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Contents

The Relationship between Socio-demographic Factors and Noise Sensitivity among City Dwellers in Rajshahi

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Abstract

Noise pollution is a growing environmental concern in urban areas, affecting psychological well-being and public health. While previous research has explored noise levels, limited studies have examined their relationship with socio-demographic characteristics and noise sensitivity in developing cities like Rajshahi, Bangladesh. This study aimed to investigate the relationship between socio-demographic factors and noise sensitivity among city dwellers in Rajshahi. A cross-sectional study was conducted with 817 participants recruited using a convenience sampling technique between December 2023 and May 2024. Noise sensitivity was measured using the Noise Sensitivity Scale (NSS), and noise annoyance was assessed using the ICBEN noise annoyance questionnaire. Descriptive statistics, chi-square tests, and correlation analyses were performed using SPSS (Version 26.0), and a p-value $< .05$ was considered statistically significant. Findings revealed that age, marital status, occupation, socioeconomic status, sleep duration, noise annoyance, and long-term disease were significantly associated with noise sensitivity ($p < .05$). Younger individuals, students, and those experiencing higher noise annoyance exhibited greater noise sensitivity. However, gender, educational qualification, income level, residence type, and duration of city living were not significantly related to noise sensitivity ($p > .05$). The study shows the role of socio-demographic and behavioral factors in noise perception, with younger individuals, students, and those with high noise annoyance being the most affected. These findings emphasize the need for urban noise regulation policies and public awareness initiatives to mitigate noise-related health effects. Future research should explore longitudinal designs and objective noise measurement techniques to strengthen causal interpretations.

Keywords*:* noise pollution, noise sensitivity, noise annoyance, socio-demographic factors, urban environment, Bangladesh

Introduction

Noise pollution is a universal environmental stressor in urban areas, significantly impacting individuals' quality of life and well-being (Basner & McGuire, 2018). With increasing urbanization, city dwellers are frequently exposed to high levels of environmental noise, originating from traffic, construction, industries, and social activities (WHO, 2018). Rajshahi, one of Bangladesh's major cities, is no exception, experiencing rising noise levels due to rapid urban expansion and increased vehicular movement. The World Health Organization (WHO) has recognized noise pollution as a public health concern, linking prolonged exposure to adverse effects such as sleep disturbances, cardiovascular diseases, and mental health issues (Munzel et al., 2018; Park et al., 2017). However, individuals respond differently to noise exposure based on personal attributes such as noise sensitivity and perceived noise annoyance (Fyhri & Klæboe, 2018).

Noise sensitivity is a stable personality trait that influences how individuals perceive and react to noise, irrespective of its actual intensity (Shepherd et al., 2010; Stansfeld et al., 2021). In contrast, noise annoyance refers to the subjective discomfort or distress caused by unwanted noise, which varies depending on personal and environmental factors. Research suggests that socio-demographic characteristics such as age, gender, education, and occupation play a crucial role in shaping individuals' sensitivity and annoyance to noise (Janssen et al., 2011). Understanding these relationships is essential for developing effective noise management strategies and public health policies tailored to diverse populations.

Given the increasing noise pollution in Rajshahi (Sarker et al., 2023), this study aims to explore the relationship between socio-demographic characteristics and noise sensitivity among city dwellers. By identifying key demographic predictors of noise perception, the study seeks to provide insights into targeted interventions to mitigate the adverse effects of noise pollution in urban settings.

Literature Review

Noise pollution has become a pressing environmental issue in urban settings, adversely affecting public health and well-being (Basner & McGuire, 2018). Chronic exposure to environmental noise has been linked to cardiovascular diseases, sleep disturbances, cognitive impairments, cardiovascular disease, and increased psychological distress (Thompson et al., 2022; Munzel et al., 2018; Basner & McGuire, 2018; Van Kempen et al., 2018; Park et al., 2017). The World Health Organization (WHO) has emphasized that prolonged exposure to noise levels exceeding recommended thresholds can contribute to stress, reduced quality of life (Han, 2020), and mental health issues such as anxiety and depression (WHO, 2018; Basner & McGuire, 2018). Urban residents, particularly those in densely populated areas, are more vulnerable to these effects due to continuous exposure to high noise levels from transportation, industries, and construction activities.

Noise sensitivity is a stable individual trait that influences how people perceive and react to noise, regardless of its actual intensity (Shepherd et al., 2010). It is considered an essential psychological factor that moderates the effects of noise exposure on health outcomes (Fyhri & Klæboe, 2018). Studies show that people who are highly sensitive to noise are more likely to be irritated (Riedy et al., 2021; Sarker et al., 2024), stressed (Basner & McGuire, 2018; Thompson et al., 2022), and have trouble sleeping (Münzel et al., 2021; Riedy et al., 2021) than people who are less susceptible. Furthermore, research indicates that noise sensitivity is associated with increased physiological responses, including elevated cortisol levels and heightened cardiovascular reactivity. (Münzel et al., 2018; Van Kempen et al., 2018)

Noise annoyance is a widely studied negative reaction to environmental noise and is influenced by both personal and contextual factors (Janssen et al., 2011). It is defined as a subjective feeling of discomfort or distress caused by unwanted noise, often leading to negative psychological and physiological effects (Öhrström et al., 2006). Factors such as noise characteristics, individual noise sensitivity, and environmental conditions contribute to the degree of annoyance experienced by individuals (Guski et al., 2017). Research has shown that noise annoyance can lead to impaired concentration, reduced work productivity, and increased risk of developing mental health disorders such as depression and anxiety (Beutel et al., 2016).

Several socio-demographic characteristics, including age, gender, education level, and occupation, influence noise sensitivity and annoyance responses. Studies suggest that older adults generally report higher levels of noise sensitivity and annoyance compared to younger individuals, possibly due to increased susceptibility to environmental stressors (Öhrström et al., 2006). Gender differences have also been observed, with females often exhibiting greater noise sensitivity and reporting higher annoyance levels than males (Shepherd et al., 2010). Additionally, individuals with higher educational backgrounds tend to have increased awareness of noise-related health risks and may report higher annoyance levels. Occupational exposure to noise is another critical factor, as individuals working in high-noise environments, such as industrial or transportation sectors, are more likely to develop noise-related stress and health problems.

Research Gaps and Rationale of the Study

Although previous studies have extensively examined noise pollution levels, limited research has focused on the specific socio-demographic determinants of noise perception in the context of developing cities like Rajshahi. Understanding how various factors influence noise sensitivity in Bangladeshi city dwellers is essential for designing effective noise management policies. This study aims to bridge this gap by analyzing the relationship between socio-demographic characteristics and noise sensitivity among residents of Rajshahi, providing insights for future urban planning and public health interventions.

Main Objective

To examine the relationship between socio-demographic characteristics and noise sensitivity, among city dwellers in Rajshahi.

Specific Objectives

1. To assess the levels of noise sensitivity among city dwellers in Rajshahi.

2. To explore the association between socio-demographic characteristics (e.g., age, gender, education, and occupation) and noise sensitivity.

Method

This study employed a cross-sectional research design to examine the relationship between socio-demographic characteristics and noise sensitivity among city dwellers in Rajshahi. A convenience sampling technique was used to recruit participants from various locations in Rajshahi, including residential, commercial, and educational areas.

Participants were included in the study if they were residents of Rajshahi City for at least one year, were aged 18 years or older, and provided informed consent to participate. On the other hand, participants were excluded if they had hearing impairments or neurological disorders that could affect their perception of noise.

The sample size was calculated by using the following method for the unknown population formulae in survey research (Cochran, 1977). $n = \frac{Z^2 \times p \times q}{d^2} = \ = \frac{1.96^2 \times .5 \times .5}{.05^2} = 384$. Here, n = minimum sample size, Z = confidence level of z-statistic (look up a z-table based on your desired confidence level) = 1.96, p = estimated proportion of the population with the characteristic of interest = 0.5 (unknown), q = 1-p = 1-0.5 = 0.5, and d = desired precision (margin of error) or allowable error in estimation or confidence interval = 0.05. Therefore, for exploring the sample size for survey-type research, a total sample of 384 is recommended. This present study's sample size (n = 817) fulfilled this criterion. However, this study's sample size exceeded the requirement well.

The Bangla Version of the Noise Sensitivity Scale Short Form (NSS-SF-BF) was used to measure noise sensitivity. This scale was first developed by Weinstein in 1978 and later shortened by Benfield et al. (2012). It was then adapted and used by the authors of this study (Sarker et al., 2024). The scale consists of 5 items, rated on a 6-point Likert-type scale ranging from 1 (strongly disagree) to 6 (strongly agree). The score ranged from 5 to 30. Higher scores indicate greater noise sensitivity. The NSS has been widely used in environmental psychology and has demonstrated high reliability (Cronbach's α = 0.80–0.90) in previous studies (Shepherd et al., 2010). In this study, internal consistency was found, **α** = .74.

Noise annoyance was measured using the International Commission on Biological Effects of Noise (ICBEN) questionnaire, a widely accepted tool for assessing noise annoyance (Guski et al., 2017). The ICBEN questionnaire includes a single-item annoyance scale rated on a 5-point scale (1 = not at all annoyed to 5 = extremely annoyed). Based on the recommended single item from an extensive literature review, this study created a total of five items. Total scores ranged from 5 to 25. A higher score indicates more noise annoyance. This method has been validated in multiple noise studies and is recommended by the World Health Organization (WHO, 2018) for assessing subjective noise annoyance. In this study, internal consistency was found, $\boldsymbol{\alpha} = .73$.

This study was conducted following ethical guidelines established by the Declaration of Helsinki (2013). Ethical approval was obtained from the Institute of Biological Sciences (IBSc), University of Rajshahi (Reference No.: 455(12)/320/IAMEBBC/IBSc; Date: 14/09/2023) before data collection. Participants were informed about the study's purpose, assured of their confidentiality, and provided informed consent before participation. They were also given the right to withdraw from the study at any time without penalty.

Data collection took place from December 2023 to May 2024 in various urban locations in Rajshahi. Trained research assistants approached potential participants and provided an overview of the study. Participants who agreed to participate signed a written consent form before completing a self-administered questionnaire. Each questionnaire took approximately 10–15 minutes to complete. To ensure data quality, questionnaires were checked for completeness before submission.

Data were analyzed using SPSS (Version 26.0). Frequency, percentage, mean, standard deviation (SD), chi-square value, and p-value were calculated to summarize socio-demographic data and noise sensitivity levels. A significance level of $p < .05$ was considered statistically significant.

Results

Table 1 presents the relationship between socio-demographic factors and the prevalence of noise sensitivity among the inhabitants of Rajshahi metropolitan city. Noise sensitivity is categorized into three levels: low (n_1 = 151), medium (n_2 = 496), and high (n_3 = 170). The table includes variables such as age, gender, marital status, educational qualification, occupation, income level, socioeconomic status, duration of city residence, and residence type. The chi-square (χ^2) test was used to determine the statistical significance of associations, with a significance threshold of $p < .05$.

Participants were divided into three age groups: young age (57.4%), young adulthood (26.7%), and middle adulthood (15.9%). The highest proportion of participants with high noise sensitivity was found in the young age group (12.36%), while middle-aged adults (2.20%) exhibited the lowest high noise sensitivity scores. The chi-square test (χ^2 = 13.37, p = .003) revealed a significant association between age and noise sensitivity, suggesting that younger individuals are more likely to experience higher noise sensitivity.

Noise sensitivity levels were nearly similar between males (48.1%) and females (51.89%), with females exhibiting slightly higher mean noise sensitivity scores (M = 24.14, SD = 2.89) compared to males (M = 23.97, SD = 3.11). However, the chi-square analysis did not reveal a significant relationship between gender and noise sensitivity (χ^2 = 1.57, p = .45), indicating that noise sensitivity does not significantly differ by gender.

Unmarried participants (55.55%) reported higher noise sensitivity scores (M = 24.26, SD = 2.95) compared to married participants (M = 23.80, SD = 3.04). The chi-square test showed a significant relationship between marital status and noise sensitivity (χ^2 = 6.37, p = .04), indicating that unmarried individuals tend to be more noise-sensitive than married individuals.

Participants with higher education (honors and master's degrees) reported higher noise sensitivity levels, while those with primary and secondary education had lower noise sensitivity scores. However, the chi-square test (χ^2 = 16.03, p = .09) indicated that the relationship between educational qualification and noise sensitivity was not statistically significant.

Among different occupations, students (60.7%) exhibited the highest prevalence of noise sensitivity, with 13.21% in the high noise sensitivity group. In contrast, drivers/rickshaw pullers (6.24%) showed the lowest mean noise sensitivity score (M = 22.33, SD = 3.38). The chi-square test (χ^2 = 25.31, p = .005) indicated a statistically significant relationship between occupation and noise sensitivity, suggesting that students experience higher noise sensitivity than other occupational groups.

Participants were grouped into five income levels, with most participants (60.09%) earning between 5,001 and 10,000 BDT per month. The highest mean noise sensitivity score (M = 24.21, SD = 3.17) was observed among those earning 40,001 to 100,000 BDT. However, the chi-square test ($\chi^2 = 9.61$, $p = .29$) showed no significant association between income level and noise sensitivity.

The majority of participants belonged to the middle class (84.45%), followed by the lower class (13.46%) and higher class (2.08%). The highest mean noise sensitivity score (M = 24.15, SD = 2.91) was recorded among middle-class participants. The chi-square test ($\chi^2 = 10.17$, $p = .03$) showed a significant association between socio-economic status and noise sensitivity, indicating that individuals from different socioeconomic backgrounds experience noise sensitivity differently.

Participants were categorized based on how long they had lived in Rajshahi city. The highest mean noise sensitivity score (M = 24.31, SD = 3.16) was observed among those who had lived in the city for 11 to 20 years. However, the chi-square test ($\chi^2 = 7.96$, $p = .43$) indicated no significant association between living duration and noise sensitivity.

Participants were classified based on their residence type: home (61.32%), college hostel/university hall (11.02%), and those living in a mess (27.66%). The highest mean noise sensitivity score (M = 24.54, SD = 2.83) was observed among those living in mess accommodations, whereas homes had slightly lower noise sensitivity scores (M = 23.91, SD = 3.02). However, the chi-square test ($\chi^2 = 7.35$, $p = .12$) indicated no significant association between residence type and noise sensitivity.

For the sleep duration, most participants (61.93%) reported sleeping between 6 to 8 hours, while 16.89% slept 4 to 5 hours, and 21.17% slept 9 to 10 hours. Participants who slept 4 to 5 hours exhibited the highest mean noise sensitivity score (M = 24.38, SD = 3.21), while those who slept 6 to 8 hours had a slightly lower sensitivity (M = 23.86, SD = 2.94). The chi-square test revealed a significant association between sleep duration and noise sensitivity ($\chi^2 = 10.80$, $p = .029$), indicating that sleep duration may influence noise sensitivity.

Participants with long-term diseases (24.11%) also exhibited slightly lower noise sensitivity (M = 23.87, SD = 3.37) compared to those without chronic illnesses (M = 24.14, SD = 2.87). The chi-square test indicated a significant association between long-term disease and noise sensitivity ($\chi^2 = 14.42$, $p = .001$).

Lastly, noise annoyance levels were categorized into low, medium, and high, with most participants (66.80%) experiencing medium annoyance. Those with high noise annoyance showed the highest mean noise sensitivity (M = 25.76, SD = 2.69), while those with low noise annoyance had the lowest (M = 22.44, SD = 3.24). A statistically significant association was observed between noise annoyance and noise sensitivity ($\chi^2 = 79.01$, $p < .001$), further supporting the link between annoyance and sensitivity.

Table 1

The Relationship Between Socio-Demographic Factors and The Prevalence of Noise Sensitivity Among The Inhabitants of Rajshahi Metropolitan City (N=817)

Variables	Number (%)	Noise sensitivity (n= 817)			Noise sensitivity M (SD)	Chi-square value (p-value)
		Low (n1 =151) n (%)	Medium (n2 = 496) n (%)	High (n3 = 170) n (%)		
Age						
Young age	469 (57.40)	73 (8.93)	295 (36.10)	101 (12.36)	24.23(2.96)	
Young adulthood	218 (26.68)	39 (4.77)	128 (15.66)	51 (6.24)	24.25(2.78)	13.37 (.003)
Middle adulthood	130 (15.91)	39 (4.77)	73 (8.93)	18 (2.20)	23.10 (3.29)	
Gender						
Male	393 (48.10)	79 (9.66)	231 (28.27)	83 (10.15)	23.97 (3.11)	1.57 (0.45)
Female	424 (51.89)	72 (4.81)	265 (32.43)	87 (10.64)	24.14 (2.89)	
Marital status						
Unmarried	454 (55.55)	70 (8.56)	286 (35.00)	98 (11.99)	24.26 (2.95)	6.37 (0.04)
Married	363 (44.44)	81 (9.91)	210 (25.70)	72 (8.81)	23.80 (3.04)	
Educational Qualification						
Primary	44 (5.38)	14 (1.71)	25 (3.05)	5 (0.61)	22.75 (3.07)	16.03 (0.09)
Secondary	58 (7.09)	14 (1.71)	36 (4.40)	8 (0.97)	23.21 (3.01)	
Higher Secondary	78 (9.55)	19 (2.32)	41(5.02)	18 (2.20)	23.86 (3.11)	
Honor's	415 (50.79)	67 (8.20)	264 (32.31)	84 (10.28)	24.13 (2.87)	
Master	213 (26.07)	35 (4.28)	126 (15.42)	52 (6.36)	24.47 (3.04)	
MPhil/PhD	9 (1.10)	2 (0.24)	4 (0.48)	3 (0.36)	24.33 (3.74)	
Occupations						
Teachers	50 (6.11)	10 (1.22)	27 (3.30)	13 (1.59)	24.22 (3.04)	25.31 (.005)
Others services	59 (7.22)	10 (1.22)	34 (4.16)	15 (1.83)	24.42 (2.82)	
Street business	73 (8.93)	15 (1.83)	45 (5.50)	13 (1.59)	23.67 (3.11)	
Students	496 (60.70)	75 (9.18)	313 (38.31)	108 (13.21)	24.33 (2.92)	

Drivers/rickshaw puller	51 (6.24)	21 (2.57)	24 (2.93)	6 (0.73)	22.33 (3.38)	
House waives	88 (10.77)	20 (2.44)	53 (6.48)	15 (1.83)	23.52 (2.81)	
Income levels (tk.)						
0 to 5000	112 (13.70)	24 (2.93)	64 (7.83)	24 (2.93)	23.98 (2.94)	9.61 (0.29)
5001 to 10000	491 (60.09)	77 (9.42)	311 (38.06)	103 (12.60)	24.19 (2.93)	
10001 to 20000	98 (11.99)	26 (3.18)	52 (6.36)	20 (2.44)	23.62 (3.14)	
20001 to 40000	63 (7.71)	13 (1.59)	40 (4.89)	10 (1.22)	23.68 (3.21)	
40001 to 100000	53 (6.48)	11 (1.34)	29 (3.54)	13 (1.59)	24.21 (3.17)	
SES						
Lower class	110 (13.46)	31 (3.79)	56 (6.85)	23 (2.81)	23.51 (3.30)	10.17 (0.03)
Middle class	690 (84.45)	116 (14.19)	432 (52.87)	142 (17.38)	24.15 (2.91)	
Higher class	17 (2.08)	4 (0.48)	8 (0.97)	5 (0.61)	24.00 (3.92)	
Living duration in city						
1 to 5 years	265 (32.43)	42 (5.14)	163 (19.95)	60 (7.34)	24.22 (2.97)	7.96 (0.43)
6 to 10 years	241 (29.49)	42 (5.14)	151 (18.48)	48 (5.87)	24.10 (2.92)	
11 to 20 years	108 (13.21)	23 (2.81)	58 (7.09)	27 (3.30)	24.31 (3.16)	
21 to 30 years	125 (15.29)	26 (3.18)	74 (9.05)	25 (3.05)	23.92 (3.02)	
31 and above years	78 (9.54)	18 (2.20)	50 (6.12)	10 (1.22)	23.44 (3.04)	
Residence type						
Home	501 (61.32)	102 (12.48)	300 (36.71)	99 (12.11)	23.91 (3.02)	7.35 (0.12)
Hall/hostel	90 (11.02)	20 (2.44)	53 (6.48)	17 (2.08)	23.66 (3.13)	
Mess	226 (27.66)	29 (3.55)	143 (17.50)	54 (6.60)	24.54 (2.83)	
Sleep duration						
4 and 5 hours	138 (16.89)	23 (2.81)	75 (9.17)	40 (4.89)	24.38 (3.21)	10.80 (.029)
6 to 8 hours	506 (61.93)	100 (12.23)	318 (38.92)	88 (10.77)	23.86 (2.94)	
9 to 1o hours	173 (21.17)	28 (3.42)	103 (12.60)	42 (5.14)	24.39 (2.94)	
Long term disease						
Yes	197 (24.11)	51 (6.24)	98 (11.99)	48 (5.87)	23.87 (3.37)	14.42 (.001)
No	620 (75.88)	100 (12.23)	398 (48.71)	122 (14.93)	24.14 (2.87)	
Noise annoyance						
Low	138 (16.90)	51 (6.20)	73 (8.90)	14 (1.70)	22.44 (3.24)	79.01 (.000)
Medium	546 (66.80)	90 (11.00)	356 (43.60)	100 (12.20)	24.05 (2.77)	
High	133 (16.30)	10 (1.20)	67 (8.20)	56 (6.90)	25.76 (2.69)	

Note.: n = sample size, M = Mean, SD = Standard deviation, SES = Socio-economic status

Table 2 presents the Spearman's Rho correlation coefficients, assessing the relationships between various socio-demographic factors and noise sensitivity among inhabitants of Rajshahi metropolitan city. The table includes age, gender, marital status, education level, occupation, income, socioeconomic status, living duration in the city, type of residence, sleep duration, and long-term disease.

A negative correlation was found between age and noise sensitivity ($\rho = -0.09$, $p < .01$), indicating that younger individuals reported higher noise sensitivity compared to older individuals. No significant correlation was observed between gender and noise sensitivity ($\rho =$

0.02, p > .05), suggesting that noise sensitivity does not differ significantly between males and females. No significant relationship was found between marital status and noise sensitivity (ρ = -0.07, p > .05). A significant positive correlation was found between education level and noise sensitivity (ρ = 0.10, p < .01), indicating that individuals with higher education reported greater noise sensitivity. The occupation was negatively correlated with noise sensitivity (ρ = -0.07, p < .05), meaning that individuals in certain jobs (e.g., laborers, drivers) had lower noise sensitivity than professionals or students. Socio-economic status was not significantly correlated with noise sensitivity (ρ = 0.06, p > .05), indicating that economic background did not strongly influence noise sensitivity in this sample. No significant correlation was found between living duration in the city and noise sensitivity (ρ = -0.07, p > .05). A positive correlation was found between type of residence and noise sensitivity (ρ = 0.07, p < .05), indicating that individuals living in shared housing (e.g., hostels, mess) reported higher noise sensitivity. No significant correlation was found between sleep duration and noise sensitivity (ρ = -0.01, p > .05). No significant correlation was found between long-term disease and noise sensitivity (ρ = -0.03, p > .05). A strong positive correlation was found between noise annoyance and noise sensitivity (ρ = 0.28, p < .01), meaning that individuals with higher noise sensitivity also experienced greater noise annoyance. This suggests that noise sensitivity significantly influences how individuals perceive and react to environmental noise.

Table 2

Nonparametric Correlation (Spearman's Rho) Between The Related Factors And Noise Sensitivity Among The Inhabitants Of Rajshahi Metropolitan City (N = 817)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age category	1												
2. Gender	-.19**	1											
3. Marital Status	.67**	.03	1										
4. Education level	-.07*	.02	-.15**	1									
5. Occupation	-.13**	.27**	-.01	-.32**	1								
6. Income category	.30**	-.38**	.20**	.12**	-.66**	1							
7. SES	-.10**	.23**	-.01	.18**	-.11**	.01	1						
8. Living duration	.55**	-.07	.45**	-.05	-.10**	.18**	-.02	1					
9. Type of Residence	-.49**	-.01	-.52**	.13**	.04	-.15**	.00	-.41**	1				
10. Duration of Sleep	-.11**	-.04	-.04	-.01	.03	.02	-.01	-.08*	.04	1			
11. Long term disease	.20**	.01	.16**	-.09**	.08*	-.01	.01	.19**	-.10**	-.13**	1		
12. NAS category	-.09**	.05	-.06	.08*	-.10**	.01	-.01	-.00	.08*	-.04	.04	1	
13. NSS category	-.09**	.02	-.07	.10**	-.07*	-.03	.06	-.07	.07*	-.01	-.03	.28**	1

Note.: SES = Socio-economic status

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

* Correlation is significant at the 0.05 level (2-tailed).

Key Findings:

- Age, marital status, occupation, socioeconomic status, sleep duration, noise annoyance, and long-term disease were significantly associated with noise sensitivity.
- No significant associations were observed for gender, educational qualification, income level, living duration in the city, or residence type.
- Higher noise annoyance was strongly associated with greater noise sensitivity.
- Younger individuals, unmarried participants, students, and middle-class individuals exhibited higher noise sensitivity.

Discussion

The present study examined the relationship between socio-demographic characteristics and noise sensitivity among city dwellers in Rajshahi, Bangladesh, using chi-square tests and Spearman's Rho correlation analysis. The findings indicate that age, marital status, occupation, socioeconomic status, sleep duration, long-term disease, type of residence, and noise annoyance were significantly associated with noise sensitivity, while gender, education level, income, living duration in the city, and residence type showed no significant relationships.

Both chi-square tests ($p = .003$) and correlation analysis ($\rho = -0.09$, $p < .01$) revealed that younger individuals exhibited greater noise sensitivity than older individuals. This aligns with prior research indicating that younger individuals are more affected by noise due to cognitive demands, academic stress, and occupational pressure (Shepherd et al., 2010; Basner and MccGuire, 2018; Thompson et al., 2022). However, some studies have reported higher noise sensitivity among older adults due to increased stress vulnerability and auditory changes (Janssen et al., 2011). The differences may be due to cultural and environmental factors, as young people in Rajshahi may be more exposed to urban noise pollution.

No significant relationship was found between gender and noise sensitivity in either chi-square ($p = .45$) or correlation analysis ($\rho = 0.02$, $p > .05$). This supports studies suggesting that gender differences in noise sensitivity are minimal and are influenced more by personality traits than biological factors (Guski et al., 2017). However, some studies indicate higher noise sensitivity among females, possibly due to greater physiological arousal and stress responses (Fyhri & Klæboe, 2018).

The chi-square test showed a significant association between marital status and noise sensitivity ($p = .04$), with unmarried individuals exhibiting higher sensitivity than married individuals. This finding supports prior studies indicating that married individuals develop better-coping strategies and social support systems (Beutel et al., 2016). Correlation analysis did not find a significant relationship ($\rho = -0.07$, $p > .05$), suggesting that marital status may indirectly influence noise sensitivity through lifestyle factors such as housing conditions and noise exposure.

A positive correlation was found between education level and noise sensitivity ($\rho = 0.10$, $p < .01$), suggesting that higher education is associated with greater noise sensitivity. This is consistent with findings indicating that highly educated individuals have a higher awareness of noise pollution and a lower tolerance for noise disturbances. However, chi-square analysis found no significant relationship ($p = .09$), suggesting that education alone may not be a strong predictor of noise sensitivity.

Both chi-square ($p = .005$) and correlation analysis ($\rho = -0.07$, $p < .05$) found that students exhibited the highest noise sensitivity, whereas manual labourers (e.g., rickshaw pullers, drivers) had the lowest. This supports research indicating that occupational habituation reduces noise sensitivity, as those regularly exposed to noise develop adaptive coping mechanisms (Basner & McGuire, 2018; Munzel et al., 2018). In contrast, students and professionals require quiet environments for cognitive tasks, making them more susceptible to noise disturbances.

Chi-square analysis found a significant relationship between socioeconomic status and noise sensitivity ($p = .03$), with middle-class individuals reporting higher noise sensitivity than lower or upper-class individuals. This aligns with studies suggesting that middle-class individuals have higher expectations for quiet environments and lower noise tolerance (Öhrström et al., 2006). However, correlation analysis found no significant relationship ($\rho = 0.06$, $p > .05$), suggesting that socioeconomic status alone does not determine noise sensitivity but interacts with lifestyle and environmental factors.

The correlation analysis found a significant positive relationship between type of residence and noise sensitivity ($\rho = 0.07$, $p < .05$), indicating that individuals living in shared housing (e.g., hostels, mess) exhibited higher noise sensitivity than those living in private homes. This finding is in line with studies suggesting that residing in crowded environments increases exposure to external noise sources, leading to greater annoyance and sensitivity. However, the chi-square test did not show a significant association ($p = .12$), suggesting that other factors, such as personal noise tolerance and coping strategies, may moderate this relationship.

Chi-square analysis found a significant relationship between sleep duration and noise sensitivity ($p = .029$), with individuals who slept 4 to 5 hours reporting the highest noise sensitivity. This is consistent with research indicating that sleep deprivation exacerbates noise sensitivity and stress responses (Basner & McGuire, 2018). However, correlation analysis did not find a significant relationship ($\rho = -0.01$, $p > .05$), possibly due to individual variations in noise adaptation and resilience (Park et al., 2017, Münzel et al., 2021; Riedy et al., 2021).

A significant relationship was found between long-term disease status and noise sensitivity ($p = .001$), suggesting that individuals with chronic illnesses experience greater noise sensitivity. This finding supports research showing that individuals with cardiovascular disease, anxiety disorders, and other chronic conditions are more vulnerable to environmental stressors, including noise (Beutel et al., 2016). However, correlation analysis did not find a significant association ($\rho = -0.03$, $p > .05$), indicating that self-reported disease status alone may not predict noise sensitivity, and other factors such as medication use and coping mechanisms may play a role.

Both chi-square ($p < .001$) and correlation analysis ($\rho = 0.28$, $p < .01$) found a strong positive association between noise annoyance and noise sensitivity, suggesting that individuals who perceive noise as highly annoying are also more sensitive to noise. This aligns with previous research indicating that noise annoyance is one of the strongest predictors of noise sensitivity (Guski et al., 2017; WHO, 2018, Sarker et al., 2024). These findings highlight the importance of subjective noise perception and coping strategies in determining noise sensitivity levels.

The combined chi-square and correlation analysis findings suggest that younger individuals, students, middle-class residents, and those experiencing high noise annoyance are the most noise-sensitive groups. Noise sensitivity was significantly associated with age, occupation, socio-economic status, type of residence, sleep duration, and long-term disease status. However, gender, income, education, and duration of city residence were not significant predictors. These results emphasize the complex interplay between socio-demographic factors, noise exposure, and psychological noise perception in an urban setting. Future studies should use longitudinal designs and objective noise measurements to further clarify these relationships and inform noise management policies.

Limitations and Future Directions

Despite its contributions, this study has several limitations. First, the cross-sectional design prevents causal interpretations of the relationships between noise sensitivity and socio-demographic factors. Second, the use of self-reported measures may introduce response bias, as individuals may perceive and report noise sensitivity differently. Third, the convenience sampling technique limits the generalizability of the findings to the entire population of Rajshahi or other urban areas in Bangladesh. Lastly, the study did not measure actual noise levels, making it difficult to assess the direct impact of environmental noise exposure on reported sensitivity and annoyance.

Future research should consider longitudinal studies to establish causal relationships between noise exposure, sensitivity, and psychological outcomes. Additionally, using objective noise measurement tools (e.g., sound level meters) alongside self-reported surveys could provide a more comprehensive understanding of noise-related health effects. Expanding the study to multiple cities in Bangladesh could enhance the generalizability of findings. Furthermore, investigating psychological coping mechanisms and intervention strategies to mitigate noise-related stress could inform urban planning and public health policies.

Conclusion

The present study examined the relationship between socio-demographic factors, noise sensitivity, and noise annoyance among city dwellers in Rajshahi. Findings revealed that age group, marital status, occupation, socioeconomic status, sleep duration, noise annoyance, and long-term disease were significantly associated with noise sensitivity, whereas gender, educational qualification, income level, residence type, and duration of city living did not show significant relationships. Students, younger individuals, and those experiencing high noise annoyance exhibited the highest levels of noise sensitivity. These findings are consistent with previous research but also highlight unique socio-cultural factors influencing noise perception in Bangladesh.

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An Investigation of the Relationship Between Achievement Motivation and Academic Achievement

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Abstract

This study investigates the relationship between achievement motivation and academic achievement among college students. A total of 511 students aged 17-19 were categorized into three groups (high, average, and low) based on their scores on the Achievement Motivation Scale (Afsaruddin, 1995). Results revealed that students with higher achievement motivation demonstrated significantly higher academic achievement than those with average and low motivation. These findings suggest a positive correlation between achievement motivation and academic achievement.

Keywords: motivation, achievement motivation, academic achievement

Introduction

Academic achievement refers to students' examination results following a structured curriculum. It reflects their knowledge, skills, and application of learning, influencing their academic progression and career prospects. It also contributes to personal and social adjustment beyond school years.

Motivation, as defined by Crider et al. (1983), involves desires, needs, and interests that activate and direct behavior toward specific goals. Psychologists consider motivation a key factor influencing behavior, including academic performance. Achievement motivation, or the need for achievement (n-Ach), refers to an individual's drive for success, self-assertion, and recognition. McClelland (1953) described it as a learned anticipation of success in evaluative situations.

Individuals with high achievement motivation tend to set ambitious goals, strive diligently, and react strongly to success or failure (Atkinson & Birch, 1978; Secord & Backman, 1976). Research suggests that individuals with high achievement motivation perform better in tasks, learn faster, and excel in challenging situations (McClelland et al., 1953). Studies by Powers et al. (1985) and others have demonstrated a significant correlation between achievement motivation and academic success (Atkinson, 1950; McClelland, 1961; Morris & Fargher, 1974; Sarder & Hossain, 1976; Wolfendale, 1985; Oh, 1999; Adams, 2003; Bray, 2003).

Despite extensive research in Western contexts, limited studies have explored this relationship in Bangladesh. This study aims to examine the correlation between achievement motivation and academic achievement in Bangladeshi college students.

Hypothesis

Academic achievement is positively related to achievement motivation.

Methodology

Participants

The study sample consisted of 511 first-year college students (263 males, 248 females) randomly selected from colleges in Rajshahi City under the National University of Bangladesh. Participants were aged between 17 and 19 years.

Measuring Instruments

The Achievement Motivation Scale (Afsaruddin, 1995) was used to assess achievement motivation. The 44-item questionnaire employed a five-point Likert scale (1=Very Low to 5=Very High). The raw scores were interpreted using percentiles, with a maximum score of 220.

Procedure

Participants' academic achievement was measured using their Secondary School Certificate (SSC) and Higher Secondary Certificate (HSC) examination scores. Students were categorized into high (above 75th percentile), average (25th-75th percentile), and low (below 25th percentile) motivation groups.

Data analysis included Pearson's product-moment correlation, ANOVA, and t-tests to compare academic achievement across motivation groups.

Results

Pearson's correlation analysis indicated a significant positive relationship between achievement motivation and academic achievement. ANOVA results (Table 1) showed significant differences in academic achievement among motivation groups ($p<0.0001$).

Table 1

ANOVA for Academic Achievement Across Motivation Groups

Source of Variation	**Sum of Squares**	**df**	**Mean Square**	**F**	**P**
Between Groups	11048.047	2	5524.023	247.190	<0.0001
Within Groups	11352.397	508	22.347		
Total	22400.444	510			

Post hoc t-tests (Table 2) further confirmed that students with high achievement motivation had significantly higher academic achievement than those with average and low motivation ($p<0.0001$).

Table 2

T-Test for Academic Achievement Across Motivation Groups

Groups Compared		Mean	Std. Deviation	t	p
High vs. Average	113	64.67	5.61	14.299	<0.0001
High vs. Low	113	64.67	5.61	19.788	<0.0001
Average vs. Low	229	57.22	3.89	11.800	<0.0001

These findings confirm that higher achievement motivation is associated with better academic performance.

Discussion

This study aimed to explore the relationship between achievement motivation and academic achievement. The results indicate a significant positive correlation between the two variables, supporting the hypothesis. Students with high achievement motivation demonstrated superior academic performance compared to those with lower motivation levels.

These findings align with previous studies suggesting that achievement motivation influences academic performance (McClelland, 1953, 1961; Atkinson, 1950; Sarder & Hossain, 1976; Oh, 1999). The results also highlight the importance of motivation in educational success and underscore the need for strategies to enhance students' motivation for improved academic outcomes.

Despite its contributions, this study is limited by its sample size and geographic scope. Future research should explore additional motivational factors and extend the study to other regions in Bangladesh.

Conclusion

This study confirms a positive relationship between achievement motivation and academic achievement. Findings suggest that fostering achievement motivation can enhance students' academic performance. Educators and policymakers should consider interventions to promote motivation in students.

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A Multi-Dimensional Analysis of Educational Leadership: Teachers' Perceptions of Leadership Emphases in Selected Private Colleges of Rajshahi City, Bangladesh

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Abstract

Educational leadership plays a pivotal role in enhancing institutional effectiveness, teacher motivation, and student achievement. In Bangladesh's growing private higher education sector, leadership practices are evolving yet remain underexplored, particularly from the perspective of teachers. This study examines educators' perceptions of six key leadership emphases—trait, ability, skill, behavior, relationship, and process—in private colleges in Rajshahi City. Using a descriptive research design and quantitative method, data were collected from 78 teachers across three institutions through a structured Likert-scale questionnaire. The target population was 230 teachers and simple random sampling was employed. Composite Reliability (CR) values (0.799–0.915) and AVE values (>0.50) confirmed the instrument's reliability and convergent validity. Descriptive statistics, Pearson correlations, and PLS-SEM analysis revealed that all six leadership emphases were perceived at high levels, with skill (M = 3.98) and trait (M = 3.91) scoring highest. Significant positive interrelations were observed among most dimensions. Structural modeling indicated that Aspect of Educational Leadership (AEL) significantly predicts all six emphases, especially trait (β = 0.786) and process (β = 0.737). No significant gender differences were found. Findings support a multi-dimensional leadership model, offering implications for leadership training and policy in private tertiary education. Future research should include longitudinal and comparative studies across public and private institutions.

***Keywords**:* educational leadership. trait emphasis, ability emphasis, skill emphasis, behavior emphasis, relation emphasis, process emphasis, trait theory

Introduction

Leadership is widely recognized as a central force in driving institutional development, teacher motivation, and educational quality. According to Northouse (2010), leadership is a process through which individuals influence others to achieve a common goal. In educational contexts, this influence extends beyond administrative tasks to shaping institutional culture and improving teaching and learning outcomes. Effective educational leadership is essential for attaining educational missions and visions, and ensuring quality education (Chowdhary et al., 2024).

In recent decades, leadership theory in education has shifted from hierarchical and trait-based models to more holistic, collaborative frameworks. These models emphasize traits, skills, behaviors, relationships, and dynamic processes. However, in the context of Bangladesh—particularly in private tertiary institutions—leadership often remains rooted in conventional, top-down structures. Chowdhary et al. (2023), for instance, discovered that principals and teachers have differing opinions on government colleges based on principals' leadership styles (autocratic, democratic, transformational, and laissez-faire). Despite increasing demands for innovation and adaptability, many leadership practices in private colleges continue to reflect outdated paradigms.

Understanding how teachers perceive different leadership emphases—traits, abilities, skills, behaviors, relationships, and processes—is critical. Teachers, as frontline stakeholders in education, experience the day-to-day impacts of leadership decisions. Their insights can guide reforms and professional development initiatives, ensuring leadership practices are aligned with institutional goals and educational outcomes.

This study addresses the gap in literature by exploring teachers' multidimensional perceptions of educational leadership in private colleges in Rajshahi City, Bangladesh.

Objectives

The primary objective of this study is to investigate teachers' perceptions of educational leadership across multiple emphases in selected private colleges in Rajshahi City. The specific objectives are to:

1. Examine teachers' perceptions of six leadership dimensions: trait, ability, skill, behavior, relationship, and process.
2. Analyze the correlations among these six leadership emphases.
3. Compare the perceptions of male and female teachers regarding these leadership dimensions.
4. Evaluate the influence of each leadership emphasis on the overall construct of the Aspect of Educational Leadership (AEL).

Literature Review

Trait Emphasis in Leadership

Trait-based leadership emphasizes inherent personal qualities such as confidence, intelligence, determination, and integrity (Zaccaro, 2007). Northouse (2021) asserts that effective leaders possess a combination of these enduring characteristics. Zaccaro (2007) further emphasized that successful leaders often exhibit a blend of emotional stability and social intelligence, enhancing their credibility and authority in educational settings. While trait theories have been critiqued for neglecting contextual variables (Yukl, 2013), in traditional academic institutions, such traits remain central in how teachers perceive leadership effectiveness.

Ability Emphasis in Leadership

Leadership ability refers to cognitive and strategic capacities, including decision-making, adaptability, and problem-solving. Katz (1955) highlighted that effective leadership requires both innate intelligence and acquired analytical skills. In educational settings, teachers often associate strategic ability with instructional leadership and institutional growth. For instance, Stein and

Wang (1988) found that leaders who assess pedagogical needs and respond innovatively enhance teacher development and organizational responsiveness.

Skill Emphasis in Leadership

Skill-based leadership focuses on competencies developed through training and experience. Key skills include communication, conflict resolution, instructional supervision, and time management. Katz (1955) categorized these into technical, human, and conceptual skills, all essential in the education sector. Northouse (2021, 2018) emphasized that leadership is not just about traits but about acquiring and refining skills. Skills-based leadership models support ongoing professional development and adaptability in dynamic institutional contexts (Day et al., 2016).

Behavioral Emphasis in Leadership

Behavioral theories focus on what leaders do rather than who they are. Blake and Mouton (1964) proposed a leadership grid distinguishing task-oriented and relationship-oriented behaviors. Teachers perceive effective leadership behaviors—such as clarity, consistency, and ethical conduct—as crucial for fostering morale and institutional culture(Webster and Litchka, 2020; Leithwood et al., 2008).

Relationship Emphasis in Leadership

The Leader-Member Exchange (LMX) theory, developed by Graen and Uhl-Bien (1995), underscores the importance of trust, respect, and mutual obligation between leaders and teachers. Positive leader-teacher relationships can enhance satisfaction, collaboration, and instructional quality. Relational leadership is especially significant in fostering a supportive and inclusive work environment.

Process Emphasis in Leadership

Spillane's (2005) Distributed Leadership Theory views leadership as an ongoing, shared organizational process rather than the actions of a single individual. Process emphasis focuses on the dynamic, collective nature of leadership, where teachers, administrators, and other stakeholders contribute to institutional effectiveness. This view aligns leadership with systemic thinking and participatory governance in education.

Methodology

Research Design and Method

This study employed a descriptive research design with a quantitative method to explore teachers' perceptions of various leadership emphases. Descriptive research is appropriate for systematically capturing the current practices, attitudes, and trends in selected private colleges without manipulating variables (Creswell, 2014). The quantitative approach enhances objectivity and allows for statistical analysis of interrelationships among the leadership dimensions (Gay et al., 2012).

Target Population

The study targeted 230 teachers from three private colleges in Rajshahi City: Shamokdum College, Borandraw College, and Coat College. These institutions were purposely selected for their reputation and diversity in leadership practices, offering a representative cross-section of the academic workforce.

Sampling Procedure and Sample Size

A probability-based simple random sampling technique was used to ensure each teacher had an equal chance of being selected, thus reducing selection bias (Fraenkel et al., 2012). Using Kalton's (1983) sample size determination formula and assuming a 95% confidence level, a final sample of 78 respondents was drawn.

Data Collection Instruments and Procedures

Primary data were collected through a structured questionnaire based on Northouse's (2018; 2021) leadership scale. The survey employed a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) to measure six leadership emphases. Data collection occurred between November 2023 and February 2024 and was facilitated through both direct administration and institutional cooperation.

Pilot Study

A pilot study was conducted using 10% of the total sample (not included in the final sample) to test the reliability and clarity of the instrument. Feedback informed minor revisions to enhance clarity. Reliability was confirmed via Composite Reliability (CR) and Average Variance Extracted (AVE), both exceeding acceptable thresholds.

Validity of Instruments and Reliability of Data

Table 1

Composite Reliability (CR) and Average Variance Extracted (AVE)

Variables	**Teachers' Perception (N=78)**	
	Composite Reliability (CR)	*Average Variance Extracted (AVE)*
Trait Emphasis(TE)	0.844	0.577
Ability Emphasis (AE)	0.854	0.594
Skill Emphasis (SE)	0.815	0.529
Behaviour Emphasis (BE)	0.811	0.520
Relationship Emphasis (RE)	0.799	0.500
Process Emphasis (PE)	0.803	0.508

All CR values exceeded 0.70, and AVE values exceeded 0.50, demonstrating strong internal consistency and convergent validity (Hair et al., 2019; Fornell & Larcker, 1981).

Data Analysis

Data were analyzed using SPSS 20 and SmartPLS 4. Descriptive statistics (mean, SD, frequency), Pearson correlation, and Partial Least Squares Structural Equation Modeling (PLS-SEM) were employed to test relationships and model significance (Chin, 1998).

Results

Demographic Characteristics

Out of 78 respondents:

- **Gender**: 62.8% male, 37.2% female
- **Position**: 87.2% lecturers, 12.8% assistant professors
- **Education**: 97.4% held master's degrees; 2.6% held PhDs
- **Age**: Majority aged 35–45 (43.06%)
- **Experience**: 47.4% had 1–5 years of experience

Teachers' Perceptions of Leadership Emphases

All six leadership emphases were perceived as highly emphasized:

- **Skill Emphasis**: Mean = 3.98 (SD=0.584)
- **Trait Emphasis**: Mean = 3.80 (SD= 0.590)
- **Process Emphasis**: Mean = 3.92 (SD= 0.534)
- **Behavior Emphasis**: Mean = 3.92 (SD= 0.0.488)
- **Relationship Emphasis**: Mean = 3.92 (SD= 0.585)
- **Ability Emphasis**: Mean = 3.57 (SD= 0.600)

Correlation Analysis

Significant positive correlations were observed:

- Trait ↔ Ability: $r = 0.379$ ($p < .01$)
- Trait ↔ Skill: $r = 0.295$ ($p < .01$)
- Trait ↔ Behavior: $r = 0.277$ ($p < .05$)
- Trait ↔ Relationship: $r = 0.264$ ($p < .05$)
- Trait ↔ Process: $r = 0.297$ ($p < .01$)
- Skill ↔ Ability: $r = 0.245$ ($p < .05$)
- Skill ↔ Relationship: $r = 0.259$ ($p < .05$)

- Most dimensions were positively related; no significant negative correlations were found. But only the ability to process has a negative, not significant, correlation (-0.154, $p > p > 0.5$).

Gender-Based Comparison

Independent samples t-tests revealed no significant differences between male and female teachers across all six emphases ($p > .05$), aligning with findings by Eagly & Carli (2003).

Influence of AEL on Leadership Emphases

Table 2

Aspect of Educational Leadership (AEL)

Leadership Emphasis	β	t	p-value	Significance
Trait	0.786	9.23	0.000	High
Process	0.737	6.32	0.000	High
Behavior	0.703	7.36	0.000	High
Skill	0.673	6.02	0.000	High
Relationship	0.563	4.39	0.000	Moderate
Ability	0.527	4.11	0.000	Moderate

R^2 Values for Leadership Dimensions

- Trait Emphasis: 0.617 (Very Strong)
- Process Emphasis: 0.543 (Strong)
- Behavior Emphasis: 0.494 (Moderate)
- Skill Emphasis: 0.452 (Moderate)
- Relationship Emphasis: 0.317 (Moderate/Low)
- Ability Emphasis: 0.277 (Low)

Discussion

This study aimed to investigate teachers' perceptions of educational leadership through six critical emphases—trait, ability, skill, behavior, relationship, and process—in selected private colleges in Rajshahi City, Bangladesh. The findings reveal that teachers perceive a high level of emphasis across all six dimensions, indicating that effective leadership is viewed as multifaceted rather than singularly defined.

Trait emphasis (β = 0.786) emerged as the strongest predictor of the overall Aspect of Educational Leadership (AEL). This supports trait-based leadership theories, which posit that qualities such as confidence, intelligence, and integrity are foundational to effective leadership (Northouse, 2021; Zaccaro, 2007). Teachers' reliance on such inherent traits suggests a cultural context where personal credibility remains a critical leadership marker.

Process emphasis (β = 0.737) ranked second, underscoring the growing recognition of leadership as a dynamic, participative process rather than a static role. This aligns with Spillane’s (2005) distributed leadership theory, which advocates for collaborative and context-responsive leadership models. Teachers appreciated involvement in decision-making and transparent communication—hallmarks of process-oriented leadership.

Skill (β = 0.673) and behavior (β = 0.703) emphases were also significantly correlated with AEL, reinforcing the importance of learnable competencies and observable behaviors in leadership. The findings support Katz’s (1955) skills-based model and Blake and Mouton’s (1964) behavioral theory. These results suggest that leadership training should focus not only on innate traits but also on cultivating actionable skills and behaviors.

Relationship emphasis (β = 0.563), while significant, was perceived with slightly less intensity. This may reflect institutional cultures in Bangladesh where hierarchical authority is more emphasized than collaborative relationships. However, research by Graen and Uhl-Bien (1995) and Devos and Bouckenooghe (2009) highlights that high-quality leader-teacher relationships positively influence institutional climate, suggesting a need for further exploration and cultural adaptation.

Interestingly, ability emphasis (β = 0.527) received the lowest path coefficient among the six dimensions, indicating moderate recognition of strategic and cognitive leadership capabilities. This may suggest a perceived disconnect between strategic visioning and day-to-day educational leadership functions, especially in resource-constrained or tradition-bound institutions.

The Pearson correlation analysis confirmed positive interrelations among most leadership dimensions. The absence of strong negative correlations suggests that these emphases are not mutually exclusive but operate synergistically within effective leadership practice. Furthermore, gender-based analysis found no statistically significant differences, aligning with findings by Eagly and Carli (2003) on gender-neutral perceptions of leadership in certain professional contexts.

Conclusion

The study confirms that educational leadership in private colleges of Rajshahi City is perceived as multi-dimensional by teaching staff. All six dimensions—trait, ability, skill, behavior, relationship, and process—are present at high levels, with trait and process emphases most strongly associated with overall leadership effectiveness.

These findings validate the relevance of an integrated leadership framework in the context of private higher education in Bangladesh. Teachers value not only the personal attributes of their leaders but also their actions, collaborative processes, interpersonal relationships, and learned competencies. Leadership, as perceived by teachers, is therefore both an individual and institutional practice shaped by multiple interacting dimensions.

Recommendations

1. **Leadership Training Programs**
   Institutions should implement training initiatives that develop a balance of trait, behavioral, and skill-based competencies, including communication, emotional intelligence, and collaborative leadership.
2. **Policy Development**
   Policymakers should integrate multi-dimensional leadership models into institutional guidelines, emphasizing participative decision-making and distributed leadership structures.

3. **Performance Evaluation**
   Leadership appraisal systems should move beyond administrative benchmarks and include relational, behavioral, and transformational criteria.
4. **Capacity Building**
   Colleges should invest in leadership mentoring, peer coaching, and feedback mechanisms to support continuous professional development.

Theoretical Implications

This study reinforces several leadership theories—including Trait Theory, Skills Theory, Behavioral Theory, Leader-Member Exchange (LMX) Theory, and Distributed Leadership Theory—within a South Asian context. It confirms that multiple theories can co-exist and complement each other in practice, providing a broader framework for analyzing leadership in education.

Practical Implications

Educational institutions can apply these findings to improve leadership recruitment, training, and evaluation. Leaders should be selected and developed not only based on personality traits but also on their ability to cultivate relationships, adapt to institutional needs, and lead through collaborative processes. The study also provides a foundational model that institutions may use for curriculum development in leadership education programs.

Limitations

- The study was limited to three private colleges in Rajshahi City, potentially affecting generalizability.
- The sample size was relatively small (N=78), which limits statistical power.
- The study relied exclusively on self-reported data, which may introduce social desirability bias.
- Only quantitative methods were used, omitting in-depth qualitative insights.

Future Research Directions

- Future studies should include public institutions to compare leadership perceptions across organizational types.
- Longitudinal research is needed to explore changes in leadership perceptions over time.
- Mixed-method designs could integrate qualitative interviews to capture nuanced interpretations of leadership dimensions.
- Further research could investigate how leadership emphasis affects student performance and institutional outcomes.

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The Role of School Teachers in Forming Reading Habits Among Secondary Education Students

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Abstract

Reading is not only an important literary skill but also a primary source of gaining knowledge and information. In this age of modern technology, although alternative sources of information exist, students still rely heavily on reading for learning. Therefore, to be successful, the development of a reading habit is essential. Since school is the first institution where children begin formal education, school teachers play a vital role in cultivating this habit. A person's cognitive development occurs gradually from early life. If a fondness for reading develops alongside intellectual growth, it can lead to a lifelong habit.

This study, focusing on secondary education students in Bangladesh, investigates the role of school teachers in enhancing reading habits. It follows a quantitative methodology using two separate questionnaires—for teachers and students. Data were collected from four schools involving 39 teachers and 147 students. Responses were analyzed using IBM SPSS 20.0 and presented with descriptive statistics. The findings reveal discrepancies between teachers' and students' preferences for reading materials, assignment types, and mutual understanding. Only 36.2% of students read for pleasure, and 68.1% spend less than three hours per week reading. These results have important implications for educators and policymakers striving to strengthen the reading culture among students in Bangladesh.

***Keywords**:* school teachers, adolescents, reading habit, secondary school students

Introduction

In today’s world of rapid technological advancement and intense intellectual activity, individuals must adapt to their fast-paced surroundings. To remain relevant and competitive, one must stay informed and develop critical thinking skills. Mere hearsay is insufficient for knowledge acquisition. Reading—whether from printed materials or digital platforms—is a crucial tool for accessing social, economic, and civic life, in addition to promoting personal and mental development (Holden, 2004).

The Cambridge Advanced Learner’s Dictionary defines a habit as “something you do often and regularly, sometimes without knowing that you are doing it.” When reading is practiced consistently, it forms a habit. Individuals with reading habits often choose books or articles voluntarily during their leisure time. The UK Department for Culture, Media and Sport (2003) emphasizes that people cannot be active or informed citizens without the ability to read. Reading is a prerequisite for nearly all cultural and social engagement. Although one can learn through television, games, or videos, learning through reading is more effective and impactful (Shabi & Udofia, 2009).

The development of digital technologies has provided students with abundant sources of information—such as browsing the internet, using Facebook, Twitter, and YouTube, or chatting online. However, these platforms often pose physical and mental health risks. Excessive smartphone use has been linked to addiction, which manifests as constant device engagement, even during meals, walks, or while driving. This behavior contributes to physical inactivity, insomnia, and obesity. A recent online survey (Ratan et al., 2022) conducted from July 2021 to February 2022 found that 60.5% of Bangladeshi young adults are addicted to smartphones. Another study (Monika & Rahman, 2021) showed that 82.37% of secondary school students use phones primarily for social interaction and entertainment, while only a small percentage use them for educational purposes. As a result, digital distractions discourage students—especially those less motivated—from engaging in serious reading. Many prefer spending time in cyber cafés playing games, browsing, or chatting, which negatively affects their reading habits (Ikpaahindi, 2008).

Considering their developmental stage and lack of maturity, adolescents should not be left to navigate the vast digital world alone. Book reading offers a safer and healthier alternative. It not only prevents mental and physical harm but also enriches the reader with profound insights and wisdom (Som, 2020). Reading enhances creativity, sharpens critical thinking, and improves analytical problem-solving abilities. These intellectual benefits contribute to an individual's overall cognitive development (Winter, 2023).

Recognizing the foundational role of reading, many countries have made primary education compulsory to ensure universal literacy. Global competitiveness is now increasingly tied to literacy rates, which in turn support economic growth and development. In Bangladesh, primary education up to Grade 5 is compulsory under the Primary Education (Compulsory) Act of 1990 and Article 17 of the Constitution. Although the government has proposed extending compulsory education up to Grade 8 in accordance with the National Education Policy 2010, this initiative remains experimental. According to the Bangladesh Education Statistics 2022 (BANBEIS), the dropout rate in primary education is approximately 14%. For secondary education, the dropout rate rises to 36% overall—and 41% among girls. Furthermore, a 2023 BANBEIS report revealed a decline of one million students in secondary education from 2019 to 2023, with 55% of the dropouts being girls.

The 2023 Bangladesh Sample Vital Statistics (BSVS) survey by the Bangladesh Bureau of Statistics (BBS) found that 41% of young women are married before the age of 18. Alarmingly, this trend of child marriage has been increasing over the last three years. The same survey reported that more than 25% of pregnant women were aged between 15 and 19. Teenage pregnancies often force girls to abandon their education, resulting in a less educated generation. These realities demand urgent attention from educational policymakers. When adolescents are removed from the education system prematurely, the country risks losing an educated workforce and may face long-term setbacks in social, cultural, and economic development.

If adolescents can develop lifelong reading habits, these can continue to benefit them even after formal education ends. Secondary education, in particular, serves as a bridge to higher education and vocational readiness. In Bangladesh, a significant portion of the working class has attained secondary-level education. Research shows that much of the country's exported labor comes from this education bracket, often categorized as semi-skilled workers (Rahman, Khan, & Howlader, 2018). Thus, strengthening secondary education and promoting reading habits at this stage are essential for turning human resources into valuable human capital.

Secondary education in Bangladesh spans seven years, divided into three sub-cycles: three years of junior secondary (Grades VI–VIII, ages 11–13+), two years of secondary (Grades IX–X, ages 14–15+), and two years of higher secondary (Grades XI–XII, ages 16–17+). This study focuses on students from Grades 6 to 10, covering both junior secondary and secondary levels. Students in this age group represent the transition from childhood to adulthood. With their minds highly receptive and impressionable, this stage is ideal for instilling strong reading habits.

According to Jean Piaget's theory of cognitive development, adolescents enter the formal operational stage, characterized by the ability to think abstractly, reason logically, and grapple with complex ideas. This developmental milestone makes it easier for students to appreciate deeper meanings in texts, engage with diverse perspectives, and cultivate critical thinking skills through reading.

Reading significantly shapes human personality. BookTrust, a UK-based children's literacy charity, asserts that children who read are more likely to: (i) overcome disadvantages caused by inequality, (ii) enjoy better mental well-being and self-esteem, (iii) achieve greater academic success, and (iv) develop empathy and creativity—traits essential for thriving both personally and socially. Empathy promotes community engagement and contributes to broader social development. Thus, cultivating a reading habit has far-reaching benefits for both individuals and society.

Why should our adolescents adopt a reading habit? The International Reading Association (Moore et al., 1999, p. 3) states:

> Adolescents entering the adult world in the 21st century will read and write more than at any other time in human history. They will need advanced levels of literacy to perform their jobs, run their households, and act as citizens and conduct their personal lives. They will need literacy to cope with the flood of information they will find everywhere they

turn. They will need literacy to feed their imaginations so they can create the world of the future. In a complex and sometimes even dangerous world, their ability to read will be crucial.

Claire Watts (2023) has noted that individuals who possess even basic reading skills are more likely to be stress-free and mentally healthy compared to those who cannot read. Supporting this, British neuropsychologist Dr. David Lewis (2009) found that reading for just six minutes a day can reduce stress levels by up to 60%.

A culture of reading also fosters national prosperity. Siphiwo Mahala emphasizes the clear connection between illiteracy and poverty, and conversely, between literacy and economic progress. She believes that building a culture of reading is fundamental to nation-building. Likewise, Dr. K.K. Palani argues that a nation's success is intricately linked to its education system, which in turn depends heavily on the culture of reading. An effective reading habit enables students to acquire knowledge from diverse sources, ultimately shaping the country's future.

Objective of the Research

Reading habits are closely linked to the educational and socioeconomic development of a nation. Therefore, it is essential for students to cultivate reading habits from an early age. According to the preliminary report of the Population and Housing Census 2022, the literacy rate in Bangladesh stands at 74.66%. However, data from the Literacy Assessment Survey 2023 by the Bangladesh Bureau of Statistics (BBS) reveals that the functional literacy rate for individuals aged 7 and above is only 62.92%, and 73.69% among those aged 11 to 45. Alarmingly, only 60.77% of individuals aged 15 and above are functionally literate, implying that approximately 40% of adults in Bangladesh are still functionally illiterate.

BBS defines a functionally literate person as someone who can read, understand, interpret, communicate, and perform basic arithmetic both verbally and in writing. This discrepancy suggests that while a significant proportion of the population may have received primary education, many have not developed lasting literacy skills—likely due to a lack of regular reading habits.

This finding raises an important question: what roles do teachers play in fostering these habits, and how have policymakers supported teachers in promoting reading among students? To address this gap, the present study was conducted with the following objectives:

- To assess the role of secondary education teachers in developing reading habits among adolescents.
- To explore students' perceptions of reading and their own reading habits.

Methodology

This research employed a quantitative approach and applied descriptive statistical methods to analyze the data collected from participants. The study was conducted between January and February—a time when many schools were engaged in sports events, making it challenging to ensure the simultaneous availability of both teachers and students. Nevertheless, responses were successfully gathered from 39 teachers and 141 students across four urban schools. These schools were located in the central part of the city to provide insight into reading practices within an urban educational context. Participants were randomly selected to ensure a representative sample.

Two separate questionnaires were developed for the study—one for teachers comprising 11 questions, and another for students containing 12 questions. The questionnaires were carefully designed to allow for cross-referencing between student and teacher responses. This alignment enabled a comparative analysis of perceptions and practices related to reading habits. Given the quantitative nature of the study, the collected data required numerical interpretation and were analyzed using IBM SPSS Statistics 20.

Results

Data analysis was performed using IBM SPSS Statistics 20. Two sets of questionnaires were distributed: one for teachers and one for students. The teacher questionnaire explored four key areas:

- Teaching Experience
- Strategies for Promoting Reading
- Teachers' Influence on Students' Reading Habits
- Teachers' Perception of Reading

Teaching Experience of Teachers

Table 1

Teaching Experience

Experience Level	Percentage (%)
Less than 1 year	7.7
1–3 years	30.8
4–7 years	7.7
More than 7 years	53.8

Most teachers (53.8%) reported having more than seven years of teaching experience, indicating a high level of professional maturity among the respondents.

Strategies for Promoting Reading

Table 2

Most Effective Method for Developing Reading Habits

Frequency	Percentage (%)
Daily	56.4
Weekly	33.3
Monthly	5.1
Rarely	5.1

Most teachers (56.4%) promote reading daily in the classroom.

Table 3

How Often Teachers Assign Reading Tasks

Frequency	Percentage (%)
Daily	56.4
Weekly	33.3
Monthly	5.1
Rarely	5.1

Most teachers (56.4%) assign reading tasks daily.

Table 4

Types of Reading Tasks Assigned (Multiple Response Question)

Type	Percentage (%)
Fictional Books	37.8
Non-Fictional Books	40.5
Newspapers/Magazines	21.6

40.5% of teachers assign non- fictional books, on the other hand 37.8% suggest fictional.

Table 5

Frequency of Class Discussions About Reading

Frequency	Percentage (%)
Frequently	84.6
Occasionally	7.7
Rarely	7.7

A large majority (84.6%) frequently hold reading discussions in class.

Table 6

Activities Used to Promote Reading

Activity	Percentage (%)
Assign Book Reports	43.6
Organize Reading Competitions	38.5
Recommend Books	5.1
Read Aloud in Class	12.8

Most teachers (43.6%) assign writing-tasks on books they recommend and 38.5% teachers arrange competition on book reading . Reading aloud or direct recommendations of books are not popular.

Teachers' Influence on Students' Reading Habits

Table 7

How Important is Their Role?

Response	Percentage (%)
Very Important	92.3
Somewhat Important	7.7

Almost all teachers (92.3%) consider their role crucial in shaping reading habits.

Table 8

Do Teachers Share Their Own Reading Habits?

Response	Percentage (%)
Frequently	38.5
Occasionally	57.9
Rarely	2.6

Most of the teachers are not interested in sharing their book reading habit with the students. 57.9% teachers share their reading topic with the students occasionally and 38.5% teachers exchange their views with students frequently.

Table 9

Do Teachers Think Their Reading Assignments Increase Student Interest?

Response	Percentage (%)
Yes, Significantly	66.7%
Somewhat	33.3%

Two-thirds of teachers believe their assignments significantly raise student interest in reading.

Table 10

Challenges Teachers Face in Promoting Reading

Challenge	Percentage (%)
Lack of Time	17.9%
Students' Disinterest	74.4%
Lack of Resources	7.7%

Teachers complain that students are not Interested in forming reading habit. 74.4% of students are not interested in reading.

Teachers' Perception on Reading

Table 11

Does Reading Improve Language Skill?

Response	Percentage (%)
Yes	97.4
No	2.6

Nearly all teachers (97.4%) agree that reading enhances language skills.

Student Responses

Student questionnaires focused on:

- Time Spent on Reading
- Purpose of Reading
- Teacher Involvement
- Institutional Support
- Perceived Benefits

Table 12

How Much Time Do Students Spend Reading Outside Schoolwork?

Time Spent Reading	Percentage (%)
Less than 1 hour	28.4
1-3 hours	39.7
4-6 hours	13.5
More than 6 hours	18.4

The majority of students (68.1%) spend less than 3 hours per week on reading beyond their school assignments. This suggests that reading outside school is not a frequent activity for most students.

Table 13

How Often Do Students Read for Pleasure?

Frequency	Percentage (%)
Daily	29.8
Weekly	27.0
Monthly	7.1
Rarely	36.2

While 56.8% of students read at least weekly, a significant portion (36.2%) rarely read for pleasure.

Table 14

What Types of Reading Materials Do Students Prefer?

Type of Reading Material	Percentage (%)
Fiction (Novels, Stories)	49.6
Non-Fiction (Biographies, History)	14.2
Magazines/Newspapers	6.4
Online Articles	7.8
Comics/Graphic Novels	22.0

Fiction is the most popular (49.6%), followed by comics/graphic novels (22%). Non-fiction and newspaper/magazine reading are significantly lower.

Teachers' Role in Students' Reading

Table 15

How Often Do Teachers Assign Extra Reading?

Frequency	Percentage (%)
Frequently (Weekly)	13.5
Occasionally (Monthly)	13.5
Rarely	32.6
Never	40.4

73% of students reported rarely or never receiving extra reading assignments.

Table 16

Do Students Enjoy the Reading Assignments Given by Teachers?

Enjoyment Level	Percentage (%)
Very Much	23.4
Somewhat	48.2
Not Much	20.6
Not at All	7.8

71.6% enjoy reading assignments to some extent, only 23.4% find them very enjoyable.

Table 17

Do Teachers Discuss Reading with Students?

Response	Percentage (%)
Yes, Regularly	25.5
Sometimes	49.6
No	24.1

Only 25.5% of students have regular discussions with their teachers about reading, while nearly 25% never discuss their reading materials.

Table-18

Do Teachers Encourage Students to Read Beyond Assignments?

Frequency	Percentage (%)
Yes, Often	25.5
Sometimes	39.7
Rarely	24.8
Never	9.9

Although 65.2% of students receive some encouragement, a large group (34.7%) report that teachers rarely or never encourage extra reading.

Table 19

How Much Influence Do Teachers Have on Student's Interest in Reading?

Level of Influence	Percentage (%)
Yes, Significantly	21.3
Somewhat	54.6
Not at All	23.4

While most students (75.9%) acknowledge some teacher influence on reading habits, only 21.3% feel strongly motivated.

School Support for Reading

Table 20

Does the School Have a Book Club?

Response	Percentage (%)
Yes	53.2
No	45.4

Over half of students (53.2%) report having access to a book club, which could be used more effectively to encourage reading.

Table 21

What Would Make Reading More Enjoyable?

Improvement Idea	Percentage (%)
More book recommendations from teachers	17.7
Classroom reading competitions	19.1
Group discussions on books	29.1
More variety in reading materials	17.7
Other	16.3

Group discussions (29.1%) are the most preferred way to make reading more enjoyable, showing that students prefer collaborative learning.

Student Perception of Reading's Benefits

Table 22

Does Reading Help Improve Education and Creativity?

Response	Percentage (%)
Yes	75.2%
No	6.4%
To Some Extent	18.4%

75.2% of students strongly believe reading improves education and creativity.

Discussion

This study set out to evaluate the role of teachers in fostering reading habits among secondary education students in Bangladesh. The data highlighted both strengths and shortcomings in current practices and perceptions.

Section A: Teachers' Practices and Challenges

Most teachers (92.3%) recognize their vital role in shaping students' reading behavior. Many promote reading through daily tasks (56.4%) and frequent class discussions (84.6%). However, students often do not perceive this support. While 66.7% of teachers believe assignments improve student interest, such tasks may be completed out of obligation rather than genuine curiosity.

Teachers rarely share their own reading experiences—only 38.5% do so frequently. This limits the opportunity to inspire students through role modeling. Though fiction and non-fiction are commonly assigned, no teacher reported assigning online articles—possibly due to concerns about digital addiction following the COVID-19 pandemic.

Challenges remain significant. A majority (74.4%) identified student disinterest as the main barrier. This may be linked to foundational literacy gaps identified in earlier stages of education. According to the 2023 National Student Assessment, large percentages of third- and fifth-graders in Bangladesh lack proficiency in core subjects like Bangla and mathematics—suggesting that students may struggle with advanced reading tasks in secondary school.

Section B: Students' Perspectives

Student responses present a more concerning picture. A significant majority (68.1%) read less than three hours per week outside school, and 36.2% rarely read for pleasure. Students also reported low engagement from teachers. 73% said they rarely or never received extra reading tasks, and 24.1% never discussed reading with a teacher.

Students expressed a clear preference for peer-centered and interactive activities such as group discussions and reading competitions, yet these methods are underutilized in classrooms. Additionally, 45.4% of students said their schools lacked reading clubs.

Despite these challenges, 75.2% of students recognized the value of reading for academic success and creativity. This indicates a potential for positive change if more engaging and supportive structures are implemented.

Cross-Analysis Insights

- **Discrepancy in Perception**: Teachers believe they actively promote reading, but student feedback suggests a gap in communication or implementation.
- **Mismatch in Material Preference**: Students favor fiction, while teachers tend to assign non-fiction. A better understanding of student interests could improve engagement.
- **Lack of Interactivity**: Students desire more interactive reading experiences—something largely missing from current teacher strategies.
- **Need for Emotional and Academic Support**: Teachers must be attentive to students' comprehension levels and personal engagement, tailoring assignments to their needs.

Conclusion and Recommendations

Reading is fundamental to developing literacy skills. It broadens educational horizons and equips individuals with the competencies needed to participate in the modern, digitally driven workforce. In today's knowledge-based economy, young people must be informed and literate to remain competitive. Without strong reading habits, students are unlikely to absorb complex content from academic texts, which are crucial for higher education. If adolescents fail to develop a reading culture early on, universities will struggle to produce high-quality graduates capable of thriving in the global job market. The result may be an increase in unemployment, deepening the cycle of poverty (Makotsi, 2005).

In Bangladesh, the high dropout rate at the secondary level must be addressed urgently. According to UNICEF, each additional year of schooling raises a country's annual GDP by 0.4%, boosts individual earnings by up to 10%, and reduces the poverty rate by 9%. While the economic benefits of education are substantial, the value of education also lies in its ability to reduce inequality and foster human development. As stated in the Human Development Report 2023 by the UNDP, education plays a crucial role in promoting equity and social progress.

The findings of this research highlight that secondary education in Bangladesh is severely neglected and in need of systemic reform. Immediate and unified efforts from policymakers and educationists are essential to identify and resolve the structural flaws within this segment of the education system. Based on the data collected from teachers and students, the following recommendations are proposed to strengthen the role of school teachers in fostering reading habits among secondary education students:

Recommendations:

1. **Teacher Training**: Equip teachers with knowledge of adolescent psychology and strategies to inspire reading.
2. **Participatory Assignments**: Design assignments based on student interests to enhance motivation.
3. **Extra Reading Classes**: Include weekly reading sessions where different teachers narrate stories to stimulate curiosity.
4. **Reading Competitions**: Organize monthly or weekly contests to foster enthusiasm and creativity.
5. **Book Clubs**: Facilitate peer-to-peer reading circles for discussion, sharing, and journaling.
6. **Policy Support**: Government and education boards should provide training, resources, and guidelines for reading promotion.
7. **Parental Involvement**: Educate parents on how to support reading habits at home.

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The Impact of Emotional, Academic, and Social Peer Support on Academic Success: A Grounded Theory Study of Economics Honors Students at Rajshahi College

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Abstract

Peer support plays a critical role in shaping students' academic success through emotional, academic, and social integration mechanisms. This grounded theory study explores how peer support systems among fourth-year Economics Honors students at Rajshahi College contribute to their academic achievements. Using semi-structured interviews and grounded theory methodology, the study identifies key themes in the emotional, academic, and social support provided by peers and highlights the interrelationships between these aspects. The findings reveal that emotional encouragement helps students cope with academic stress, academic peer help facilitates shared learning, and social integration creates a sense of belonging that enhances motivation. The study concludes with implications for educational institutions and recommendations for future research on peer dynamics in academic settings.

***Keywords*:** Peer support, academic success, emotional support, social integration, academic help, grounded theory, Rajshahi College, higher education

Introduction

Background of The Study

In higher education, academic success is influenced by numerous factors, including individual ability, institutional support, and social networks. Among these, peer support has emerged as a crucial component that affects students' ability to navigate academic challenges and foster personal development (Jabbari et al., 2023; Tinto, 1993; Vygotsky, 1978). Peer support encompasses various forms of assistance, including emotional encouragement during stressful times, academic help in the form of shared resources and collaborative learning, and social integration that fosters a sense of belonging (Lan et al., 2023; Berry et al., 2023; Astin, 1993).

While academic and institutional resources are essential for student achievement, students often turn to their peers for immediate support, both inside and outside the classroom. The presence of a strong peer support system not only improves academic outcomes but also contributes to the overall well-being of students (Pascarella & Terenzini, 2005). This study seeks to explore how these different dimensions of peer support—emotional, academic, and social—intersect and contribute to students' academic success, particularly within the context of higher education in Bangladesh.

Research Problem

Despite the growing recognition of the importance of peer support in academic settings, there is a lack of comprehensive research on how different forms of peer support interrelate to influence academic outcomes, especially in non-Western contexts such as Bangladesh. Studies on peer dynamics in academic success have primarily focused on Western educational systems, leaving a gap in understanding how these systems function in different cultural and educational environments (Denscombe, 2010).

In the context of Rajshahi College, Economics Honors students face unique academic pressures, from managing rigorous coursework to balancing personal responsibilities, which further underscores the importance of peer support. However, the specific ways in which peer support is manifested—whether emotional, academic, or social—and how it influences academic success among these students remain underexplored. This study aims to address this gap by employing grounded theory methodology to generate a substantive theory on the role of peer support in the academic success of fourth-year Economics students at Rajshahi College.

Research Objectives

This study is guided by the following research objectives:

1. To explore how emotional peer support influences the academic success of Economics Honors students at Rajshahi College.

2. To examine the role of academic peer help in facilitating academic achievement among students.

3. To infer how social integration among peers contributes to students' sense of belonging and academic motivation.

4. To investigate the interrelationship between emotional, academic, and social peer support in shaping students' overall academic success.

Literature Review

Conceptualizing Peer Support

Peer support can be broadly defined as the assistance and encouragement provided by individuals of similar status, typically students within the same academic cohort or educational setting (Topping, 2005). The concept encompasses several dimensions, including emotional, academic, and social support, all of which contribute to a student's academic performance and overall well-being (Smith, 2013). According to Tinto's (1993) model of student retention, peer interactions are pivotal in fostering academic success, as they offer both psychological and practical resources that help students cope with academic and personal challenges.

Vygotsky's (1978) theory of social learning also emphasizes the role of peers in the educational process, suggesting that students learn most effectively through collaborative engagement with others. In this context, peer support is not limited to helping students navigate coursework but extends to emotional and social domains, which are integral to the academic experience. Through frequent interactions, students build networks that can provide emotional solace, academic resources, and a sense of belonging (Pascarella & Terenzini, 2005).

In this study, peer support is conceptualized across three major dimensions: emotional support, which involves providing encouragement and empathy during stressful times; academic support, which includes sharing notes, discussing study materials, and helping with assignments; and social integration, which reflects the process of helping peers become part of the academic community through shared experiences and relationships (Astin, 1993).

Emotional Support in Academic Contexts

Emotional support plays a critical role in helping students manage the stress and anxiety often associated with academic life (Wilcox, Winn, & Fyvie-Gauld, 2005). In academic settings, students frequently experience pressure from exams, deadlines, and personal challenges, which can negatively affect their performance if not properly managed. Emotional support from peers provides an outlet for students to express their concerns, receive encouragement, and develop coping strategies (Jones, 2008).

Studies have shown that students who receive strong emotional support from their peers are better equipped to handle academic challenges and maintain motivation (Baumeister & Leary, 1995). For instance, emotional encouragement during periods of academic disappointment, such as failing an exam, helps students recover and persist in their studies (Wilcox et al., 2005). Peer support fosters resilience, which is essential for students to continue striving toward their academic goals despite setbacks (Zepke & Leach, 2010).

This emotional assistance also strengthens personal relationships between students, which in turn enhances their ability to cope with both academic and personal difficulties (Lan et al., 2023; Berry et al. 2023; Smith, 2013). By building a strong emotional support network, students are less likely to feel isolated or overwhelmed, thus contributing to improved academic performance and retention rates (Tinto, 1993).

Academic Peer Help and Its Impacts

Academic peer help, commonly seen in the form of shared study sessions, collaborative learning, and resource exchange, is an essential component of peer support in higher education (Topping, 2005). Peer-assisted learning (PAL) programs have shown that students who engage in cooperative study environments achieve higher academic performance than those who study in isolation (Keup, 2016). This is due to the fact that peer learning fosters a deeper understanding of academic content through explanation, questioning, and discussion (Bengesai, 2023; Vygotsky, 1978).

One of the most significant ways in which academic peer help impacts student success is by reducing the cognitive load of difficult subjects. Students often turn to their peers for explanations or alternative perspectives on challenging topics, which enhances comprehension and retention (Topping, 2005). In a group study context, weaker students can benefit from the insights and knowledge of stronger students, while stronger students reinforce their own understanding by teaching others (Keup, 2016).

Peer help is particularly valuable in exam preparation, where students frequently collaborate to review notes, discuss potential questions, and clarify concepts. This collective effort not only boosts individual academic achievement but also creates a sense of accountability among peers (Smith, 2013). In addition, peers often act as informal mentors, providing guidance on study techniques, time management, and academic planning (Baumeister & Leary, 1995). Moreover, peer mentoring programs have been shown to reduce dropout rates and boost academic performance, as mentees often feel more confident in their academic abilities (García et al., 2024).

Social Integration and Academic Success

Social integration is closely linked to academic success, as it fosters a sense of belonging and community within the academic environment (Tinto, 1993). Students who feel socially connected are more likely to engage in academic activities, participate in group discussions, and collaborate with peers on assignments (Astin, 1993). Social integration goes beyond formal academic settings, encompassing informal gatherings, extracurricular activities, and other social interactions that create bonds among students.

Tinto (1993) argues that social integration is crucial for student retention, as it promotes both academic engagement and personal satisfaction. A study on first-year university students found that peer mentoring enhances social integration, which in turn improves retention rates

(Guo, 2023; Pavlovic & Jeno, 2023). Students who are well-integrated into their peer groups tend to experience higher levels of academic motivation and are less likely to drop out (Pascarella & Terenzini, 2005). Social support also plays a role in reducing academic anxiety, creating a more conducive environment for learning (Yang & Xiang, 2024). Conversely, students who struggle to form social connections often face feelings of isolation and alienation, which can lead to academic disengagement and poor performance (Wilcox et al., 2005).

Research indicates that social integration also provides emotional and academic benefits. By participating in social networks, students gain access to academic resources, advice, and emotional support, all of which contribute to their academic success (Zepke & Leach, 2010). Thus, fostering social integration among students is a key strategy for promoting academic achievement and improving student retention rates.

Theoretical Framework

The theoretical framework for this study is grounded in Tinto's (1993) Model of Student Retention and Vygotsky's (1978) Social Learning Theory. Tinto's model emphasizes the importance of academic and social integration in student success and retention. It suggests that students who are well-supported academically and socially are more likely to persist in their studies and achieve academic success. This study draws on Tinto's framework to explore how peer support contributes to both academic integration (through academic help) and social integration (through emotional support and social bonding).

Vygotsky's Social Learning Theory underpins the academic dimension of peer support, positing that students learn most effectively through social interactions with their peers (Vygotsky, 1978). The theory highlights the importance of collaborative learning and suggests that students who engage in peer-assisted learning are better able to master complex academic material. In this study, Vygotsky's theory is used to explain how peer interactions facilitate learning and academic achievement.

Together, these theoretical perspectives provide a comprehensive framework for understanding the role of peer support in academic success. By integrating emotional, academic, and social support, this study builds on existing theories to develop a grounded understanding of how peer dynamics influence student outcomes.

Research Methodology

Research Design

This study employs a qualitative research design, guided by grounded theory, to explore the role of peer support in academic success among fourth-year economics honors students at Rajshahi College. Grounded theory is well-suited for generating theories from data rather than relying on pre-existing frameworks, making it ideal for examining emerging patterns in emotional, academic, and social peer support (Charmaz, 2014).

To capture students' nuanced experiences, data collection was conducted through semi-structured interviews, allowing for in-depth exploration of peer support dynamics.

Grounded Theory Approach

Grounded theory, developed by Glaser and Strauss (1967), is a systematic methodology that iteratively collects and analyzes data to generate theory (Charmaz, 2014). This study employs constant comparison, ensuring that emerging patterns are firmly rooted in participants' experiences rather than imposed theoretical constructs (Strauss & Corbin, 1998).

Sampling Strategy

Purposive sampling was used to select fourth-year economics honors students who actively engage in peer support. The initial plan was to recruit 20–25 participants; however, data saturation was reached at 10, aligning with qualitative research standards (Creswell, 2013). To ensure diversity, students were selected based on academic performance, gender, and social background, providing a comprehensive understanding of peer support experiences.

Data Collection

Semi-structured interviews served as the primary data collection method, offering flexibility while maintaining focus on emotional, academic, and social peer support (Kvale &

Brinkmann, 2009). Interviews lasted 20–35 minutes and were recorded (with consent) and transcribed verbatim. Sample questions included:

- **Emotional Support:** "Can you share an experience where peers provided emotional support?"
- **Academic Help:** "How have your peers helped you academically?"
- **Social Integration:** "How did your peers contribute to your sense of belonging at college?"

Data Analysis

Following Strauss and Corbin's (1998) grounded theory approach, data was analyzed in three stages:

- **Open Coding:** Identifying key themes (e.g., emotional encouragement, study group participation).
- **Axial Coding:** Establishing relationships between themes (e.g., linking emotional support with coping strategies).
- **Selective Coding:** Developing a central theory explaining how peer support influences academic success.

Constant comparison ensured reliability by refining categories and identifying emerging patterns.

Ethical Considerations

To uphold ethical integrity:

- **Informed Consent:** Participants received detailed study information and provided written consent.
- **Confidentiality:** Pseudonyms replaced real names, and data was securely stored.

- **Voluntary Participation:** Participants could withdraw at any time without penalty.

Findings

Emotional Peer Support

Emotional peer support emerged as a significant theme in this study, with participants frequently highlighting the importance of their peers in helping them cope with personal and academic challenges. Many students expressed that during moments of academic disappointment or personal crises, their friends acted as a critical source of emotional comfort and encouragement.

For example, several participants described how they turned to their peers after receiving lower-than-expected grades, feeling demotivated or stressed. One student shared:

"I was really upset after I failed one of my major exams. I thought I would never recover from it. But my friends kept checking in on me, giving me the confidence to try again."

This example illustrates how emotional support helped students navigate moments of doubt, building resilience and fostering a sense of belonging within their peer group. Furthermore, emotional support extended beyond academic challenges. Participants also mentioned receiving comfort from peers during personal crises, such as family illnesses or financial difficulties. One student recounted:

"When my mother fell ill, I was completely overwhelmed, but my friends stood by me. They offered emotional support, even helping me study when I couldn't focus."

This finding highlights how emotional peer support plays a critical role in sustaining students through difficult times, reinforcing their ability to succeed academically.

Academic Peer Help

Academic peer help was another significant theme identified in the interviews. Participants consistently emphasized the role of their peers in helping them succeed academically through various forms of collaboration, sharing of resources, and group study sessions.

Peer-based academic support was especially crucial during exam periods when students were under high pressure to perform well.

For instance, several participants described how they formed study groups to prepare for difficult exams. These study groups allowed students to exchange notes, explain concepts to one another, and work through challenging problems collectively. One student explained:

"Before exams, we would all meet in the library, share notes, and solve problems together. Sometimes, a friend would explain something in a way that made more sense to me than the professor's lectures."

This collaborative learning environment fostered a sense of shared responsibility for each other's success, with students feeling accountable to their peers to contribute to the group's progress. Additionally, participants mentioned receiving individual academic help from their peers, such as one-on-one tutoring or assistance with specific subjects where they struggled. One student noted:

"I wasn't doing well in statistics, but one of my friends was great at it. She would sit with me and go over the material step by step until I understood it."

The findings reveal that peer-based academic support is highly personalized, with friends stepping in to provide targeted assistance where needed. This peer-driven approach enhanced students' comprehension of course material and increased their confidence going into exams.

Social Integration

The third theme that emerged from the data is the role of peer support in facilitating social integration. Participants frequently discussed the challenges they faced when initially joining the college and how their peers helped them overcome feelings of isolation. Many students mentioned that they initially struggled to find their place within the college community, particularly if they were introverted or came from different social backgrounds. One student explained:

"At first, I felt like an outsider because I didn't know many people, and I wasn't confident enough to approach others. But gradually, through group projects and class activities, I started to connect with some classmates, and they introduced me to their friends. Now we hang out regularly, and I feel like I belong."

This sense of belonging was often reinforced by group activities outside the classroom, such as shared meals, outings, and informal gatherings. These social interactions not only helped students feel more integrated into the academic community but also contributed to their personal development by expanding their social networks and improving their communication skills. Another participant remarked:

"We would organize study breaks where we went out for dinner or just hung out at someone's place. Those moments really helped me feel connected to my peers, which made the academic pressures more manageable."

The findings suggest that peer support is instrumental in promoting social cohesion and reducing the feelings of isolation that can hinder academic success. Social integration through peer support fosters a supportive and inclusive environment where students feel valued and encouraged to participate fully in academic life.

Interrelationship of Peer Support Aspects

One of the most compelling findings from this research is the interconnected nature of emotional, academic, and social peer support. Rather than existing in isolation, these three aspects of peer support often overlapped and reinforced one another.

For example, participants noted that the emotional support they received from peers often extended into academic support, as friends not only provided comfort during difficult times but also helped with coursework and exam preparation. One student shared:

"When I was struggling emotionally, my friends not only listened to me but also helped me catch up on my assignments. It was like a whole package of support—emotional and academic."

Similarly, social integration through group activities often led to the formation of study groups, where academic support was provided in an informal, relaxed setting. These interrelationships suggest that peer support is a multifaceted phenomenon, where emotional, academic, and social dimensions are deeply intertwined and mutually reinforcing.

This holistic view of peer support highlights its critical role in promoting both personal well-being and academic success. The findings indicate that students who receive support across all three dimensions are more likely to feel resilient, confident, and integrated into the academic community, which in turn enhances their overall performance.

Discussion

Interpretation of Findings

The findings of this research highlight the critical role that peer support plays in fostering academic success among students. Three key dimensions of peer support—emotional, academic, and social—emerged as essential components that collectively help students cope with academic challenges, personal issues, and social isolation. The interrelationship between these dimensions further suggests that peer support operates as a multifaceted and integrated system, promoting both academic achievement and personal well-being.

Emotional Support was found to be a crucial aspect of peer relationships, particularly during times of academic failure or personal crises. The ability of peers to offer empathy, reassurance, and encouragement enabled students to regain confidence and persevere in their studies. This finding aligns with previous research emphasizing the importance of emotional support in academic contexts, where students often experience stress and anxiety due to high academic expectations.

Academic Peer Help was another vital aspect of support, with students frequently relying on their peers for academic resources, collaborative study sessions, and one-on-one assistance. The role of peer groups in facilitating collective learning is well-documented in educational literature, and this study confirms that peers are often more approachable and relatable than formal academic resources such as instructors or tutors.

Social Integration emerged as the third critical theme, highlighting the role of peer groups in helping students overcome feelings of isolation. Social support from peers not only helped students integrate into the academic community but also contributed to their overall academic performance by providing a sense of belonging and motivation. This finding is consistent with existing theories on the positive impact of social integration on student retention and success.

The **interrelationship** between these three dimensions of peer support—emotional, academic, and social—suggests that they are not separate entities but rather interwoven aspects of students' experiences. This integrated nature of peer support contributes to a more holistic view of how students navigate the academic environment, reinforcing the idea that academic success is influenced by both personal and social factors.

Comparison with Existing Literature

The findings of this study resonate with much of the existing research on peer support in academic settings. Prior studies have consistently shown that peer support enhances students' academic outcomes by providing emotional, academic, and social resources. However, this research adds to the literature by demonstrating how these forms of support intersect and reinforce one another.

For instance, Tinto’s (1993) theory of student retention emphasizes the importance of social integration in academic success, suggesting that students who feel connected to their peers are more likely to persist and perform well in their studies. This study supports Tinto’s framework by showing that social integration is facilitated by peer support, particularly through group activities and shared academic efforts.

Similarly, research by Goodman et al. (2004) on the role of emotional support in academic contexts highlights that students who receive emotional encouragement from peers are better equipped to handle stress and setbacks. The findings of this study align with this perspective, demonstrating that emotional support helps students manage personal and academic challenges, leading to better academic performance.

The study also aligns with Johnson and Johnson's (1989) cooperative learning theory, which emphasizes the role of peer collaboration in academic success. The participants in this study frequently cited group study sessions and peer discussions as critical to their understanding of complex topics, supporting the idea that collaborative learning enhances academic outcomes.

While the findings support existing theories, this research extends the literature by focusing on the interconnectedness of emotional, academic, and social support. Rather than viewing these forms of support in isolation, this study shows that they operate as an integrated system, where emotional well-being influences academic performance, and social cohesion enhances both emotional and academic support.

Development of Theoretical Model

Based on the findings of this research, a theoretical model of Integrated Peer Support for Academic Success can be proposed. This model conceptualizes peer support as a dynamic and interconnected process, where emotional, academic, and social dimensions work together to promote academic achievement.

1. **Emotional Peer Support**: Provides the foundation for students' resilience and ability to cope with academic and personal challenges. It creates a safe space for students to express their frustrations and receive encouragement, which is essential for maintaining motivation and self-confidence.

2. **Academic Peer Help**: Builds on the emotional foundation by offering tangible resources such as study materials, collaborative learning opportunities, and academic guidance. This form of support is crucial for helping students understand difficult subjects and prepare for exams.

3. **Social Integration**: Acts as the glue that binds the peer support system together. Social activities and group bonding create a sense of belonging, which enhances both emotional and academic support. Students who feel socially integrated are more likely to engage in group study sessions and seek emotional help from their peers.

The proposed model suggests that peer support is cyclical, with each dimension reinforcing the others. Emotional support fosters the confidence needed for academic collaboration, while social integration enhances both emotional and academic support by creating a sense of community. This integrated approach offers a comprehensive understanding of how peer support contributes to academic success.

Implications for Practice

The findings of this study have several practical implications for educators, administrators, and student support services. By recognizing the interconnected nature of peer support, institutions can develop more effective programs to promote academic success.

1. **Encouraging Peer Support Networks**: Colleges and universities should facilitate the formation of peer support networks by creating opportunities for students to collaborate academically and socially. This could be achieved through study groups, peer mentoring programs, and extracurricular activities that foster social integration.

2. **Training Peer Mentors**: Institutions could implement training programs for peer mentors that emphasize the importance of emotional, academic, and social support. Peer mentors who understand the interconnected nature of these forms of support will be better equipped to help their peers navigate the complexities of college life.

3. **Addressing Emotional Well-being**: Given the critical role of emotional support in academic success, institutions should prioritize mental health resources and create spaces where students can receive both formal and informal emotional support. Peer counseling programs, for example, could help students manage stress and build resilience.

4. **Fostering a Collaborative Learning Environment**: Educators should encourage collaborative learning in the classroom by incorporating group projects and peer discussions into their teaching methods. This approach not only enhances academic understanding but also strengthens social bonds and emotional resilience among students.

Conclusion

Key Findings

This study explored the role of peer support in the academic success of economics honors students at Rajshahi College using grounded theory. Three key dimensions emerged:

- **Emotional Support** helped students navigate academic and personal challenges, boosting confidence and resilience.
- **Academic Peer Help** facilitates knowledge-sharing, collaborative learning, and exam preparation, enhancing academic performance.
- **Social Integration** fostered a sense of belonging, reducing isolation and reinforcing both emotional and academic support.

These dimensions are interrelated, forming an integrated peer support system where emotional support strengthens academic collaboration, and social integration enhances both.

Contributions to Knowledge

This study advances peer support research by presenting a holistic **Integrated Peer Support for Academic Success** model, emphasizing the interplay between emotional, academic, and social support. It also expands the literature by focusing on economics honors students in Bangladesh, offering insights into peer support within a unique cultural and academic context.

Future Research Directions

- **Cross-Cultural Comparisons:** Investigate how peer support varies across cultural and institutional contexts.
- **Longitudinal Studies:** Examine the evolving role of peer support over different academic stages.
- **Digital Peer Support:** Explore peer support in virtual learning environments.
- **Broader Disciplinary Focus:** Study peer support dynamics across different academic disciplines.

Practical Implications

- **Encouraging Peer Networks:** Institutions should promote study groups and peer mentoring programs.
- **Integrating Emotional & Academic Support:** Training peer mentors to provide both academic and emotional guidance.
- **Collaborative Learning Environments:** Incorporating group projects and discussions to reinforce peer connections.
- **Holistic Student Well-Being:** Creating spaces for both academic and social engagement to enhance student success.

This study underscores the critical role of peer support in academic achievement, advocating for institutional strategies that foster interconnected academic, emotional, and social support systems.

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Exploring the Potential of Concept Maps as a Teaching and Learning Strategy: Insights from a Bangladeshi College Context

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Abstract

This study examines the perceptions of teachers and students regarding the use of concept maps (CM) as a teaching and learning strategy in a Bangladeshi college setting. Using survey methods, key informant interviews (KIIs), and focus group discussions (FGDs), the research evaluates the effectiveness of different types of concept maps, such as spider maps, hierarchical maps, flowcharts, and system maps, in enhancing student learning. The findings indicate that concept maps help students describe, classify, and differentiate concepts, fostering deeper engagement with course materials. Teachers also acknowledged the benefits of concept maps in organizing and presenting information effectively. However, some participants expressed concerns about hierarchical structures potentially discouraging critical thinking and unfamiliarity posing challenges for students. The study underscores the need for teacher training, repeated application of concept maps, and awareness campaigns to maximize their benefits. Despite certain challenges, the findings suggest that concept maps have significant potential to improve teaching and learning outcomes in Bangladeshi classrooms.

Keywords: concept maps, teaching strategies, cognitive learning, higher education, political science

Introduction

Concept mapping has gained prominence as an effective teaching and learning tool in education. Initially developed by Joseph Novak in 1984, concept maps serve as visual representations of knowledge, aiding in learning, organization, and analysis (Gallenstein, 2013; Novak & Cañas, 2006). The effectiveness of concept mapping in enhancing knowledge retention, cognitive skills, and problem-solving abilities has been widely recognized (Kane & Trochim, 2007; Kinchin, Streatfield, & Hay, 2010).

Concept maps align with Bloom's Revised Taxonomy, facilitating learning across cognitive domains such as remembering, understanding, applying, analyzing, evaluating, and creating (Rahayu, 2018). Research suggests that concept maps encourage students to organize and categorize information, develop logical connections, and foster critical thinking (Stoica, Moraru, & Miron, 2011). Given the significance of effective teaching strategies, this study explores the perceptions of students and teachers on concept maps and their effectiveness in enhancing learning.

Research Questions

1. What specific elements of concept mapping are most preferred by students in the first-year honors political science class?
2. How do faculty members perceive the effectiveness of different types of concept maps in improving teaching and learning outcomes?
3. What are the attitudes of students toward the use of concept mapping as a learning tool in political science education?

Literature Review

Concept Mapping: A Pedagogical Tool

Concept mapping is a graphical representation of knowledge, using shapes, lines, and linking phrases to depict relationships between ideas (Novak, 2002; Hay & Kinchin, 2006). Research suggests that concept maps help students visualize complex ideas, categorize information, and create meaningful connections (Areesophonpichet, 2013).

Elements of Concept Mapping

Concept maps consist of three essential components:

- Concepts: Key terms or ideas
- Propositions: Meaningful relationships between concepts
- Linking Phrases: Words that describe connections (Gallenstein, 2013)

Additionally, focus questions, hierarchical structures, and cross-links are crucial for fostering cognitive engagement and creative thinking (Novak & Cañas, 2006).

Types of Concept Maps

- Spider Concept Map: Radiates outward from a central idea, helping with classification (Kilic & Cakmak, 2013).
- Hierarchy Concept Map: Organizes information in a top-down structure, highlighting relative importance.
- Flowchart Concept Map: Illustrates linear processes, enhancing logical understanding.
- System Concept Map: Expands on flowcharts by incorporating inputs and outputs, offering a dynamic knowledge framework (Kinchin, Streatfield, & Hay, 2010).

Impact on Cognitive Skills

Concept maps align with Bloom's Revised Taxonomy, encouraging description, classification, interpretation, differentiation, and comparison (Adams, 2015). Research suggests that concept maps promote metacognition, address misconceptions, and enhance learning retention (Lee et al., 2013).

Research Gaps

Despite extensive literature on concept mapping, limited studies explore student preferences, faculty perceptions, and attitudinal differences in higher education settings, particularly in political science education. This study seeks to address these gaps by examining student attitudes and faculty perspectives in the Bangladeshi context.

Methodology

This study employs a mixed-methods approach, integrating both quantitative (survey) and qualitative (FGDs and KIIs) techniques to ensure reliable and comprehensive insights (Santos et al., 2017).

Data Collection Methods

- Survey: A 14-item Likert-scale questionnaire was administered to assess students' perceptions.
- FGDs: Conducted with two groups of five students each to explore experiences and challenges.
- KIIs: Three faculty members were interviewed to capture expert insights on teaching strategies and concept mapping.

Sampling

A random sample of 60 students (40% of 150 first-year students) was selected (Sarmah & Chakrabarty, 2017). Participants were categorized based on classroom engagement levels to ensure diverse perspectives.

Findings and Discussion

Student Preferences for Concept Mapping Elements

Survey Results (Percentage of Agreement)

- Focus Question Clarity: 84% found it clear.
- Linking to Prior Knowledge: 84% agreed it enhanced learning.
- Informative Nature: 76% supported this view.
- Concept Clarity: 72% found terms well-defined.

FGD Insights

- Preferred elements: Hierarchical structures and propositions helped systematize knowledge, though some students found them challenging due to lack of familiarity.

Faculty Perceptions of Concept Maps

KII Findings

- Spider Maps: Useful for categorization, but better suited for advanced learners.
- Hierarchy Maps: Effective for systematic analysis, but may limit critical thinking.
- Flowcharts: Simplify complex concepts, making them more accessible.
- System Maps: Foster higher-order thinking but can be overwhelming.

Student Attitudes Toward Concept Mapping

Survey Results

- Descriptive and Classification Abilities: 80%+ found CMs effective.

- Locating Ideas: 96% reported improved idea organization.
- Comparing Concepts: 68% found CM beneficial, though some faced challenges.

Challenges Identified

- Familiarity Issues: 25% of students struggled with hierarchical structures.
- Language Barriers: Some students faced difficulties interpreting complex diagrams.

Conclusion and Recommendations

Key Takeaways

- Concept maps enhance student engagement and knowledge organization.
- Faculty members recognize their pedagogical value, but emphasize the need for proper implementation.
- Challenges include student unfamiliarity, hierarchical rigidity, and contextual barriers.

Recommendations

1. Teacher Training: Workshops to improve faculty expertise in concept mapping.
2. Frequent Use in Classrooms: Regular integration to familiarize students.
3. Awareness Campaigns: Informative sessions to reduce misconceptions.

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Paradoxes in Global Climate Adaptation Actions

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Abstract

Climate adaptation is a critical strategy for safeguarding human civilization from the adverse impacts of climate change. While global leaders have implemented various adaptive measures, these efforts have largely fallen short of expectations. This study explores the paradoxes underlying global leaders' climate adaptation actions, which are often attributed to self-interest, reluctance to take responsibility, and continued reliance on fossil fuels. Through qualitative content analysis, this research examines primary data from the UNFCCC's Conference of Parties and UNEP's Adaptation Gap Reports, along with secondary sources such as books, journals, dissertations, and IPCC reports. Findings indicate that deliberate ambiguities in adaptation policies have been used to delay effective implementation, resulting in over three decades (1992–2024) of inaction. This study argues that without prioritizing climate justice and aligning policy commitments with tangible actions, climate adaptation efforts will remain ineffective. Urgent reforms are necessary to prevent authoritarian approaches to climate governance from disproportionately impacting vulnerable populations.

Keywords: adaptation paradox, climate adaptation, adaptation action, adaptation planning and implementation

Introduction

Climate change presents a "civilization-ending risk" (Parson, 2007) and an "existential threat" (Kumar, 2021), making its mitigation and adaptation one of the most urgent global concerns. Scientists, academicians, and climatologists have consistently urged political leaders to take immediate and effective action to reduce climate change impacts, safeguard human societies, and protect ecosystems. Recognizing these scientific warnings, world leaders began incorporating climate change into political agendas in the late 1980s and introduced various adaptation measures to mitigate its adverse effects.

However, despite extensive adaptation initiatives, these efforts have largely failed to shield populations from escalating climate hazards. Instead, climate-related risks continue to intensify. This raises critical questions: Why are the effects of climate change worsening despite decades of adaptation efforts? Why have climate adaptation measures failed to deliver the intended results? Is there a contradiction between global leaders' pledges and their actual actions?

Developing and underdeveloped nations, which are disproportionately affected by climate change, face increasing vulnerabilities. This study argues that a significant paradox exists between what world leaders publicly advocate and the policies they implement in practice. To strengthen the adaptive capacity of the least-developed countries, it is essential to critically examine and expose the inconsistencies in global climate adaptation efforts. This study seeks to address these issues by investigating the paradoxes in political commitments and actions, ultimately contributing to a more transparent and effective approach to climate governance.

Methodology

This study employs a qualitative research approach, utilizing content analysis to achieve its objectives. Data has been collected from both primary and secondary sources. Primary sources include decisions from the United Nations Framework Convention on Climate Change's (UNFCCC) Conferences of Parties (COPs) and the Adaptation Gap Reports published by the United Nations Environment Programme (UNEP). The UNFCCC is the principal global institution governing climate discourse, while UNEP is responsible for coordinating environmental responses within the United Nations system.

In addition, secondary sources such as peer-reviewed journal articles, dissertations, books, and Assessment Reports from the Intergovernmental Panel on Climate Change (IPCC) have been analyzed. Relevant websites on climate change adaptation were also consulted to supplement the data.

For the purpose of this study, paradoxes are defined as discrepancies or contradictions between global leaders' climate adaptation pledges and their actual implementation efforts. By examining these inconsistencies, this research aims to provide insights into the factors hindering effective climate adaptation at the global level.

Climate Adaptation

Climate change adaptation refers to adjustments made in ecological, social, and economic systems to reduce the adverse impacts of climate change. These adaptations include both immediate responses to existing climate effects and long-term strategies aimed at enhancing resilience.

The UNFCCC and its COPs have addressed various aspects of adaptation. Key adaptation measures include strengthening infrastructure resilience, developing early warning systems, promoting sustainable agriculture, restoring ecosystems, raising public awareness, advancing climate research, providing financial assistance to affected communities, and facilitating the transfer of environmentally sustainable and economically viable technologies.

Additionally, the Convention and COPs have recognized health-related adaptation measures, such as disease monitoring and prevention programs, mental health support for climate-induced trauma, and early warning systems to mitigate the spread of vector-borne diseases. Furthermore, adaptation efforts also aim to address structural inequalities faced by vulnerable populations, including children, women, displaced and disabled individuals, and marginalized ethnic groups. By incorporating these diverse adaptation strategies, climate policies seek to foster inclusive and effective resilience-building initiatives.

To combat climate change and mitigate its adverse effects, the UNFCCC convened in 1992, addressing the vulnerabilities of developing nations and establishing key climate adaptation policies. Several articles of the Convention, including Articles 3.3, 4.1 (b), (e), (f), (g), (h), (j), 4.3, 4.4, 4.5, 4.7, 4.8, 4.9, 12.3, and 21, emphasize the importance of adaptation in reducing climate-related risks.

The IPCC first highlighted the need for climate adaptation policies in its Third Assessment Report (2001). The same year, at COP7 in Marrakech, adaptation was formally recognized as a key climate strategy, leading to the establishment of the National Adaptation Programme of Action (NAPA) to support Least Developed Countries (LDCs) in addressing immediate climate impacts. Financial commitments for adaptation began at COP15, resulting in the creation of three major funding mechanisms: the Least Developed Countries Fund (LDCF), the Special Climate Change Fund (SCCF), and the Adaptation Fund (AF). Additionally, the National Adaptation Plans (NAPs) were introduced to assist LDCs in developing long-term adaptation strategies, with nearly 130 countries having submitted NAPs or similar plans under the UNFCCC. To further assist LDCs, the LDC Expert Group was established to provide technical support for adaptation planning and implementation.

Subsequent international agreements reinforced the commitment to adaptation. The Copenhagen Accord (2009) initiated the first monetary pledge for adaptation, later formalized in the Cancun Agreements (COP16), which declared that “adaptation must be addressed with the same level of priority as mitigation” (decision 1.I.1 (b)/cp16). Other significant agreements, including the Delhi Declaration on Climate Change and Sustainable Development, the Buenos Aires Programme of Work on Adaptation and Response Measures, the Bali Action Plan, the Durban Plan of Action, the Sendai Framework for Disaster Risk Reduction, and the Paris Agreement, have emphasized achieving a 50:50 balance between adaptation and mitigation efforts. More recently, COP26 launched the Global Goal on Adaptation work programme, establishing the Glasgow–Sharm el-Sheikh work project (2022–2023) to strengthen adaptation financing, particularly for developing nations.

To translate adaptation commitments into action, world leaders have enacted laws and policies. According to the Grantham Research Institute (2019) on Climate Change and the Environment and the IPCC’s Sixth Assessment Report (2021), as of December 9, 2019, over 170 countries had adopted adaptation policies, with 658 national adaptation laws and regulations implemented globally. The majority of these policies were enacted between 2009 and 2016, with

133 new laws introduced by 85 nations in 2012–2013. At least 91 nations have adopted climate adaptation legislation, while over 120 countries have established a national framework on adaptation.

In addition to policy development, global leaders have supported numerous climate adaptation projects. According to Climate Fund Update (2022), as of December 2022, various multilateral funds had approved adaptation projects, including:

- Adaptation for Smallholder Agriculture Programme (42 projects)
- AF (239 projects)
- LDCF (285 projects)
- Millennium Development Goals (MDG) Achievement Fund (18 projects)
- Pilot Program for Climate Resilience (PPCR) (68 projects)
- SCCF (72 projects)

Other multilateral funds have supported both adaptation and mitigation projects, such as the Global Environment Facility (GEF) (834 projects), the Global Climate Change Alliance (109 projects), and the Green Climate Fund (GCF) (505 projects under the Initial Resource Mobilization phase and 66 under GCF-1).

Islam (2022) reported that between 2000 and 2018, over 104,000 climate-related projects were funded across 133 countries, with approximately 41,200 of these focused on adaptation. These figures highlight the extensive efforts made to address climate adaptation, yet significant challenges remain in ensuring the effectiveness and equitable distribution of these resources.

Paradoxes in Climate Adaptation Actions

Despite extensive global efforts, climate adaptation has largely failed to meet its intended targets, exposing the collective failure of the international community. Some critics have described the COP process as “active inaction” (Rahman, 2023). Following the Copenhagen Conference, the media mockingly labeled it “Hopenhagen” or “Brokenhagen” (ICCCAD, 2019), reflecting widespread disappointment. Former UN climate chief Christiana Figueres (2023) termed this failure a “double climate paradox”, highlighting the disconnect between commitments and actions.

Effective climate adaptation requires coordination in planning, financing, and implementation—topics that have been extensively discussed at international forums. However, several paradoxes continue to hinder progress.

Planning Paradox

Effective action depends on sound planning, yet climate adaptation was initially absent from global leaders' priorities. During the early climate negotiations, adaptation was largely ignored as world leaders assumed that climate change impacts would be minimal and short-lived. As a result, they prioritized mitigation over adaptation (Hall & Persson, 2018). However, as the consequences of climate change became increasingly severe, adaptation was reluctantly integrated into global climate policy in the 2000s. It became a central issue within the UNFCCC and subsequent COPs.

Article 4.1(b) of the UNFCCC Convention acknowledges adaptation, stating that parties “shall … formulate and implement … measures to facilitate adequate adaptation to climate change.” However, this wording lacks enforceability:

- "Adaptation" is mentioned, but without clear responsibility or legal obligation, unlike mitigation.
- "Facilitate" implies weak accountability, allowing nations to evade concrete commitments.
- "Adequate" remains ambiguous, failing to define measurable adaptation outcomes.

On average, the term “adaptation” has appeared 43 times in each COP decision from the first conference to the present. However, despite repeated calls for global leaders to support developing nations in planning, implementing, and monitoring adaptation efforts, a universally accepted definition of adaptation remains elusive (Shaw, Mallick & Islam, 2013; Hall, 2017). Even major organizations such as the IPCC, UNFCCC, and United Nations Development

Programme (UNDP) use varying definitions of climate adaptation, often shaped by their institutional interests (Srinivasan & Kikan, 2006).

Unlike mitigation, which has clear targets and measurable outcomes, adaptation lacks defined metrics and standardized evaluation methods. Olazabal and Gopegui (2021) argue that world leaders remain uncertain about what constitutes adaptation and how to measure its success. The promised “new and additional” adaptation funding from Copenhagen and Cancun also remains undefined, with no agreed baseline for measuring financial commitments.

Although adaptation mechanisms such as NAPA and NAPs have been introduced, they remain voluntary and focus primarily on LDCs and developing nations, leading to inconsistencies in global adaptation efforts. Alarmingly, 15% of UNFCCC Parties still lack a national adaptation framework, while 29 climate-vulnerable nations have no adaptation plan, strategy, or policy at all (UNEP, 2023). Even where plans exist, many lack proper monitoring and evaluation (M&E) mechanisms—only 24% of nations have an M&E system in place, while 19% are still in the process of developing one (UNEP, 2023).

Furthermore, Dupuis and Knoepfel (2013) highlight that a lack of intra-policy coordination frequently hinders the successful implementation of adaptation strategies. Without a coherent, enforceable adaptation framework, the world remains locked in a cycle of pledges without action, perpetuating the paradox of climate adaptation.

Financing Paradox

Flaws in adaptation planning have led to significant discrepancies in adaptation financing. Although the UNFCCC’s 1992 Convention first addressed financial mechanisms for adaptation, concrete commitments were only made 18 years later at the Copenhagen Conference (2009). The Copenhagen Accord pledged $30 billion in ‘fast-start’ financing (2010-2012) and a gradual increase to $100 billion annually by 2020 (Article 8 of the Copenhagen Accord; Decision 2/CP.15). The Cancun Agreements (2010) later incorporated this pledge into the UNFCCC framework.

Many have questioned this delay in adaptation financing. Was it an oversight, or did it serve a strategic purpose? Ciplet et al. (2013) argue that states’ self-interested attitudes have slowed climate adaptation progress, as developed countries have consistently resisted financial obligations.

Political Divide in Financial Mechanisms

A major roadblock to adaptation finance stems from the divide between developed and developing countries. Developing nations, through COP negotiations, pushed for an independent financial mechanism under Article 11 of the UNFCCC Convention to oversee climate funds. However, developed nations opposed this, favoring the GEF—established in 1991 by the World Bank, UNDP, and UNEP.

Developing countries strongly resisted the GEF-led approach, arguing that it prioritizes GHG mitigation over adaptation (Ciplet et al., 2013). Despite their objections, two adaptation funds—the LDCF and the SCCF—were placed under the GEF's oversight. This institutional bias reinforced inequities in adaptation funding.

Conflicting Estimates of Adaptation Finance Needs

One of the biggest paradoxes in adaptation finance is the uncertainty surrounding how much funding is actually needed. Different institutions have provided widely varying estimates:

- World Bank (2010-2050): $70-$100 billion annually (at 2005 prices)
- UNFCCC (by 2030): $60-$182 billion, with $28-$67 billion required for developing nations
- IPCC (2016-2050): $830 billion annually to limit global warming to 1.5°C
- UNEP (2030 projection): $140-$300 billion annually, increasing to $280-$500 billion by 2050
- Updated UNEP (2023) estimate: $387 billion annually by 2030, with a range of $101-$975 billion

This variation reflects the lack of a standardized methodology for estimating adaptation costs (Islam, 2022; Xie et al., 2023). Even the $100 billion annual pledge made at

Copenhagen—which covers both mitigation and adaptation—falls significantly short of these estimates.

Insufficient and Uncertain Finance Flows

Despite adaptation finance being a priority, actual funding remains inadequate and inconsistent. The UNEP (2023) adaptation finance gap report reveals that:

- Adaptation finance flows were $14.9B (2017), $14.8B (2018), $19.2B (2019), $25.2B (2020), and $21.3B (2021).
- The annual gap in adaptation finance is between $194B and $366B, meaning funding needs are 10-18 times higher than current flows.

At COP26, world leaders pledged to double adaptation finance by 2025 from 2019 levels. This would require an annual increase of 16% ($38B)—yet, even if met, it would close only 5-10% of the adaptation finance gap (UNEP, 2023). No roadmap has been provided, even as of COP28.

Disproportionate Distribution of Climate Funds

Despite commitments to balance adaptation and mitigation funding, adaptation remains severely underfunded:

- The Copenhagen Accord and Cancun Agreements proposed a 50:50 split between adaptation and mitigation. However, in 2012, 78-80% of fast-start finance went to mitigation (Ciplet et al., 2013).
- Between 2000-2018, funding allocations were 39.66% for adaptation, 43.37% for mitigation, and 16.97% for dual-purpose projects.
- Over 19 years (2000-2018), $434.3 billion was spent on climate finance ($22.86B per year), with 64.7% going to mitigation and only 27.67% to adaptation (Islam, 2022).

A similar trend persists in Multilateral Development Bank (MDB) financing:

- The Asian Development Bank, European Investment Bank, and Inter-American Development Bank Group financed 4,773 projects (2016-2020)—favoring mitigation over adaptation (Xie et al., 2023).
- In 2021, MDBs provided $51B to low- and middle-income economies—65% for mitigation and only 35% for adaptation (Bank, 2022).

This imbalance contradicts the Paris Agreement's goal of equal adaptation and mitigation finance.

Misallocation of Adaptation Funds

Even when adaptation funds are allocated, they often fail to reach their intended purpose. Hussain and Ahmed (2020) analyzed 5,200 adaptation-related aid projects and found that:

- 56% were environmental projects with no adaptation components.
- 14% focused on GHG emission reduction, not adaptation.
- 28% were unrelated to adaptation, mitigation, or the environment.
- 2% were uncategorizable.

Additionally, adaptation financing varies widely between countries. From 2000-2018, disparities in funding were stark:

- India (2018): $2.7 billion in adaptation finance.
- Turkmenistan (2018): $4 million, among the bottom five beneficiaries (Islam, 2022).

Shift Towards Loans Instead of Grants

Another paradox in adaptation finance is the growing trend of loan-based financing, which contradicts the principle of grant-based support for vulnerable nations.

- Between 2017-2021, 63% of all adaptation-specific finance was provided as loans, while only 36% was given as grants (UNEP, 2023).

- Developed nations introduced climate insurance schemes (e.g., life, crop, and livestock insurance) and loans instead of grants through the GCF.

These loan-based models increase the debt burden on vulnerable countries rather than reducing climate risks. Affected communities—such as Bangladesh and small island states—must repay insurance premiums, further exacerbating their financial vulnerability.

Private financial institutions have exploited this financing gap by introducing profit-driven insurance and bond-based adaptation funding, leveraging GCF loans as investment opportunities. Instead of helping at-risk populations, these mechanisms deepen economic disparities.

The paradoxes in adaptation financing highlight deep structural inequities in global climate policy. Despite repeated pledges, adaptation finance remains:

1. Delayed (18-year gap from UNFCCC's 1992 Convention to Copenhagen's financial commitments).
2. Uncertain (conflicting cost estimates from UNFCCC, UNEP, World Bank, and IPCC).
3. Insufficient (the $100B commitment falls well below actual needs).
4. Unevenly distributed (favoring mitigation over adaptation).
5. Misallocated (adaptation funds diverted to non-adaptation projects).
6. Debt-driven (loan-based financing replacing grant-based support).

Without binding commitments, clearer guidelines, and accountability mechanisms, adaptation finance will remain inadequate—leaving vulnerable nations underfunded and unprotected in the face of escalating climate risks.

Conclusion and recommendations

The discussion above highlights the paradoxes within climate negotiations at both organizational and state levels. Whether intentional or due to systemic inefficiencies, global climate actions have consistently prioritized mitigation over adaptation. A key reason for this imbalance is that a substantial portion of mitigation funding ultimately benefits donor countries. Additionally, global leaders fear that acknowledging climate adaptation needs—or their historical responsibility for climate change—will lead to greater demands for addressing vulnerability, poverty, health, and human rights violations.

Another significant reason for the lack of emphasis on adaptation is the belief that prioritizing adaptation might hinder mitigation efforts. Unlike mitigation, which has clear definitions and implementation mechanisms, adaptation remains vaguely defined, with no consensus on its operational scope, control levels, or timelines. As a result, while adaptation was recognized in the 1992 UNFCCC framework, the first financing pledge for adaptation was made only in 2009—17 years later—and reiterated in the Paris Agreement six years afterward without being made mandatory. Although adaptation plans exist, developed nations have yet to fully commit, leaving developing and underdeveloped nations to struggle with the consequences largely on their own.

The lack of coordination among climate policy agencies further exacerbates the problem. From the very definition of adaptation to the measurement of its financing, differences in interpretation create significant barriers to policy implementation. The $100 billion in funding promised in 2009 remains far below actual demand. Worse, only about 20% of the pledged amount—and a mere 5-6% of actual needs—has been allocated. The few adaptation projects that are implemented suffer from a lack of proper evaluation and monitoring, and they are often plagued by political interference, corruption, and nepotism.

Due to the paradoxical stance of developed countries, effective climate adaptation measures remain elusive, despite more than three decades of discussions. The fact that the same concerns raised in 1992 are still being debated in 2024 is a clear indication of the failure to take decisive action. While underdeveloped nations currently bear the brunt of climate change, the long-term consequences will inevitably affect developed countries as well. To safeguard human civilization from the devastating impacts of climate change, the following recommendations must be adopted:

1. Prioritizing Climate Justice: Climate justice must take precedence over political and economic interests to ensure fair and equitable solutions.

2. Grant-Based Adaptation Funding: Adaptation financing should be primarily grant-based rather than loan-based to prevent further indebting vulnerable nations.

3. Effective Policy Implementation: Climate policies must be implemented as intended, with clear mechanisms to ensure accountability and effectiveness.

4. Autonomy for Developing Nations: Developing countries should have greater control over managing climate funds, reducing reliance on donor-controlled mechanisms.

5. Clear Adaptation Benchmarks: Specific adaptation benchmarks must be established to measure progress and hold global leaders accountable.

6. Bridging the Pledge-Action Gap: There must be a tangible link between the adaptation commitments made by global leaders and their actual implementation.

7. Equal Priority for Adaptation and Mitigation: Climate adaptation must be given the same level of priority as mitigation to build resilience in vulnerable regions.

Without decisive action, the current cycle of inaction will persist, leaving future generations to bear the consequences of today's failures. A shift in global climate finance and policy implementation is urgently needed to address the adaptation financing paradox and ensure a sustainable and just future for all.

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New Economic World Order: Reality Or Delusion?

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Abstract

The global economic and political landscape is in a constant state of change. In the first half of the 20th century, nations formed alliances that led to two world wars, fundamentally reshaping international power dynamics. The world became divided into two opposing blocs—the capitalist bloc, led by the United States, and the socialist bloc, led by the Soviet Union. These blocs were the primary adversaries of the Cold War, marking a period of intense rivalry between two opposing economic and political ideologies. These pivotal global events and political shifts in the early 20th century have led to speculation about the emergence of a new economic world order, especially after decades of unilateral dominance by a single superpower.

Keywords: super power, economic world order, cold war, ideology, political economy

Introduction:

The last century witnessed numerous significant international political events and transformative shifts. The fall of the Tsarist Empire and the Bolshevik Revolution, also known as the Russian Revolution, were pivotal events of the 20th century that marked the end of the Romanov dynasty and Tsarist rule. The abdication of Tsar Nicholas II and the establishment of a provisional government in Russia in 1917 signaled the beginning of a new era. This revolution served as a precursor to other European uprisings that followed during and after World War I (Trahair & Miller, 2009, p. 506).

The world witnessed two devastating world wars that reshaped global power structures. Until the 18th century, European nations dominated international affairs. However, Britain's influence gradually declined, and the United States emerged as the new global superpower, with the dollar becoming the primary currency for international trade. This shift in power dynamics led to intense ideological rivalry, culminating in the Cold War—a period of geopolitical tension between capitalist and socialist blocs (Richard & Miller, 2009, p. ix).

The emergence of independent nation-states marked the end of colonial rule. The rise of nationalism, coupled with the Universal Declaration of Human Rights by the United Nations, accelerated independence movements after World War II. This newfound optimism and determination led to the liberation of 36 countries in the post-war period, bringing an end to the colonial era ("The Stakes Are Too High for the World to Fail Palestine," 2024).

Change is an inherent characteristic of society, and as a result, the socio-economic and political landscape continues to evolve over time. The Cold War shaped the foundation of the then-existing international order, which may once again be undergoing transformation in this century due to shifts in the balance of power and evolving universal values. This paper examines the potential emergence of a new economic world order by analyzing historical trends, political shifts, and economic developments.

Objectives:

The primary objectives of this study are:

- To examine whether an incumbent economic world order exists and assess its stability.
- If the existing economic world order is unstable, to explore the potential for the emergence of a new economic world order.

Methodology:

The research approach utilized historical literature, manuscripts, documents, articles, journals, books, and reports. Data were collected from contemporary and historical records, particularly focusing on the international shifts of the last century. The collected data were analyzed thematically, considering political and international economic issues, as well as historical interpretations, to achieve the research objectives.

Backlog history of international politics till today's world:

Genesis of the Cold War and the Rivalry

In the aftermath of World War II, the United States and the Soviet Union emerged as dominant global powers, becoming ideological, economic, and political rivals. These two nations, despite their opposing ideologies, pursued global influence, leading to decades of geopolitical tension and competition (Williamson, 2006, p. 3).

Scholars have often interpreted the Cold War through the lens of U.S. policymakers, viewing American foreign policy as a pragmatic response to Soviet actions or prevailing global conditions. Conversely, analyses of Stalin's foreign policy generally fall into two categories: security concerns versus revolutionary agitation, and Realpolitik versus ideological expansion (Sanchez-Sibony, 2014, p. 57).

Contemporary academic perspectives increasingly emphasize ideological determinism, aligning with the views expressed in U.S. diplomatic assessments, such as George Kennan's famous "Long Telegram" (Ibid.). The Soviet ideology, commonly referred to as "Marxist-Leninist," stood in direct contrast to the American commitment to capitalism and democracy (Rabbie, n.d.).

The Cold War escalated through a series of defining events, including the Berlin Blockade, the formation of NATO (1948), the Korean War (1950–1953), the Berlin Crisis, the Cuban Missile Crisis (1962), the era of détente, the renewed arms race, the Solidarity Crisis, and the Soviet invasion of Afghanistan (1979). The conflict ultimately concluded during the Gorbachev era with the introduction of Glasnost (openness to public debate) and Perestroika (economic restructuring) (Williamson, 2006, p. 12; Levering, 2016, p. 214).

The Cold War fostered an intense nuclear and military buildup, leading to a prolonged arms race between the superpowers (Dougherty & Pfaltzgraff, 1971, p. 32). In response to this geopolitical struggle, key policies and alliances emerged, including the U.S. policy of containment, the Marshall Plan (The Marshall Plan, p. 19), the Truman Doctrine, the Warsaw Pact, NATO, and Cominform (Betts, 1989, pp. 37–52). Additionally, strategic geopolitical theories such as the Pivot Area, Hinterland, and Heartland gained prominence (Dougherty & Pfaltzgraff, 1971, pp. 50–54).

Disintegration of Europe

In January 1947, Britain faced a severe economic crisis due to the lasting impacts of World War II and political unrest in its colonies, particularly India and Palestine. Struggling to maintain its influence in the Mediterranean, Britain found Greece, Italy, and Turkey in urgent need of financial and military assistance. In response, U.S. President Harry Truman swiftly announced the Truman Doctrine, a policy aimed at containing the spread of communism.

On March 5, 1946, in a speech at Fulton, Missouri, Winston Churchill famously declared, "From Stettin in the Baltic to Trieste in the Adriatic, an iron curtain has descended across the continent" (Churchill, 1946). This statement underscored the growing ideological divide in Europe. In France, communists initially joined a coalition government alongside Socialists and Christian Democrats but were expelled in May 1947 (Williamson, 2006). As a result, Europe became polarized, with the Western nations aligning with the capitalist bloc and the Eastern nations forming the communist bloc.

The shifting political landscape in Europe reinforced Anglo-American imperial ambitions, values, and ideologies, which became the foundation of its legal rationality ("Who Has Paralyzed the Post-War Rule-Based World Order," 2024). The primary goal of any global order is to maintain peace among major powers (Mazarr, 2017, p. 29). However, the contemporary political climate stands in stark contrast to these objectives, as economic policy continues to serve as the fundamental "Rule of Conduct" for nations (Sutton, 1937, p. 44).

The USSR and Its Economic Policies Since the 20th Century

By the late 1970s, the world's most advanced economies were undergoing a significant transformation driven by high technology. The Soviet Union referred to this shift as the "scientific and technological revolution," yet it was clear that the USSR was lagging behind (Brooks & Wohlforth, 2004, p. 75). This technological advancement was further accelerated by improvements in transportation and communication (Ibid.).

Historically, the Soviet Union demonstrated a pattern of geopolitical aggression. In 1939, it invaded Finland, and later, it played a role in provoking North Korea's invasion of South Korea, with support from Mao Zedong's China. In more recent times, Russia annexed Crimea and is currently engaged in the invasion of Ukraine. Meanwhile, China continues to assert territorial claims over Taiwan, a self-governing democratic island, with ambitions of forced unification. These events do not necessarily indicate that history repeats itself; rather, they underscore a recurring pattern of imperialist aggression by Russia, driven by the same geopolitical strategies that have shaped its actions for decades (Kotkin, 2022).

The Bretton Woods Agreement, IBRD, and IMF

In July 1944, delegates from 44 nations convened at the United Nations Monetary and Financial Conference, held at the Mount Washington Hotel in Bretton Woods, New Hampshire. The conference led to the establishment of the Bretton Woods System, designed to minimize international currency exchange rate volatility and improve global trade relations. This system laid the foundation for post-war economic stability and cooperation.

The Bretton Woods framework, however, remained more of an evolving project than a fully institutionalized system, as the inconvertibility of certain national currencies posed ongoing challenges (Sanchez-Sibony, 2014, p. 96). To support economic reconstruction and development, the conference also led to the creation of the International Bank for Reconstruction and Development (IBRD) and the International Monetary Fund (IMF), both of which played a crucial role in stabilizing the global financial system in the post-war era.

Polarization and Contention in the Middle East

The fall of the Ottoman Empire in 1923 marked a turning point in the Middle East, paving the way for increased Western influence in the region. Following World War I, British policy was primarily focused on dismantling the remnants of Ottoman influence (Khan, n.d., p. 14). The creation of the Kingdom of Saudi Arabia further consolidated U.S. hegemony in the Middle East, while the Soviet Union sought to expand its own sphere of influence by supporting Syria, Iraq, and Iran.

However, the 1979 Islamic Revolution and the overthrow of Reza Shah Pahlavi significantly reduced U.S. dominance in Iran. Meanwhile, Saudi Arabia, with the backing of the United States and the petrodollar agreement (Hiro, 2018), rose to prominence as a dominant force in the region. With vast oil wealth at its disposal, Saudi Arabia championed Islamic solidarity both within the Middle East and beyond (Ibid.). Yet, this leadership was soon challenged by Khomeini's Iran, which sought to assert its own supremacy in the Islamic world.

In an effort to contain the growing influence of this radical theocratic state (Smith & Davis, 2017, p. 20), the United States supported both the autocratic Saudi regime and Zionist Israel. This perceived double standard fueled anti-American and anti-Jewish sentiments among Middle Eastern Muslims, contributing to the rise of radical Islamist movements (Ibid.).

During the Cold War, a major U.S. concern was the potential disruption of oil supplies, particularly if Moscow attempted to cut off the flow of oil to the West (Glaser & Kelanic, 2024, p. 122). Even today, the United States maintains a stronghold in the Middle East, as the region accounts for roughly one-third of global oil production. To safeguard its strategic interests and maintain control over the region, the U.S. played a key role in the establishment and continued support of Israel in the occupied Palestinian territories, a policy rooted in the Balfour Declaration (Balfour, 1917).

China-Russia-USA Tug of War: Eco-Political Challenges and Counteractions

India's first Prime Minister, Jawaharlal Nehru, positioned himself as both a democrat and a socialist. He recognized the People's Republic of China (PRC), criticized UN actions in the Korean War, and accepted significant Soviet industrial aid—moves that displeased the United States (Smith & Davis, 2017, p. 152). Over time, the relationships of India and Pakistan with global superpowers fluctuated, as both nations emerged as major political players in the region. To counter the spread of communism in Central and Southeast Asia, the United States supported the formation of SEATO (Southeast Asia Treaty Organization) and CENTO (Central Treaty Organization) (Smith & Davis, 2017, pp. 49, 259).

In 1985, SAARC (South Asian Association for Regional Cooperation) was established, bringing together all South Asian states, including India, Pakistan, and Bangladesh. However, due to SAARC's structural weaknesses and the persistent political tensions between India and Pakistan, the organization has struggled to function as an effective regional trading bloc (Kabir, 2015, p. 181). As a result of SAARC's institutional shortcomings, India has been seeking alternative regional alliances on the global stage (Kabir, 2015, p. 182).

Meanwhile, Bangladesh is exploring membership in BRICS under the leadership of Russia and China, despite its heavy reliance on U.S. markets for exports. This reflects a cautious geopolitical balancing act. At the same time, the U.S. is urging Bangladesh to join the Quadrilateral Security Dialogue (QUAD), an alliance formed by the U.S., India, Japan, and Australia to counter China's influence in the Indo-Pacific ("The Daily Star," 2022).

The Russia-Ukraine war has further revealed global polarization, with China—Russia's close ally—refusing to attend the Switzerland Peace Conference in 2024, citing Russia's absence as a reason for its non-participation (Reuters, 2024). The evolving geopolitical alignments in South Asia and beyond will play a crucial role in shaping the future world order.

Politics of Synthesis in the Cold War: USA vs. USSR

The Cold War rivalry between the United States and the Soviet Union gave rise to several new dimensions in international politics, which can be understood as a byproduct of global power struggles, aligning with Hegelian dialectical synthesis (Hegel, 1942, p. 155). Among these emergent issues were the Non-Aligned Movement (NAM), the North-South Dialogue, economic classifications such as Least Developed Countries (LDCs) and Developed Countries (DCs), economic blocs, military alliances, collective security, the arms race, and ultimately, the ideological transformations that led to Perestroika, Glasnost, the dissolution of the USSR, and the end of the Cold War. The emergence of multiple powerful nation-states significantly influenced international politics in the post-Cold War era.

The Non-Aligned Movement (NAM) projected an image of unity among Third World countries, even amidst the intense rivalry between the two superpowers (Brooks & Wohlforth, 2004, p. 202). Meanwhile, the North-South Dialogue of the 1970s sought to challenge the dominance of the Great Powers by fostering cooperation among developing nations to resist superpower hegemony (Brazinsky, 2017, p. 202). Historian Raymond Garthoff highlights that this period marked a revolutionary ideological shift, as leaders increasingly acknowledged global interdependence, prioritized human values over class struggles, and advocated for the indivisibility of common security (Ibid.).

The United States, in pursuit of its containment policy, implemented the Truman Doctrine (Judge & Langdon, 2018, p. 26), the Marshall Plan (Praptee, 2024), and formed military alliances such as NATO (Betts, 1989). In response, the Soviet Union countered with the Warsaw Pact, reinforcing its own sphere of influence (Leffler, 2007, p. 224). These alliances, framed under the guise of "collective security," intensified the global arms race, as both superpowers sought to expand their military and strategic reach (Freedman, 2001, p. 35).

The post-World War II period also witnessed an acceleration in decolonization (Judge & Langdon, 2018, p. 61), leading newly independent states such as India, Pakistan, Indonesia, Malaysia, and Ghana to engage actively in international political organizations. These emerging nations leveraged their positions to advocate for economic self-sufficiency and national sovereignty (Judge & Langdon, 2018, p. 62). Many relied on military and financial aid from the superpowers, aligning with one bloc or the other in exchange for economic and strategic support (Praptee, 2024).

Thus, Cold War politics not only shaped global alliances but also redefined the international order, setting the stage for economic and political realignments that continue to influence global affairs today.

Regional Alliances, Bloc Clashes, and the Emerging Global Economic Order

Regional cooperation and trading alliances have become crucial in shaping the modern geopolitical and economic landscape. The competition between global powers is increasingly reflected in these alliances, as countries align themselves with different blocs to secure economic and strategic advantages.

The United States has recently criticized China for not adhering to the United Nations Convention on the Law of the Sea (Hass, 2017, p. 8), highlighting ongoing tensions in the Asia-Pacific region. Meanwhile, Iran, along with Turkey under President Erdogan's leadership, continues to challenge U.S. influence in the Middle East. A notable development in regional diplomacy was China's successful mediation of détente between Iran and Saudi Arabia, two long-time Middle Eastern rivals. China's top diplomat described this as a "wave of reconciliation" and reaffirmed Beijing's firm support for Tehran on issues of core national interest ("Al Jazeera," 2023).

China's growing influence is also evident in South Asia, particularly regarding Bangladesh's Teesta River project. Beijing has expressed interest in supporting the project, prompting India to counter by offering its own funding proposal in an attempt to curb China's regional influence (Mazumder, 2024). This geopolitical maneuvering underscores the ongoing struggle for dominance between India and China in South Asia.

In the Asia-Pacific region, Russian President Vladimir Putin made significant diplomatic moves in mid-2024 by visiting North Korea and Vietnam. During his visit to Pyongyang, Russia and North Korea signed a mutual defense pact aimed at creating a "reliable security architecture" in the region. Putin described the agreement as a mechanism to protect both nations from external aggression, while North Korean leader Kim Jong-un hailed it as a strategic alliance ("The Daily Star," June 20, 2024).

Putin's visit to Vietnam also resulted in the signing of 11 cooperation agreements covering oil and gas, energy, and education. Although these agreements were less extensive than the defense pact with North Korea, they were significant enough to draw concern from the United States and its Western allies, especially given the existing ICC arrest warrant against Putin for alleged war crimes in Ukraine ("The Daily Star," June 21, 2024).

These developments indicate a growing polarization of global economic and security alliances. As the world moves toward a more fragmented order, characterized by bloc-based rivalries and shifting alliances, the question remains: will a new global economic system emerge from these divisions, or will the existing order adapt to accommodate rising powers?

Synthesis and Concluding Remarks

The historical trajectory of global power dynamics has been marked by a series of transformative events, from the fall of the Tsarist Empire and the Bolshevik Revolution to the Cold War rivalry between the United States and the Soviet Union. The aftermath of World War II led to the emergence of the Bretton Woods system, solidifying the U.S. dollar as the global reserve currency and shaping the international economic order. Meanwhile, the dissolution of colonial empires and the rise of nation-states redefined political and economic alliances across the world.

The Cold War set the stage for intense geopolitical rivalries, ideological battles, and military confrontations. The USSR and the USA, as two competing superpowers, engaged in a prolonged struggle that shaped the modern international order through alliances like NATO and the Warsaw Pact. This era saw the rise of regional conflicts, proxy wars, and economic blocs that reinforced global polarization. The Soviet Union's decline, marked by economic stagnation and internal reforms under Glasnost and Perestroika, led to its ultimate dissolution, leaving the United States as the dominant global power. However, the post-Cold War era did not lead to the stability many anticipated. Instead, shifting alliances, economic crises, and the resurgence of regional powers began to challenge the unipolar order.

In the contemporary world, economic power struggles continue to shape international relations. The emergence of China as an economic and military powerhouse, alongside Russia's assertive geopolitical actions, has intensified global competition. The shifting balance of power is evident in China's Belt and Road Initiative, Russia's strategic alliances with North Korea and Vietnam, and the increasing role of regional organizations like BRICS and QUAD. The U.S., while maintaining its dominance, faces mounting challenges in sustaining its influence in Asia, the Middle East, and beyond.

The ongoing tug-of-war among the U.S., China, and Russia, particularly in strategic regions like the Middle East and South Asia, demonstrates that the global order remains in flux. The geopolitical maneuvers surrounding energy resources, military alliances, and trade agreements reflect an evolving landscape where multiple centers of power compete for influence. The economic and political challenges faced by regional alliances, such as SAARC's internal divisions and the competition between China and India for influence in Bangladesh, further illustrate the complexity of global realignments.

Conclusion: The Future of Global Economic Order

The current world order stands at a crossroads. While the Bretton Woods system and U.S.-led financial institutions like the IMF and World Bank have long dictated economic policies, the rise of alternative financial mechanisms, including China's Asian Infrastructure Investment Bank (AIIB) and the increasing prominence of BRICS, signal a potential shift. The increasing polarization of economic alliances—U.S.-led Western institutions versus emerging multipolar economic partnerships—suggests the possibility of a new global economic structure.

However, whether a completely new economic order will emerge or whether the existing system will adapt remains uncertain. The stability of the current economic system is being tested by shifting power dynamics, regional conflicts, and the competition for technological and resource dominance. If the global economic order is indeed unstable, the future will likely witness the consolidation of economic blocs rather than a single dominant power. The increasing interplay between geopolitics and economics underscores that the trajectory of global power is not linear but cyclical, with history offering valuable lessons on the rise and fall of dominant economic systems.

Ultimately, the world is witnessing the formation of a new equilibrium where regional alliances, economic dependencies, and strategic rivalries redefine global governance. Whether this transition will lead to stability or further division depends on how global institutions and major powers navigate these evolving challenges.

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