging difficulty levels in entrance exam questions is associated with higher success in the math section of C.A foundation entrance exam and the correlation coefficient between these two is 0.806139.

4)   Application Part: T-test Report
Paired T-Test Report
Paired 1 Variable C2: C.A foundation Maths Exams success responses (marks greater than or equal to 55=1; marks less than 55=2)
Paired 2 Variable C5: Responses to Application part (Responses: a=1, b=2)
 Paired Difference   (C2) - (C5)

Descriptive Statistics

Variable	Count	Mean	Standard Deviation of Data	Standard Error of Mean	T*	95.0% LCL of Mean	95.0% UCL of Mean
C2	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692
C5	50	1.72	0.4535574	0.0641427	2.0096	1.5911	1.8489

Two-Sided Confidence Interval of the Mean Difference

Statistic	Count	Mean Difference	Standard Deviation	Standard Error	T*	DF	95.0% C. I. of Mean Diff. Lower Limit	95.0% C. I. of Mean Diff. Upper Limit
Mean Difference	50	-0.14	0.3505098	0.04956958	2.0096	49	-0.2396138	-04038621

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	DF	Prob Level	Reject H_0 at $\alpha = 0.050$?
Mean Diff. $\neq 0$	-0.14	0.04956958	-2.8243	49	0.00683	Yes

Correlation Coefficient = 0.732828

Therefore, confidence in applying theoretical knowledge positively influences success in the math section of C.A foundation entrance exam and the correlation coefficient between these two is 0.732828.

5)   In-depth Conceptual Clarity: T-test Report Paired T-Test Report

Paired 1 Variable C2: C.A foundation Maths Exams success responses (marks greater than or equal to 55=1; marks less than 55=2)

Paired 2 Variable C6: Responses to In-depth Conceptual Clarity (Responses: a=1, b=2)

Paired Difference (C2) - (C6)

Descriptive Statistics

Variable	Count	Mean	Standard Deviation of Data	Standard Error of Mean	T*	95.0% LCL of Mean	95.0% UCL of Mean
C2	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692
C6	50	1.7	0.4629101	0.06546537	2.0096	1.568442	1.831558

Two-Sided Confidence Interval of the Mean Difference

				95.0% C. I. of Mean Diff.	
	Mean	Standard	Standard	Lower	Upper

Statistic	Count	Difference	Deviation	Error	T*	DF	Limit	Limit
Mean Difference	50	-0.12	0.3282607	0.04642308	2.0096	49	-0.2132907	-0.02670933

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	Prob DF	Level	Reject H_0 at $\alpha = 0.050$?
Mean Diff. $\neq$ 0	-0.12	0.04642308	-2.5849	49	0.01277	Yes

Correlation Coefficient = 0.769309.
Therefore, a strong conceptual understanding is positively associated with success in the math section of C. A foundation entrance exam and the correlation coefficient between these two is 0.769309.

6)   Positive Peer Group Influence: T-test Report
Paired T-Test Report
Paired 1 Variable C2: C.A foundation Maths Exams success responses (marks greater than or equal to 55=1; marks less than 55=2)
Paired 2 Variable C7:   Responses to positive peer group (Responses: a=1, b=2)

Paired Difference (C2) - (C7)

Descriptive Statistics

Variable	Count	Mean	Standard Deviation of Data	Standard Error of Mean	T*	95.0% LCL of Mean	95.0% UCL of Mean
C2	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692
C7	50	1.56	0.5014265	0.07091242	2.0096	1.417496	1.702504

Two-Sided Confidence Interval of the Mean Difference

Statistic	Count	Mean Difference	Standard Deviation	Standard Error	T*	DF	95.0% C. I. of Mean Diff. Lower Limit	Upper Limit
Mean Difference	50	0.02	0.1414214	0.02	2.0096	49	-0.02019151	0.0601915

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	Prob DF	Level	Reject H_0 at $\alpha = 0.050$?
Mean Diff. $\neq$ 0	0.02	0.02	1.0000	49	0.32222	No

Correlation Coefficient = 0.960016.

Therefore, positive peer group influence is positively correlated with success in the math section of the C.A. foundation entrance exam, and the correlation coefficient between these two is 0.960016.

7) Parental Encouragement: T-test Report
Paired T-Test Report

Paired 1 Variable C2: C.A foundation Maths Exams success responses (marks greater than or equal to 55=1; marks less than 55=2)
Paired 2 Variable C8: Responses to Parental Encouragement (Responses: a=1, b=2)
Paired Difference (C2) - (C8)

Descriptive Statistics

Variable	Count	Mean	Standard Deviation of Data	Standard Error of Mean	T*	LCL of Mean	95.0% UCL of Mean	95.0%
C2	50	1.58	0.4985694	0.07050836		2.0096	1.438308	1.721692
C8	50	1.58	0.4985694	0.07050836		2.0096	1.438308	1.721692

Two-Sided Confidence Interval of the Mean Difference

Statistic	Count	Mean Difference	Standard Deviation	Standard Error	T*	DF	95.0% C. I. of Mean Diff. Lower Limit	95.0% C. I. of Mean Diff. Upper Limit
Mean Difference	50	0	0	0	0.0000	49	0	0

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	DF	Prob Level	Reject H_0 at $\alpha = 0.050$?
Mean Diff. $\neq 0$	0	0	0.0000	49	0.00000	Yes

Correlation Coefficient = 1.000000

Therefore, consistent parental encouragement is positively associated with success in the math section of the C.A.foundation entrance exam, and the correlation coefficient between these two is 1.

8) Economic Background: T-test Report
   Paired T-Test Report

Paired 1 Variable C2: C.A foundation Maths Exams success responses (marks greater than or equal to 55=1; marks less than 55=2)
Paired 2 Variable C9: Responses to Parental Encouragement (Responses: a=1, b=2)
Paired Difference (C2) - (C9)

Descriptive Statistics

Variable	Count	Mean	Standard Deviation of Data	Standard Error of Mean	T*	LCL of Mean	95.0% UCL of Mean	95.0%
C2	50	1.58	0.4985694	0.07050836		2.0096	1.438308	1.721692
C9	50	1.66	0.4785181	0.06767268		2.0096	1.524007	1.795993

Two-Sided Confidence Interval of the Mean Difference

Statistic	Count	Mean Difference	Standard Deviation	Standard Error	T*	DF	95.0% C. I. of Mean Diff. Lower Limit	Upper Limit
Mean Difference	50	-0.08	0.2740475	0.03875617	2.0096	49	-0.1578834	-002116558

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	Prob DF	Level	Reject H0 at $\alpha = 0.050$?
Mean Diff. $\neq 0$	-0.08	0.03875617	-2.0642	49	0.04432	Yes

Correlation Coefficient = 0.843445
Therefore, financial constraints negatively affect success in the math section of the C.A.foundation entrance exam, and the correlation coefficient between these two is 0.843445.

9)   Teaching Facilities and Infrastructure: T-test Report
Paired T-Test Report
Paired 1 Variable C2: C.A foundation Maths Exams success responses (marks greater than or equal to 55=1; marks less than 55=2)
Paired 2 Variable C10: Responses to teaching facilities and infrastructure (Responses: a=1, b=2)
Paired Difference (C2) - (C10)

Descriptive Statistics

Variable	Count	Mean	Standard Deviation of Data	Standard Error of Mean	T*	95.0% LCL of Mean	95.0% UCL of Mean
C2	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692
C10	50	1.44	0.5014265	0.07091242	2.0096	1.297496	1.582504

Two-Sided Confidence Interval of the Mean Difference

Statistic	Count	Mean Difference	Standard Deviation	Standard Error	T*	DF	95.0% C. I. of Mean Diff. Lower Limit	Upper Limit
Mean Difference	50	0.14	0.5349041	0.07564687	2.0096	49	-0.012018	0.292018

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	Prob DF	Level	Reject H_0 at $\alpha = 0.050$?

Mean Diff. $\neq 0$	0.14	0.07564687	1.8507	49	0.07025	No

Correlation Coefficient = 0.427762.

Therefore, quality teaching facilities and infrastructure positively impact success in the math section of the C.A.foundation entrance exam, and the correlation coefficient between these two is 0.427762.

10) Transport Facilities: T-test Report

Descriptive Statistics

Variable	Count	Mean	Standard Deviation of Data	Standard Error of Mean	T*	95.0% LCL of Mean	95.0% UCL of Mean	
C2	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692	
C11	50	1.3	0.4629101	0.06546537	2.0096	1.168442	1.431558	

Two-Sided Confidence Interval of the Mean Difference

Statistic	Count	Mean Difference	Standard Deviation	Standard Error	T*	DF	95.0% C. I. of Mean Diff. Lower Limit	Upper Limit
Mean Difference	50	0.28	0.4535574	0.0641427	2.0096	49	0.1511004	0.4088996

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	Prob DF Level	Reject H0 at $\alpha = 0.050$?
Mean Diff. $\neq 0$	0.28	0.0641427	4.3653 49	0.00007	Yes

Correlation Coefficient = 0.557086.

Therefore, adequate transport facilities positively contribute to success in the math section of the C.A.foundation entrance exam, and the correlation coefficient between these two is 0.557086.

Paired T-Test Report
Paired 1 Variable C2: C.A foundation Maths Exams success responses (marks greater than or equal to   55=1; marks less than 55=2)
Paired 2 Variable C11: Responses to Transport Facilities (Responses: a=1, b=2)
Paired Difference (C2) - (C11)

11) Personal Zeal and Ambition: T-test Report
Paired T-Test Report
Paired 1 Variable C2: C.A foundation Maths Exams success responses (marks greater than or equal to   55=1; marks less than 55=2)
Paired 2 Variable C12: Responses to Transport Facilities (Responses: a=1, b=2)
Paired Difference (C2) - (C12)

Descriptive Statistics

Variable	Count	Mean	Standard Deviation of Data	Standard Error of Mean T*	LCL of Mean	95.0% UCL of Mean	95.0%
C2	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692
C12	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692

Two-Sided Confidence Interval of the Mean Difference

Statistic	Count	Mean Difference	Standard Deviation	Standard Error	T*	DF	95.0% C. I. of Mean Diff. Lower Limit	Upper Limit
Mean Difference	50	0	0	0	0.0000	49	0	0

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	Prob DF	Level	Reject H0 at α = 0.050?
Mean Diff. ≠ 0	0	0	0.0000	49	0.00000	Yes

Correlation Coefficient = 1

Therefore, high personal motivation and ambition positively correlate with success in the math section of the C.A.foundation entrance exam, and the correlation coefficient between these two is 1.

12)   Physical Health: T-test Report
Paired T-Test Report
Paired 1 Variable C2: C.A foundation Maths Exams success responses (marks greater than or equal to   55=1; marks less than 55=2)
Paired 2 Variables C13 : Responses to Physical Health (Responses: a=1, b=2)

Paired Difference (C2) - (C13)

Descriptive Statistics

Variable	Count	Mean	Standard Deviation of Data	Standard Error of Mean T*	LCL of Mean	95.0% UCL of Mean	95.0%
C2	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692
C13	50	1.92	0.2740475	0.03875617	2.0096	1.842117	1.997883

Two-Sided Confidence Interval of the Mean Difference

95.0% C. I. of Mean Diff.

Statistic	Count	Mean Difference	Standard Deviation	Standard Error	T*	DF	Lower Limit	Upper Limit
Mean Difference	50	-0.34	0.4785181	0.06767268	2.0096	49	-0.4759933	-0.2040067

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	Prob DF	Level	Reject H_0 at α = 0.050?
Mean Diff. $\neq$ 0	-0.34	0.06767268	-5.0242	49	0.00001	Yes

Correlation Coefficient = 0.346530.
Therefore, good physical health positively influences success in the math section of the C.A.foundation entrance exam, and the correlation coefficient between these two is 0.346530.

13)   Mental Health: T-test Report
Paired T-Test Report
Paired 1 Variable C2: C.A foundation Maths Exams success responses (marks greater than or equal to   55=1; marks less than 55=2)
Paired 2 Variable C14 : Responses to Mental Health (Responses: a=1, b=2)

Descriptive Statistics

Variable	Count	Mean	Standard Deviation of Data	Standard Error of Mean	T*	95.0% LCL of Mean	95.0% UCL of Mean
C2	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692
C14	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692

Two-Sided Confidence Interval of the Mean Difference

Statistic	Count	Mean Difference	Standard Deviation	Standard Error	T*	DF	95.0% C. I. of Mean Diff. Lower Limit	Upper Limit
Mean Difference	50	0	0	0	0.0000	49	0	0

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	Prob DF	Level	Reject H_0 at α = 0.050?
Mean Diff. $\neq$ 0	0	0	0.0000	49	0.00000	Yes

Correlation Coefficient = 1.0000
Therefore, maintaining good mental health positively correlates with success in the math section of the C.A.foundation entrance exam, and the correlation coefficient between these two is 1.

14) Negative Marking: T-test Result
Paired T-Test Report
Paired 1 Variable C2: C.A foundation Maths Exams success responses (marks greater than or equal to 55=1; marks less than 55=2)
Paired 2 Variable C15: Responses to Mental Health (Responses: a=1, b=2)
Paired Difference (C2) - (C15)

Descriptive Statistics

Variable	Count	Mean	Standard Deviation of Data	Standard Error of Mean	T*	LCL of Mean	95.0% UCL of Mean	95.0%
C2	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692	
C15	50	1.76	0.4314191	0.06101188	2.0096	1.637392	1.882608	

Two-Sided Confidence Interval of the Mean Difference

Statistic	Count	Mean Difference	Standard Deviation	Standard Error	T*	DF	95.0% C. I. of Mean Diff. Lower Limit	Upper Limit
Mean Difference	50	-0.18	0.3880879	0.05488392	2.0096	49	-0.2902934	-0.06970663

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	Prob DF	Reject H₀ Level	at α = 0.050?
Mean Diff. ≠ 0	-0.18	0.05488392	-3.2796 49	0.00192	Yes	

Correlation Coefficient = 0.660371

Therefore, strategic management of negative marking positively influences success in the math section of the C.A.foundation entrance exam, and the correlation coefficient between these two is 0.660371.

15) Variations in Syllabi: T-test Result
Paired T-Test Report

Paired 1 Variable C2: C.A foundation Maths Exams success responses (marks greater than or equal to 55=1; marks less than 55=2)
Paired 2 Variables C16: Responses to Variations in Syllabi (Responses: a=1, b=2)
Paired Difference (C2) - (C16)

Descriptive Statistics

Variable	Count	Mean	Standard Deviation of Data	Standard Error of Mean	T*	LCL of Mean	95.0% UCL of Mean	95.0%
C2	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692	
C16	50	1.94	0.2398979	0.03392669	2.0096	1.871822	2.008178	

Two-Sided Confidence Interval of the Mean Difference

Statistic	Count	Mean Difference	Standard Deviation	Standard Error	T*	DF	95.0% C. I. of Mean Diff. Lower Limit	Upper Limit
Mean Difference	50	-0.36	0.5627919	0.07959079	2.0096	49	-0.519944	-0.200056

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	Prob DF	Level	Reject H₀ at α = 0.050?
Mean Diff. ≠ 0	-0.36	0.07959079	-4.5231	49	0.00004	Yes

Correlation Coefficient = -0.044363

Therefore, managing variations in syllabi is negatively correlated with success in the math section of the C.A.foundation entrance exam, and the correlation coefficient between these two is -0.044363.

16)   Social Media Affect: T-test Report
Paired T-Test Report
Paired 1 Variable C2:   C.A foundation Maths Exams success responses (marks greater than or equal to 55=1; marks less than 55=2)
Paired 2 Variables C17: Responses to Social Media Affect (Responses: a=1, b=2)
Paired Difference (C2) - (C17)

Descriptive Statistics

Variable	Count	Mean	Standard Deviation of Data	Standard Error of Mean	T*	95.0% LCL of Mean	95.0% UCL of Mean
C2	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692
C17	50	1.88	0.3282607	0.04642308	2.0096	1.786709	1.973291

Two-Sided Confidence Interval of the Mean Difference

Statistic	Count	Mean Difference	Standard Deviation	Standard Error	T*	DF	95.0% C. I. of Mean Diff. Lower Limit	Upper Limit
Mean Difference	50	-0.3	0.5050763	0.07142857	2.0096	49	-0.443541	-0.156459

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	DF	Prob Level	Reject H₀ at α = 0.050?
Mean Diff. ≠ 0	-0.3	0.07142857	-4.2000	49	0.00011	Yes

Correlation Coefficient = 0.309251

Therefore, positive engagement on social media positively influences success in the math section of the C.A.foundation entrance exam, and the correlation coefficient between these two is 0.309251.

17) Lack of technical skills: T-test Report
Paired T-Test Report
Paired 1 Variable C2: C.A foundation Maths Exams success responses (marks greater than or equal to 55=1; marks less than 55=2)
Paired 2 Variable C18: Responses to Lack of Technical Skills (Responses: a=1, b=2)
Paired Difference (C2) - (C18)

Descriptive Statistics

Variable	Count	Mean	Standard Deviation of Data	Standard Error of Mean	T*	LCL of Mean	95.0% UCL of Mean	95.0%
C2	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692	
C18	50	1.96	0.1979487	0.02799417	2.0096	1.903744	2.016256	

Two-Sided Confidence Interval of the Mean Difference

Statistic	Count	Mean Difference	Standard Deviation	Standard Error	T*	DF	95.0% C. I. of Mean Diff. Lower Limit	Upper Limit
Mean Difference	50	-0.38	0.5674864	0.0802547	2.0096	49	-0.54128	-0.21872

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	DF	Prob Level	Reject H₀ at α = 0.050?
Mean Diff. ≠ 0	-0.38	0.0802547	-4.7349	49	0.00002	Yes

Correlation Coefficient = -0.173702

Therefore, a lack of technical skills tends to negatively correlate with success in the math section of the C.A.foundation entrance exam, and the correlation coefficient between these two is -0.173702.

18)   Regularity and Punctuality: T-test Results
Paired T-Test Report
Paired 1 Variable C2:   C.A foundation Maths Exams success responses (marks greater than or equal to 55=1; marks less than 55=2)

Paired 2 Variable C19:   Responses   to   "Regularity   and Punctuality" (Responses: a=1, b=2)
Paired Difference (C2) - (C19)

Descriptive Statistics

Variable	Count	Mean	Standard Deviation of Data	Standard Error of Mean	T*	95.0% LCL of Mean	95.0% UCL of Mean
C2	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692
C19	50	1.94	0.2398979	0.03392669	2.0096	1.871822	2.008178

Two-Sided Confidence Interval of the Mean Difference

Statistic	Count	Mean Difference	Standard Deviation	Standard Error	T*	DF	95.0% C. I. of Mean Diff. Lower Limit	95.0% C. I. of Mean Diff. Upper Limit
Mean Difference	50	-0.36	0.5979557	0.08456371	2.0096	49	-0.52994	-0.190063

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	DF	Prob Level	Reject H_0 at $\alpha = 0.050$?
Mean Diff. ≠ 0	-0.36	0.08456371	-4.2571	49	0.00009	Yes

Correlation Coefficient = -0.214992.

Therefore, there is a negative correlation between "irregularity, lack of punctuality'' and success in the maths section of the C.A.foundation entrance exam, and the correlation coefficient between these two is -0.214992.

19)   Society Influence: T-test Results
Paired T-Test Report
Paired 1 Variable C2:   C.A foundation Maths Exams success responses (marks greater than or equal to 55=1; marks less than 55=2)
Paired 2 Variables C20: Responses to "Society Influence" (Responses: a=1, b=2)
Paired Difference (C2) - (C20)

Descriptive Statistics

Variable	Count	Mean	Standard Deviation of Data	Standard Error of Mean	T*	95.0% LCL of Mean	95.0% UCL of Mean
C2	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692
C20	50	1.96	0.1979487	0.02799417	2.0096	1.903744	2.016256

Two-Sided Confidence Interval of the Mean Difference

Statistic	Count	Mean Difference	Standard Deviation	Standard Error	T*	DF	95.0% C. I. of Mean Diff.	
							Lower Limit	Upper Limit
Mean Difference	50	-0.38	0.5674864	0.0802547	2.0096	49	-0.541278	-0.218722

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	DF	Prob Level	Reject H_0 at α = 0.050?
Mean Diff. ≠ 0	-0.38	0.0802547	-4.7349	49	0.00002	Yes

Correlation Coefficient = -0.173702.

Therefore, negative societal influence negatively correlates with success in the math section of the C.A.foundation entrance exam, and the correlation coefficient between these two is -0.173702.

20)   Self Confidence: T-test Result
Paired T-Test Report
Paired 1 Variable C2:   C.A foundation Maths Exams success responses (marks greater than or equal to 55=1; marks less than 55=2)
Paired 2 Variables C21: Responses to "Self Confidence" (Responses: a=1, b=2)

Paired Difference (C2) - (C21)

Descriptive Statistics

Variable	Count	Mean	Standard Deviation of Data	Standard Error of Mean	T*	95.0% LCL of Mean	95.0% UCL of Mean
C2	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692
C21	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692

Two-Sided Confidence Interval of the Mean Difference

Statistic	Count	Mean Difference	Standard Deviation	Standard Error	T*	DF	95.0% C. I. of Mean Diff.	
							Lower Limit	Upper Limit
Mean Difference	50	0	0	0	0.0000	49	0	0

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	Prob DF	Reject H0 Level	at α = 0.050?

Mean Diff. $\neq 0$	0	0	0.0000	49	0.00000	Yes

Correlation Coefficient = 1

Therefore, high self-confidence positively correlates with success in the math section of the C.A.foundation entrance exam, and the correlation coefficient between these two is 1.

21)   Nature-related Challenges: T-test Results
Paired T-Test Report
Paired 1 Variable C2:   C.A foundation Maths Exams

success responses (marks greater than or equal to 55=1; marks less than 55=2)
Paired 2 Variable C22: Responses to "Self Confidence" (Responses: a=1, b=2)

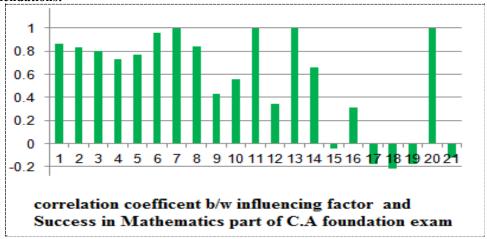Paired Difference (C2) - (C22)

Descriptive Statistics

Variable	Count	Mean	Standard Deviation of Data	Standard Error of Mean	T*	LCL of Mean	95.0% UCL of Mean
C2	50	1.58	0.4985694	0.07050836	2.0096	1.438308	1.721692
C22	50	1.98	0.1414214	0.02	2.0096	1.939808	2.020191

Two-Sided Confidence Interval of the Mean Difference

Statistic	Count	Mean Difference	Standard Deviation	Standard Error	T*	DF	95.0% C. I. of Mean Diff. Lower Limit	Upper Limit
Mean Difference	50	-0.4	0.5345225	0.0755929	2.0096	49	-0.551909	-0.24809

Paired-Sample T-Test

Alternative Hypothesis	Mean Difference	Standard Error	T-Statistic	Prob DF	Level	Reject H0 at $\alpha = 0.050$?
Mean Diff. $\neq 0$	-0.4	0.0755929	-5.2915	49	0.00000	Yes

Correlation Coefficient = -0.121566.

Therefore, adverse conditions caused by natural calamities or pandemic situations negatively correlate with success in the math section of the C.A.foundation entrance exam, and the correlation coefficient between these two is -0.121566.

Research Recommendations:

correlation coefficent b/w influencing factor and Success in Mathematics part of C.A foundation exam

1. Based on the above map, we observed that among all other factors Parents' Encouragement, "Student's Zeal and Ambition", student's Mental Health, and Self Confidence are highly influential factors on C.A foundation Math successful result.
2. Lack of Technical Skills (including non-usage of calculator, and lack of calculator tricks), irregularity, non-punctuality, societal influence, and nature-related challenges negatively impact C.A foundation Math successful result.
3. Administrators of all colleges and concerned subject faculty must inform the students and parents at the time of admissions and during parent-teacher meetings about all the factors that affect successful marks in the math part of C.A Foundation Examinations explain and sensitize them about the ideal students who have achieved success in a way that inspires them.

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