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Risk Dynamics in Iraqi Banking Sector: Role of Bank Capital and Efficiency

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The succession of financial crises has made it necessary for economists and policymakers to have a comprehensive understanding of financial systems and efficiency to reduce risks. Therefore, this study is designed to analyze the relationship between bank capital, efficiency, and risk in Iraqi banking sector by using the data from 2011-2022 for 20 commercial banks in the country. Efficiency is measured by three factors, including allocating efficiency (AE), technical efficiency (TE) and cost efficiency (CE). Results of the panel GMM indicate that bank capital is negatively associated with one risk measure (Zscore) while it is positively related to other measures of risk (SDROA and SDROE). Moreover, AE, TE and CE are also significant determinants of risk factors in banking. TE and CE are negatively related to solvency risk (ZSCORE) and SDROA, while positively associated with SDROE. But AE is only negatively related to Z-score and positively related to SDROA and SDROE. This study contributes valuable insights into the performance, efficiency, and stability of the Iraqi banking sector, providing policymakers, regulators, and industry stakeholders with essential information for decision-making and strategic planning.

Keywords: capital, allocative efficiency, cost efficiency, technical efficiency, risk

Jel Codes: D24, D61, D81

The global banking industry has witnessed continuous dynamic transformations over the last two decades due to environmental factors, technological development, deregulation, and financial and economic globalization. These factors have led to an increase in the intensity of competition and concentration in the banking sector, prompting policymakers and stakeholders to intensify discussions about the banking environment and its role in making this sector more efficient and stable. (Hellmann et al., 2000). Regions have implemented precautionary measures throughout successive financial crises, which help increase regulation and enhance capital adequacy standards. The first Basel Accord, launched in 1988, underwent reconsideration at the end of the twentieth century, prompting the Basel Committee to issue the Basel II Accord, followed by Basel III after the 2008 crisis exposed the fragility of many banks' financial conditions. However, banking and financial institutions have been weakened by successive financial crises and require a better understanding of the factors that influence performance and risk behaviour. Due to inefficient and ineffective capital management, financial crises have also highlighted the vulnerability of weak banks, which are a significant cause of economic shocks, particularly in Iraq. The weak regulatory framework has not prevented banks from being exposed to high levels of risk, highlighting the need for a better understanding of risk determinants in the banking industry. Various macroeconomic factors such as market capitalization, inflation and growth rate influence the nature and dynamics of banking activities and are also linked with the sectoral environment (Koopman & Szekely, 2009).

The series of financial crises in the Middle East, especially following the COVID-19 pandemic, has made it essential for policymakers and financial economists to conduct a comprehensive and in-depth review of the links between financial systems and banking behaviour to mitigate risks. The financial crisis highlighted the regulatory framework's failure to ensure financial stability in the banking sector. These controls not only protected banks from high levels of risk, but also underline the need for a better understanding of risk factors as well as the nature and dynamism in the banking operations. It puts it in direct contact with the sectoral and general environment represented by macroeconomic variables. Crises have demonstrated that banks lacking efficiency in risk and capital management may be more vulnerable to financial and economic shocks. Over the years, efficiency has been one of the most prominent topics on the research agenda, and the reasons behind the increase in this research are attributed to the increasing changes in the operational regulatory environment, which prompts banks to search for the best solutions to control costs and increase revenues (Chortareas et al., 2013). Efficiency enables banks to make informed decisions about the optimal marketing mix, utilising the least inputs to achieve the best outputs.

The succession of financial crises made it imperative for economists and policymakers to have a comprehensive and in-depth understanding of the links between financial systems and banking behaviour to reduce risks. Capital regulation is critical for lowering bank failure risks, particularly during the global financial crisis, by addressing budget imbalances (Saeed et al., 2020). Independent bodies like the central bank and other public institutions keep an eye on commercial banks to make sure that they follow Basel requirements for capital regulation to lower risk and assist banks to work more efficiently and increase their profitability (Bitar et al., 2016).

For many years, measuring efficiency and analyzing its behaviour with risk has become vital in dealing with the multifaceted and dynamic landscape of the modern banking sector. Previous studies have discussed the role of efficiency in the banking industry and revealed that it helps to meet regulatory requirements, boost profitability, optimize resource allocation, enhance competitiveness and create value for the long term with stakeholders (Matabaro, 2019; Albaity, 2019; Le et al., 2020). In addition, fewer studies have measured and analysed the efficiency relationship with risk and competition (Goetz, 2018; Fang et al., 2019; & Tan et al., 2021). While fewer studies have analyzed efficiency measures in relation to the risk and performance of banks in different regions (Lotto, 2018; Dias, 2021).

This study contributes to the literature by examining the relationship between risk, capital, and efficiency in Iraq's banking system. Moreover, the present study is also unique in that it analyses the relationship between risk and efficiency from all three measures of risk (i.e., technical efficiency, allocative efficiency, and cost efficiency). This research is compiled in 5 sections. Recent selected literature is discussed in section 2, aligning with the relevant theories. Data and methodology are discussed in section 3, while section 4 is reserved for results and discussion, and the study is concluded in section 5 with limitations and policy implications.

Literature Review

Understanding the relationship between capital, risk, and efficiency remains a cornerstone of banking and financial stability research. Theoretical and empirical studies have long debated whether higher capital leads to risk-taking behaviour by banks and how efficiency mediates this relationship. The foundational theoretical perspectives include the Regulatory Hypothesis, Moral Hazard Hypothesis, Bad Management Hypothesis, Bad Luck Hypothesis, and Cost Skimming Hypothesis.

The regulatory hypothesis emphasizes the centrality of supervisory bodies to maintain the continuity of banking operations. According to Kim and Santomero (1988), capital requirements limit the risk of deposit mispricing. The moral hazard hypothesis by Jeitschko and Jeung (2005) promotes an inverse relationship between capital and risk, as banks with low capital tend to take on more risky investments due to weak oversight and inadequate legal reserves. Bougatef and Mgadmi (2016) and Abbas et al., (2021) showed an inverse relationship between risk-weighted capital ratios and capital reserve ratios.

By contrast, the Bad Management Hypothesis (Berger & DeYoung, 1997; Williams, 2004) links inefficiency and inadequate internal controls in underperforming banks to higher risk. The Bad Luck Hypothesis (Berger & DeYoung, 1997) contends that unfavorable outside events that are out of the bank's control increase risk and reduce productivity (Kolia & Papadopoulos, 2020; Tan & Floros, 2013). The Cost Skimming Hypothesis reveal that cost-efficient banks take more risk as they rely on a thinner capital buffer without sacrificing profitability (Kolia & Papadopoulos, 2020 Fiordelisi & Mare, 2014).

It has been suggested that capital regulations assist banks and industries to alleviate risks, particularly in undercapitalized groups of banks. Jacques and Nigro (1997) and Siddika and Haron (2020) found that capital regulations helped mitigate risks, especially in undercapitalized banks. Camara et al., (2010) and Van Roy, (2005) Indicated that banks with insufficient capital often engage in high-risk strategies. Ding and Sickles (2019), Jokipii and Milne (2011) and Zhang et al., (2008) further explored how capital adequacy affects risk-taking dynamics in developed markets. Sarkar et al., (2019) presented mixed evidence on efficiency-risk dynamics across different bank ownership types in India. Saeed et al., (2020) showed that Islamic banks tend to increase capital in response to rising bankruptcy risk, but with limited impact on reducing risk. Deelchand and Padgett (2009) and Fiordelisi et al., (2011) emphasized how efficiency influences capital-risk behavior in cooperative and EU commercial banks.

More recent literature after the COVID-19 pandemic offers expanded insights. Nguyen et al., (2023) reported that banks with lower capital reduced risk exposure more aggressively during the COVID-19 crisis, whereas highly capitalized banks maintained risk levels. Boamah et al., (2023) found that in emerging markets, capital regulation and improved efficiency are crucial for enhancing performance. Fatouh et al., (2024) showed that leverage ratios reduce risk-taking without compromising efficiency in UK banks. Güngör (2023) highlighted how capital-risk relationships vary by market segment in Turkey. Subsequently, numerous studies obtained different results between risk and efficiency (Huizhi & Xianghua, 2023; Boamah et al., 2023) but results do not provide a consensus on the relationship between risk and efficiency. For example Alsharif (2021) found that higher levels of efficiency will lead to reduced insolvency and credit risk, while Sarkar et al., (2019) investigates risk, capital, and efficiency in Indian banking by analyzing various relationships between distinct ownership kinds. Empirical results have conflicting results on the positive relationship between low efficiency and increased credit risk in public banks, and a positive association between efficiency and risk in international banks. Cevikcan and Tas (2022) found that risk is positively related to efficiency in Turkish brokerage enterprises.

Over the past decade, many studies have dealt with banking efficiency, especially for those countries that have witnessed the transition towards a liberal economy. Many previous studies dealt with the cost efficiency of banks during the transitional period. (Anwar, 2019; Blankson et al., 2022). Some studies analyzed the relationship between efficiency and liquidity or credit risk in banks (Boamah et al., 2023; Hasnaoui & Hasnaoui, 2022). But the literature on the relationship between risk, capital and efficiency is missing in Arab countries, especially in Iraq, where a number of new banks are opening since the last years without any consideration of stability and efficiency.

By studying the connection between capital regulation, risk and efficiency, the research sheds light on the links of these aspects and their effects on the whole strength of the banking sector. This study is essential for policy makers looking for an equilibrium among the regulatory requirements, market demand, competition and financial stability. This analysis adds valuable insights into the overall performance, proficiency, and stability of the Iraqi banking sector, offering policymakers, officials, regulators, and business stakeholders dynamic information to inform their decision-making and strategic planning. This study aims to investigate the relationship between capital, risk, and efficiency in the Iraqi banking sector.

Method

To analyze the relationship between capital, risk and efficiency, the present study uses the panel data of commercial banks in Iraq. The study uses the data from 2011 to 2022 of twenty (20) commercial banks, thus we have 240 observations for analysis. There were very few missing values in some banks for one to two years, which were estimated by using the extrapolation method in STATA 15. Time horizon and selection of banks are made based on data availability, and banks with very few observations or missing data are not included in the sample. The study consists of all 20 commercial banks for which complete and consistent financial data were available during the 12-year study period. Given the nascent and evolving nature of the Iraqi commercial banking sector, data availability has been a significant limitation. Many banks lack historical records or have not publicly disclosed financial statements for extended periods. Data were collected from the annual reports of banks as well as the Central Bank of Iraq (CBI) bulletins and publications. Data on macroeconomic variables were obtained from World Development Indicators (WDI). Remaining details of data and sources are mentioned in Table 1.

The present study employs the generalized method of moments (GMM) for the regression analysis. The generalized method of moments (GMM) is widely used in dynamic data analysis, especially in banking, finance, and economic studies, because of its ability to address specific challenges in empirical research especially for dynamic estimation of panel data (Nguyen et al., 2024; Tran & Nguyen, 2024). The GMM system is particularly suitable for this research because it effectively addresses challenges such as endogeneity, simultaneity, heteroskedasticity, autocorrelation, and unobserved heterogeneity inherent in banking data (Abbas et al., 2021; Tran & Nguyen, 2024).

Model

The study model is given below in equation 1.

$$Risk_{it} = \alpha_0 + \alpha_1 Risk_{i,t-1} + \alpha_2 Risk_{i,t-2} + \alpha_3 Cap_{it} + \alpha_4 Efficiency_{it} + \alpha_5 ROA_{it} + \alpha_6 SIZE_{it} + \alpha_7 Liquidity_{it} + \alpha_8 C3_{it} + \alpha_9 RMSD_{it} + \alpha_{10} GDPG_{it} + \alpha_{11} Inf_{it} + v_i \quad (1)$$

Where ‘i’ represents the cross-section of the sample (banks), while ‘t’ refers to time. Bank risk-taking is proxied by Z-score, SDROA, and SDROE. Capital regulation is proxied by the equity to total assets ratio. Efficiency is calculated by data envelopment analysis (DEA) and represented by technical efficiency, allocative efficiency and cost efficiency. Banking sector and macroeconomic variables are explained in Table 1, while v_{it} is the random error term in Equation 1.

Measurement and Description of Variables Efficiency

We use Data Envelopment Analysis (DEA) to estimate efficiency. DEA is a non-parametric method for evaluating the relative efficiency of decision-making units (DMUs) considering multiple inputs and outputs. In our study, we opted to use Data Envelopment Analysis (DEA) over Stochastic Frontier Analysis (SFA) due to several methodological and empirical reasons that align with the nature of our data and research objectives. DEA is preferable for a small sample size, like our study data is limited to 20 banks and only for 12 years, therefore, DAE preferable over SFA (Coelli et al., 2005). Moreover, the banking sector has multiple outputs like interest income, loans, service charges etc, for which DAE is an efficient measure to calculate efficiency with multiple output which SFA cannot adjust (Berger & Humphrey, 1997). The first model was developed by Charnes et al., (1978), known as CCR, this model assumes that the optimal level of efficiency depends on the minimum production input required to produce a given output, and that farm size does not have a significant impact on efficiency as long as all DMUs operate within the optimal range. Efficiency was defined as the ratio of output to input. Given the diverse production scenarios, there must be multiple outputs and inputs. Therefore, calculating the most realistic efficiency requires weighing the inputs and outputs. Technical efficiency can be defined as:

$$Technical\ efficiency = \frac{Weighted\ sum\ of\ outputs}{Weighted\ sum\ of\ inputs} \quad (2)$$

Risk-taking Behavior

In our study, we use several indicators to represent risk behavior (bank credit risk, bank soundness, and liquidity risk). We measure the bank's credit risk as a representation of credit quality by measuring loan loss provisioning as part of total loans, as a follow-up to Dias (2021), Kwan and Eisenbeis (1997), and Tan and Floros, (2013). The Z-score is another metric we use to quantify bank risk since it is an indicator of financial solvency that has been adopted in a large number of studies (Shira, 2023; Dias, 2021; Mohsni & Otchere, 2018 etc.). The Zscore is calculated as follows:

$$Z_{Scorei} = \frac{ROA_{it} - \frac{EQ_i}{TA_i}}{\sigma ROA}(3)$$

ROA_{it} Represent the Return on assets of the bank i in year t , $\frac{EQ_i}{TA_i}$ Represent the Ratio of total equity to total assets of the bank i in year t and σROA represent to Standard deviation of the ROA for each bank (Assthanasoglou et al., 2008).

Bank Capital

The two primary ideas of bank capital that are most frequently utilized in the literature are funds generated by issuing shares and retained earnings. Real capital is sometimes referred to as physical capital and regulatory capital. In our study and follow-up (Nguyen & Nghiem, 2015; Tan & Floros, 2013), the ratio of equity to total assets is used as an indicator of capital representation in the Iraqi banking sector.

Table 1
Description of the study variables

Variables	Notation	Definition
Risk	Z-Score	The ratio between a bank’s return on assets plus equity capital/total assets
	ZROA	The standard deviation of ROA
	ZVORE	The standard deviation of ROE
Efficiency	TE	Technical Efficiency
	AE	Allocative Efficiency
	CE	Cost Efficiency
Capital	Capital	Book value of capital to total assets
Bank-specific variables		
	Profitability	
	ROA	Return on assets
	Size	logarithm of total assets
	Liquidity	Loan-to-assets ratio
Indicators for the banking industry		
	C3	The ratio of total assets of the three largest banks to the overall total assets.
	RMSD	Ratio of stock market capitalization over GDP
Macroeconomics variables		
	GDPG	Annual percentage growth in real GDP
	INF	Inflation

Data Sources: Data is collected from the Central Bank of Iraq (CBI), World Bank Development Indicators (WDI), and annual bank reports.

Results and Discussion

Descriptive Statistics

The foundation for understanding the dataset's structural components and their importance for empirical modelling is laid by examining descriptive statistics in Table 2, which provide vital insights into the distributional features of key variables. We list the key attributes of these indicators along with their relevance to the subject of the study. Risk, Susceptibility, and Economic Stability. The ZSCORE average (Mean = 5.809, SD = 4.6) shows a moderate degree of financial stability, while the significant cross-sectional variability (Min = 2.308, Max = 18.868) reveals notable variations in bankruptcy risk among observations. Elevated SDROE values (Max = 13.013) raise the possibility that there are outliers connected to high levels of financial or operational leverage. The volatility metrics SDROA (Mean = 1.08) and SDROE (Mean = 2.833) show that returns on equity are significantly more volatile than returns on assets. Disparate approaches to risk management or disruptions unique to a company could lead to a mismatch. According to the efficiency ratios, which range from 0 to 1, organizations function with a moderate level of efficiency (TE = 0.446, AE = 0.567, CE = 0.434). Organizations with low-cost efficiency or measurement anomalies that need more investigation are indicated by a CE metric score of 0. According to earlier research in sectors with notable structural or regulatory constraints, systemic inefficiencies appear when the averages of the three efficiency metrics drop below 0.5. Low variance in the SIZE variable (log-transformed, mean = 5.721, SD = 0.253) points to either sector-specific sampling or regulatory size uniformity. These are traits of the market and business structure. Markets with substantial oligopoly are indicated by the C3 concentration index (Mean = 81.55 percent, SD = 12.16), while the minimum concentration (Min = 56.6 percent) exceeds the requirements for moderate concentration. This structural feature may necessitate the inclusion of rules related to market power in models that assess the trade-offs between efficiency and competition. Four. Macroeconomic Framework The inflation rate ranges from deflationary periods (minimum = -0.2 percent) to extremely inflationary phases (maximum = 6.6 percent), with a mean of 1.83 percent and a standard deviation of 2.13 percent. The GDPG has a mean of 4.01 percent and a standard deviation of 6.72 percent, indicating considerable volatility as evidenced by a noteworthy contraction of -11.32 percent and strong growth of 13.94 percent. This macroeconomic variability emphasizes how important it is to distinguish between firm-specific dynamics and cyclical fluctuations using country- or time-fixed effects. Larger variations in some variables like ROA and CAP is due to difference in bank size and capitalization strategies.

Table 2
Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ZSCORE	240	5.809	4.6	2.308	18.868
SDROA	240	1.08	.704	.099	3.224
SDROE	240	2.833	2.09	.092	13.013
TE	240	.446	.285	.02	1
AE	240	.567	.19	.167	1
CE	240	.434	.27	0	1
SIZE	240	5.721	.253	4.874	6.264
C3	240	81.554	12.164	56.598	94.759
RSMD	240	4.706	1.447	2.313	6.956
	240	1.829	2.132	-.2	6.6
INFLATIO					
N					
GDPG	240	4.014	6.719	-11.324	13.936
ROA	240	1.693	1.935	-3.76	8.35
CAP	240	.556	.696	.06	9.921

Table 3 presents the results of the relationship between efficiency, risk, and capital using GMM-SYS estimators. The risk measure is calculated by Z-score as the dependent variable in model 1 and model (2)

shows SDROA as the dependent variable, while SDROE is represented as the dependent variable in model (3).

Regarding the results of model (1), the results indicate that there is an inverse relationship between solvency risk and capital, meaning that more capital acquired by banks tends to be riskier, which supports the moral hazard hypothesis. The apparent results indicate that capital has a greater impact on solvency risk, meaning that increasing capitalization increases the chances of banks being exposed to risks, and this is consistent with the moral hazard hypothesis. This result is consistent with Fiordelisi et al., (2011), Saeed et al., (2020) Alrwashdeh et al., (2024) also found that banks respond to regulatory measures by increasing capital, leading to increased asset risk. Our results indicate that TE is also negatively and significantly related to solvency risk ($\beta = -9.82$; $p < 0.01$). Competition imposes itself on an imperfect, risk-exposed banking industry, leading experienced managers to take more risks than to reduce them. However, companies with low efficiency tend to take greater risks to compensate for the lower returns, which leads to efficiency affecting banking risk levels (Altunbas et al., 2007).

Regarding the second model, if standardized return on assets (SDROA) is adopted as an indicator of risk, we find an inverse relationship between the levels of profitability risk by banks and efficiency ($\beta = -0.5876$; $p < 0.05$). Technically efficient banks have less volatility in returns, thus have greater earning stability. This stability in the banking sector reduces shocks and volatility in return on assets. The results are consistent with Abbas et al., (2021) and Dias (2021).

Table 3

GMM Estimates of the Relationship Between Risk, Capital and Technical Efficiency

VARIABLES	(1) ZSCORE	(2) SDROA	(3) SDROE
CAP	-3.7800*** (0.7780)	0.1847*** (0.0396)	0.1192*** (0.0266)
TE	-9.8188*** (2.8456)	-0.5876** (0.2290)	1.9161* (1.0508)
ROA	-0.6051*** (0.1222)	0.0242 (0.0188)	-0.0074 (0.0553)
SIZE	-5.4027*** (1.6700)	-0.2345 (0.3173)	2.8826 (1.8218)
RSMD	1.4639*** (0.0919)	0.0094 (0.0268)	-0.1551* (0.0937)
LIQUIDITY	-0.1471 (4.6977)	0.6965*** (0.2278)	3.0643** (1.3404)
GDPG	0.2684*** (0.0178)	0.0113*** (0.0032)	0.0281** (0.0129)
INFLATION	-0.0090 (0.1085)	0.0015 (0.0122)	-0.0028 (0.0328)
C3	0.2680*** (0.0171)	-0.0065*** (0.0017)	-0.0168*** (0.0059)
L.ZSCORE	0.4315*** (0.0500)		
L2.ZSCORE	0.2329*** (0.0192)		
L.SDROA		0.7770*** (0.0576)	
L2.SDROA		0.0356	

		(0.0599)	
L.SDROE			0.8959*** (0.0823)
L2.SDROE			-0.1251** (0.0554)
Constant	10.3382 (8.9270)	1.5204 (1.9081)	-17.5214 (11.9665)
Wald Chi2	86841.03	34806.99	308349.26
AR(2)	1.29 (0.198)	-0.09 (0.932)	-0.92 (0.357)
SARGAN	19.74 (0.072)	5.55 (0.986)	6.70 (0.753)
(Prob.)			

In the third model, we adopted the standard deviation of returns on equity (SDROE) as an indicator to measure the risks in bank returns. Table 3 presents the results of the relationship estimates between risk variables, technical efficiency, and capital. The results provide evidence that capital has a positive effect on performance risk (SDROA) and equity risk (SDROE). These results support the risk-return hypothesis, which reveals that banks with more capital have greater capacity to take risk, which yields higher expected returns (Berger, 1995). Thus, such strategies may increase the profitability of banks and increase volatility in earnings and ROA, which is reflected in SDROA. This is because of strict capital regulation requirements in the banking sector, which compel analysts and policymakers to reassess the investment strategies. Within the strict capital regulations, banks may seek to improve their returns with greater risk. However, this approach involves greater uncertainty and significant financial risks. Thus, to avoid negative consequences and retain sustainability, banks need to adjust regulatory requirements with efficient risk management practices carefully. It, therefore, emphasizes the need for banks to balance regulatory requirements with prudent risk management practices carefully.

The results of technical efficiency reveal that higher efficiency is associated with lower risk in the banking industry of Iraq, and vice versa. As lower efficiency squeezes the profits and return on assets, it increases the amount of risk in banks. On the contrary, higher efficiency leads to better credit and risk assessment as well as lowering the risk of non-performing loans (NPLs), thus reducing credit and liquidity risk (Alrwashdeh et al., 2024). Therefore, it is suggested that banks should invest in assets with high returns to mitigate the restrictions imposed by capital regulations (Berger & DeYoung, 1997).

Table 4

GMM Estimates of the Relationship Between Risk, Capital and Allocative Efficiency

VARIABLES	(1) ZSCORE	(2) SDROA	(3) SDROE
CAP	-4.0613** (1.7928)	0.3388*** (0.0352)	0.2866** (0.1198)
AE	-3.5709* (2.0313)	1.5567*** (0.6030)	2.2607** (1.1225)
ROA	-0.5416*** (0.2049)	0.0202 (0.0205)	-0.0530 (0.0578)
SIZE	-1.7830 (1.1663)	0.0813 (0.1178)	-0.5036 (1.1375)
RSMD	1.6282*** (0.0978)	-0.0774** (0.0358)	-0.1181* (0.0707)
LIQUIDITY	-1.7906 (1.3010)	1.0491*** (0.2822)	4.4922* (2.6457)
GDPG	0.2835*** (0.0139)	-0.0003 (0.0050)	0.0224* (0.0125)
INFLATION	-0.0255 (0.1421)	0.0074 (0.0127)	-0.0055 (0.0289)

C3	0.3371*** (0.0107)	-0.0085*** (0.0027)	-0.0290*** (0.0072)
L.ZSCORE	0.6057*** (0.0218)		
L2.ZSCORE	0.2977***		
L.SDROA		0.8280*** (0.0260)	
L2.SDROA		0.0047 (0.0325)	
L.SDROE			0.8695*** (0.0823)
L2.SDROE			-0.1135 (0.0807)
Constant	-19.2066** (8.4056)	-1.2370* (0.6590)	1.2431 (6.6408)
Wald Chi2	79688.12	21774.84	43356.19
AR(2)	1.28 (0.202)	-1.30 (0.194)	-0.79 (0.427)
SARGAN (Prob.)	19.93 (0.068)	6.18 (0.722)	7.83 (0.931)

Table 4 provides a comprehensive overview of the relationship between capital, allocative efficiency (AE) and risk in banking. In the first model using Z-score (column 1), the significant negative coefficient of CAP ($\beta = -4.0613$; $p < 0.05$) reveals an inverse relationship between capital and bank stability. This supports the regulatory hypothesis proposed by Kim and Santomero (1980) and later refined by Fiordelisi et al., (2011) that higher capital requirements may encourage banks to pursue riskier asset portfolios to maintain returns on equity, contradicting the traditional buffer assumption. The negative coefficient on allocative efficiency ($\beta = -3.5709$; $p < 0.1$) demonstrates that more efficient banks tend to be less stable. This aligns with Berger and DeYoung's (1997) findings that efficient banks may leverage their operational advantages to engage in higher-risk activities for greater returns. However, market concentration (C3) is positively related to risk ($\beta = 0.337$; $p < 0.01$), implying that more concentrated banks foster greater stability by investing in more risky assets to reduce competitive pressure and strict monitoring capabilities (Beck et al., 2006).

Furthermore, results in Table 4 show that allocative efficiency is positively and significantly related to two measures of risk in the last two models ($\beta = 1.5567$; $p < 0.01$). This reinforces the "efficient-risk" hypothesis that efficiency gains may be channeled into higher-risk, higher-return activities rather than stability enhancement, which is consistent with the study of Altunbas et al., (2007). The third model using SDROE (standard deviation of return on equity) shows consistent positive relationships between capital and risk ($\beta = 0.2866$; $p < 0.05$) and between allocative efficiency and risk ($\beta = 2.2607$; $p < 0.05$). The liquidity coefficient ($\beta = 4.4922$; $p < 0.1$) suggests that the opportunity cost of holding excess liquidity is particularly pronounced when considering equity returns, supporting Abbas et al., (2021) findings on liquidity management trade-offs.

Table 5

GMM Estimates of the Relationship Between Risk, Capital and CostEfficiency

	(1)	(2)	(3)
VARIABLES	ZSCORE	SDROA	SDROE
CAP	-4.0424*** (0.6479)	0.0815*** (0.0080)	0.3061 (0.2049)
CE	-15.4125*** (4.7297)	-0.4190** (0.1937)	3.5569*** (1.1558)
ROA	-0.5591** (0.2384)	-0.0070 (0.0250)	-0.1349** (0.0657)

SIZE	-5.3249*	-0.2742	6.3125**
	(2.7510)	(0.2931)	(2.6188)
RSMD	1.4222***	0.0032	-0.1595***
	(0.2252)	(0.0311)	(0.0619)
LIQUIDITY	-2.7278	1.0551**	5.5933***
	(9.5752)	(0.4507)	(1.6045)
GDPG	0.2519***	0.0135***	0.0318***
	(0.0178)	(0.0040)	(0.0105)
INFLATION	0.1462	0.0027	-0.0608
	(0.1197)	(0.0123)	(0.0423)
C3	0.2116***	-0.0043**	-0.0151**
	(0.0372)	(0.0018)	(0.0077)
L.ZSCORE	0.2266**		
	(0.0958)		
L2.ZSCORE	0.1986***		
L.SDROA		0.5066***	
		(0.0674)	
L2.SDROA		-0.2892***	
		(0.0457)	
L.SDROE			0.5431***
			(0.1214)
L2.SDROE			-0.0900
			(0.0868)
Constant	20.8226	1.9357	-39.2251**
	(19.1320)	(1.5403)	(17.1593)
Wald Chi2	4608.69	9930.49	15006.15
AR(2)	1.05 (0.296)	- 1.47 (0.141)	0.60 (0.545)
SARGAN (Prob.)	19.04 (0.163)	12.62 (0.180)	6.78 (0.963)

Table 5 shows how bank risk relates to capital and cost efficiency using three different risk mitigation strategies. When we measure risk as Z-scores, the coefficient of cost effectiveness is indeed significant ($\beta = -15.4125$; $p < 0.01$). Banks with better cost management have lower liquidity shortage, and they tend to minimize operational cost, hence have more resources to utilize. A stronger liquidity position improves profitability and lower deviation from returns on assets. This concept is similar to the savings-of-money idea proposed by Berger and DeYoung (1997), suggest that banks can appear efficient by cutting corners in risk management. In the second model, using SDROA, cost efficiency reduces the volatility of earnings in this model ($\beta = -0.4190^{**}$; $p < 0.05$), which is the opposite of what we estimated in the Z-score model. This suggests that effectiveness affects different types of risk differently, as proposed by Fiordelisi et al., (2011). In the final model using the SDROE, the capital ratio is positive but not significant ($\beta = 0.3061$; $p > 0.1$), and the relationship between capital and risk is less clear when looking at the volatility of the equity. However, cost efficiency strongly increases the volatility of return on equity ($\beta = 3.5569$; $p < 0.01$), which supports the risk-efficiency ideas of Altunbas et al., (2007) that efficient banks could channel these efficiency gains to riskier activities. These results also reveal that banks with more cost efficiency are engaged in high-yield activities to maximize shareholder returns. These mixed results across various risk measures demonstrate that banking risk is complex and is unlikely to be managed by simple, one-size-fits-all regulations. Finally, results of control variables show that stock market capitalization (RSMD) and country economic growth rate (GDPG) are positively and significantly related to risk in most models. While bank size and ROA are negatively associated with different measures of risk in most models, inflation has no significant relationship with the bank risk at the national level.

Conclusion

This paper examines the relationship between risk, capital, and efficiency in the Iraqi banking industry. The study uses 12 years data of twenty commercial banks in Iraq and employs Panel GMM technique to investigate the impact of bank capital, technical efficiency, allocative efficiency and cost efficiency on risk behaviour of banks. We are motivated by the fact that previous literature focusing on banking behavior in Iraq is almost rare and that the available evidence for the Middle East region is mixed and inconclusive due to the differences in regulatory influences on banking behavior during periods of financial liberalization. Our analysis shows that there is a negative relationship between capital requirements and solvency risk in the banking industry of Iraq, meaning that increasing capitalization increases the chances of banks being exposed to risks, and this is consistent with the moral hazard hypothesis. But other measures of risk (SDROA and SDROE) are positively related to bank capital. The results also indicate that efficiency in banks affects risk, with efficient firms taking greater risks to compensate for low returns.

Our study finds the mixed results of different efficiency measures with different risk measures. These results are differed as each efficiency measure capture distinct nature of performance and each risk measure emphasizes on heterogeneous dimension of risk. For example, TE reflects maximization of output within the given level of inputs, and more TE leads to engaging in high-risk activities, which raises volatility-based risk such as SDROA and SDROE. These volatilities strengthen the liquidity buffer and reduce liquidity risk.

Results of this study reveal that more efficient banks tend to operate with a lower risk portfolio. These results underscore the importance of investing in technologies, training, and development programs to boost efficiency and profitability for bank managers. Based on the findings of the three papers, the study's results demonstrate the importance of the banking sector in times of economic change and its role in achieving financial stability, providing guidance for policymakers to explore successful mechanisms for transitioning to a market economy. It also emphasizes the gradual transformation, avoiding intersecting stages and taking into account the specificities of each economy during periods of financial liberalization. The results also demonstrate the importance of restructuring the Iraqi banking sector to facilitate a controlled transition to a market economy.

The banking sector in Iraq faces many challenges, such as financial inclusion, limited use of technology and consumer trust. To improve the efficiency and profitability of Iraqi banks, the results of this study provide several recommendations for policymakers and investors. Enhance capital adequacy: Encourage banks to increase their capital buffer through retained earnings, reduce the cost of capital, and hire low-cost funding agents. This approach can increase deposits from rural and small areas, expand lending opportunities, and ultimately boost returns. As our results also indicate a negative relationship, we encourage banks to increase their capital buffer through retained earnings, reduce the cost of capital, and hire low-cost funding agents. This approach can increase deposits from rural and small areas, expand lending opportunities, and ultimately boost capital and solvency risk. The study suggests that top management should discourage the riskier with more capital by limiting internal risk and avoiding aggressive risk-taking. Privatize Public Banks: Advance the privatization of public banks as a component of financial reform. Transferring ownership from the public to the private sector will stimulate competition, enable banks to independently establish interest rates, and allow lending decisions to be based on market conditions. Advocate for bank mergers: stimulate mergers between commercial banks to diminish the supremacy of state banks and bolster the financial robustness and efficiency of the private banking sector. Enhance Banking Service Quality and Competitiveness: Prioritize the elevation of banking service standards and the promotion of competitiveness among local financial entities. This will enhance efficiency, customer happiness, and overall sector performance.

The present study is limited to Iraqi banking system by considering three variables, capital, risk and efficiency. Future studies can be conducted using panel data from other Middle East countries or regions to explore the nexus of these variables. Moreover, future studies can be enhanced to examine the mediating relationship between risk and efficiency or capital and efficiency by taking any one of them (capital or risk)

as a mediating variable. External factors are not included in this study due to the post-war effect in Iraq, which could also be significant determinants in other regions or countries.

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Development and Validation of the Jealousy Scale

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The main objective of the study was to develop a precise and reliable instrument for measuring the level of jealousy. The study was carried out in the following four stages. In the first phase, the items of the jealousy scale were generated by reviewing existing literature and employing a logical group discussion strategy. In the next phase, these items were sent to the experts of Psychology and theology for qualitative item analysis. In phase III, the items proposed by the experts were applied to the randomized sample of 300 participants as a first try out of the test. All the items showing good internal consistency, were further applied to a sample of 200 individuals in the final Phase of Factor Analysis. The Exploratory Factor Analysis also shows significant factor loading on three components. According to the value of the Confirmatory Factor (CFI), the model has a good fit. The scores obtained from test revealed very good reliability i-e .93(N=500). Each item shows a significant item-total correlation. The jealousy scale is a three-dimensional scale. It has good reliability and can be used within Pakistan. Further studies are suggested for validation of the scale across the globe .

Keywords: jealousy, cognitive jealousy, emotional jealousy, behavioral jealousy.

In general, the term "jealousy" broadly refers to complicated and strong emotional reactions triggered by the threat or worry of losing something or someone significant (Ven,2016). These destructive emotions of jealousy can be experienced when someone feels compromised by the deficiency of something they love, such as kinships, intimate relationships, work accomplishments, possessions, or societal position (Chung & Harris, 2018). The negative characteristics of jealousy can be exhibited through numerous behaviors (Zandbergen & Brown, 2015; Briki, 2019). It is a common emotion that most of people may experience at some point in their lives.

Jealousy is a complex emotion that includes uncertainty, worries, suspicion, and resentment as well as emotional, cognitive, and behavioral responses to the situations that trigger jealousy (Chin et al., 2017; Pfeiffer et al., 1989). According to a study, people's unintentional demonstration of jealousy can be affected by several factors, including personality traits, social and/or environmental factors. As a result, people respond differently to circumstances that provoke jealousy (Cynkier, 2018).

Typically, jealousy involves an amalgamation of emotional, cognitive, and physiological responses. Jealous individuals may encounter a variety of undesirable emotions, including outrage, hatred, misery, dread, and insecurity (Zandbergen & Brown, 2015; Briki, 2019). In terms of cognition, jealousy frequently involves disrupting mental processes, placing an increased emphasis on anticipated threats or betrayals in future. Physical symptoms of jealousy comprise a faster heartbeat, perspiration, tense muscles, and other stress-related reactions. Jealousy may produce horrendous behaviors like resentment, hate, and emotional

manipulation (De Cristofaro et al., 2023). Hence, it is concluded from a study that jealous people are more likely to behave violently toward their partners, such as verbally abusing or physical assaults (Cynkier, 2018).

Theoretical background

In Western literature, the underlying foundation of jealousy can be dated back to 1905, when Freud distinguished between normal and pathological jealousy. According to him, pathological jealousy occurs when there is no real threat to the relationship, but it happens without a trace of a genuine threat. The experiences of jealousy are normal in human existence, which can be developed into pathological jealousy if left untreated (Zheng, 2021). Additionally, It is also associated with Personality Disorders (APA, 1994), depression, anxiety, and paranoid ideation (Widiger & Rojas, 2015; Lerigo, 2020).

Jealousy is one of the most callous and discouraging emotions in any religion. In Islam, almost 1400 years ago, the term jealousy was stated in Quran. According to Muslim scholars, the first ever sin committed in Heaven as well as on earth was because of jealousy. According to a narration in the Quran, when Iblis and the Angels were told to prostrate before Adam in reverence and honor by Allah, Iblis outright rejected because he was jealous of Adam's prestige and position (2:34). It is also reported in Quran that due to malicious action of Satan, Adam and his wife were enticed resulting in expulsion from paradise (7:20; 20:120).

Another narrative tracked down in chapter 5 of Al-Maeeda in Quran, recounts the murder of one son of Adam by another, was because of jealousy (5:27–31). An essential inference drawn from Qabil's (Cain's) murder of his brother Habil (Abel) is that jealousy is a natural byproduct of achievement, which may escalate out of control and result in the worst situation (5:27–31). A person can get diseased with the sickness of jealousy, which might exert control over his entire existence and his senses. A very jealous person is thus irrational and impulsive (Crusius & Mussweiler, 2012).

Another delineation of jealousy is portrayed in chapter 12 of the Holy Quran which concerns the mistreatment of Prophet Yousaf (Joseph) by his stepbrothers (12:9). The Prophet Yusuf and his brothers' narrative makes us mindful of the intimidation of jealousy, how it may blind, how it may seize the kindness in heart, and how it can lead its possessor to experience jealousy and terrible suffering internally (12:8-9). Sometimes the jealous person backstabs the person they are jealous of and spreads rumors and disparaging remark/terms about him (Cohen-Charash, 2009).

Almighty Allah states that we should seek His protection from evils and jealousy in verse five of the second last chapter of the Holy Quran, which is one of the most frightening things that may harm humanity (Quran, 113:5).

The Prophet (PBUH) also warned against jealousy by drawing a comparison it and fire that completely consumes the wood. *“Beware of jealousy, for verily it destroys good deeds the way fire destroys wood.”* (Abu Dawood)

A jealous person experiences more adverse effects than the person they are jealous of. Not only does jealousy ruin one's cognitive functioning, but it also damages one's faith in Allah.

The Messenger of Allah (PBUH) said: *“They are enemies for Allah’s bounties, those who envy people for what Allah has given them of Bounty.”* (at-Tabarane).

Islam promotes fair competition and permits people to strive for excellence and superior performance, without harboring animosity or hatred towards others or desiring their destruction. Sincere believers hold the belief that Almighty Allah is in charge of everything in this world. They surrender themselves to their Lord and strive hard to accomplish their aims and place their faith in Allah. Because of the respect they have for

God's will, they show gratitude if the outcomes are favorable and remain free of animosity and jealousy toward unfavorable events.

Much earlier than contemporary theories, Muslim scholars such as Imam Al-Ghazali considered jealousy as the underlying source of evil thinking for other, manipulating, backstabbing and dishonesty etc. (Al-Ihyah). According to Muslim Scholars, one of the psychological roots of jealousy is the lack of knowledge about Almighty Allah, which influences the individual belief system.

Rationale

It is concluded from the literature review and clinical record data that jealousy is a universal emotion and every individual is susceptible toward jealousy. While reviewing literature, the researcher found that abundance of theoretical work done on jealousy is mainly devoted to romantic jealousy. The current research is a byproduct of a study conducted in an Islamic perspective on jealousy as a contributory factor in the development of Personality Disorders. It is discovered through the literature review that there is no assessment tool that measures jealousy in a cultural or indigenous context. Hence, the researcher wanted to develop an indigenous scale that assess multidimensional aspects of jealousy.

The existing scales such as Multidimensional jealousy scale (Pfeiffer & Wong, 1989), Revised Anticipated Sexual Jealousy Scale (Buunk, 2013), Jealousy in Romantic Relationship Scale (İpek & Turhan, 2023), Spouse Emotional Jealousy Scale (Kizildag & Yildirim, 2017), Anticipated Jealousy Scale (Pollard et al., 2022), Self-Report Jealousy Scale (Bringle, 2013), Jealousy Scale in Athletes (ÇEKİÇ et al., 2023) And other scales mainly addressed the jealousy in romantic or interpersonal relationship or context specific jealousy in western literature. Therefore, an indigenous jealousy instrument was needed in Pakistani context to measure jealousy at an earlier stage so that it can be alleviated timely.

Advantages

This scale of jealousy is significant in Pakistani and Islamic context. The theoretical background of the current study addresses Islamic teaching along with narrative from Quran and also emergence of emotions of jealousy in childhood, among siblings, friends, schools, work place and in cultural context in western perspective, therefore, making it more significant and adequate in Pakistani culture. This developed scale make sure that each items reveal indigenous realities, which assured a good content validity and reliability. This current scale effectively connects religious perspective with contemporary psychology, up surging its significant and acceptability among Muslims clients and research scholars.

As this scale focuses on jealousy in broader term rather than focusing only romantic or interpersonal jealousy, hence increasing its scope and implications in various settings such as counseling, clinics and organizations. Moreover, it can be used in schools, workplace and communities to detect jealousy at earlier stage preventing behavior challenges such as resentment, psychological distress and social conflicts and promote overall psychological wellbeing.

Objective

The main objective of this study was to develop a precise and reliable instrument for measuring jealousy.

Method

The research study was partitioned into a four-phase process. During phase I, a pool of items was generated by reviewing existing literature and employing a logical-group discussion strategy. Subsequently, in phase II the items generated were reviewed and evaluated by specialists in the field. In phase III, the pilot study was carried out on the items that the experts finalized. In the last phase, the scale was administered to a sample of 500 participants for Factor analysis.

Item Generation

In phase I of scale development, items were generated based on information assembled about the variable jealousy from the literature review and group discussion. The theoretical concepts given by Imam Ghazali (Pfeiffer & Wong, 1989) were considered during the construction of the jealousy scale. Primarily, 46 items were theoretically and logically generated. All the items were organized into a Likert-type five-point rating scale. The response option included “strongly disagree (1), disagree (2), neutral (3), agree (4) and strongly agree (5)”.

Expert Review

In Phase II, the items generated in Phase I were sent and reviewed by subject experts of psychology and theology. The 46 items were reviewed based on Construct validity and Clarity of Statements. According to an analysis by Subject experts, 11 items such as item no.1,5,6,7,8,9,22,26,33,38 and 42 were excluded due to intersecting concepts. However, 35 items were retained while minor changes were made in statements.

First tryout

The pilot study was carried out in phase III. The items finalized by the committee experts were then administered to a sample size of 300 participants. The current study's participants were contacted at their educational institution and given a concise description about the objective of the study. The questionnaires were distributed among willing individuals. The participants were told to carefully read each question and answer each one without skipping any. To alleviate the impact of social desirability, the questionnaire and the true objective of the study were kept anonymous. The test constructor was present to elucidate any confusion in completing the instruments. For inclusion in the study, the age range was 18-40 years were considered. Item- total Correlation analysis was tested in which each item showed good and acceptable item-total correlation (Table no.1).

Final tryout

In the last phase, the scale was administered to a sample of 200 participants for the assessment of validity and factor analysis. For Exploratory Factor Analysis, Principal component analysis with varimax rotation was used. The criteria for selecting factor and factor loading were decided as Eigen value < 1 and 0.40 respectively. The Cronbach alpha reliability of a scale's scores was calculated as 0.93, indicating high internal consistency.

Results

The first tryout was conducted on a sample size of 300 participants. The inclusion criteria for age range were 18-40 years. The percentage of female participants (76%) was higher than males (23.4%), whereas 0.4% were participants who preferred not to disclose their gender. The age of 80% participants was under 30 years, whereas most of the participants (90%) belonged to middle socioeconomic status. The percentage for the joint and nuclear family was 40% and 46% respectively, whereas 13% of the participants preferred not to mention their family system. The calculated Cronbach Alpha Reliability for the scores of the scale was 0.92 which is a very good score. It indicates that the instrument is reliable when employed to evaluate the jealousy construct in the specified population. Table no. 1 demonstrates the internal consistency of individual items was above 0.90, hence no item was thought to be deleted in order to increase the reliability scores.

Table 1

Item total score correlation and Cronbach's Alpha, If Item deleted for Jealousy Scale

Items	Corrected Item- total Correlation	Cronbach's Alpha if Item deleted
I get suspicious when my best friend talks to others.	.269	.924
I spy over the things my best friend do.	.513	.921
I sometimes think my best friend is cheating on me.	.531	.920
I don't trust my best friend when we are not together.	.491	.921
I feel my best friend will betray me.	.565	.920
I want my best friend to do what I like.	.494	.921
I constantly check my friend's social media to see what they are doing	.543	.920
especially when they are not talking to me.		
I do not like when my best friend compliments others.	.538	.920
I am more intelligent than my siblings.	.277	.923
I feel my siblings are better than me.	.245	.924
My parents always favorite my siblings.	.540	.920
I feel my elder siblings are studying in expensive institution than me.	.469	.921
I feel my siblings are given more freedom than me.	.519	.921
My family members devote most of the attention to my siblings.	.648	.919
I wish sometime, I was the only child of my parents.	.537	.920
My parents usually criticize me a lot.	.526	.920
My parents consider me inferior.	.643	.919
I feel my parents did not support me when I was a child.	.455	.921
I act good just to get appreciation by my family.	.555	.920
I sometimes unconsciously imitate other.	.509	.921
I do not feel happy when someone achieves success.	.517	.921
Most of the time I judge people negatively.	.522	.921
I feel happy when people face misfortune.	.616	.920
I sometimes wish bad luck for the people I don't like.	.549	.920
I act defensive when someone calls me jealous.	.417	.922
I dislike certain people without any reason.	.379	.922
I like to remind people their flaws and mistakes.	.550	.920
I feel life of the people who are successful is easy.	.381	.922
I feel I am not satisfied with my life style.	.459	.921
I often mimic other's behavior.	.586	.920
I feel people are obsessed with me.	.463	.921
By drowning other's achievements and emphasizing mine makes me happy.	.569	.920
I sometimes give deliberately bad advices to others.	.613	.920
I enjoy spreading false rumors.	.551	.921
I believe i am a practicing Muslim.	.106	.925

The scale was further administered to 200 participants in phase IV of the study, whose ages ranged from 18 to 40. Male participants comprised 23.4% of the sample, while 0.4% of individuals decided not to disclose their gender. The majority of participants (76%) were female. The scores obtained from the scale of jealousy, revealed high internal consistency, as indicated by Cronbach's Alpha of 0.92. SPSS v.25 was used in order to conduct an exploratory Factor Analysis, whereas, Varimax rotation was used for principal component analysis.

Table No. 2 demonstrates the factor loadings for the three components. Jealousy appears to be a three-dimensional construct, as seen by the strong loadings on three components that the EFA results demonstrate. In the analysis, all of the items were retained. Table no. 2 shows the KMO value, which confirmed that the sampling was adequate. Moreover, Bartlett's Test of Sphericity was significant at $p=0.000$ (5984.761**, $p<0.001$). To verify the model's appropriateness, Confirmatory Factor Analysis was also performed in AMOS v. 26 Software. The model revealed an acceptable fit indices such as $\chi^2=1595.7(df=517)$; CFI= .821; NFI= .76; RMSEA= .065. According to the researchers such as Hu & Bentler (1999) and Byrne (2010), the values of RMSEA below .08 and CFI values approaching .90 indicated an acceptable model fit. Thus, the findings support the validity of the scale. (Hu, & Bentler, 1999 ; Byrne, B. M. 2010).

Table 2

Factors Loading for EFA with Varimax Rotations for Jealousy Scale (JS)

Items	Factors		
	Loadings		
	1	2	3
I get suspicious when my best friend talks to others.	.230		
I spy over the things my best friend do.	.597		
I sometimes think my best friend is cheating on me.	.509		
I don't trust my best friend when we are not together.	.590		
I feel my best friend will betray me.	.600		
I want my best friend to do what I like.	.527		
I constantly check my friend's social media to see what they are doing especially when they are not talking to me.	.567		
I do not like when my best friend compliments others.	.605		
I do not feel happy when someone achieves success.	.624		
I feel happy when people face misfortune.	.723		
I sometimes wish bad luck for the people I don't like.	.558		
I like to remind people their flaws and mistakes.	.417		
By drowning other's achievements and emphasizing mine makes me happy.	.605		
I sometimes give deliberately bad advices to others.	.690		
I enjoy spreading false rumors.	.696		
My parents always favor my siblings.		.681	
I feel my elder siblings are studying in expensive institution than me.		.542	
I feel my siblings are given more freedom than me.		.705	
My family members devote most of the attention to my siblings.		.769	
I wish sometime, I was the only child of my parents.		.465	
My parents usually criticize me a lot.		.721	
My parents consider me inferior.		.666	
I feel my parents did not support me when I was a child.		.707	
I feel I am not satisfied with my life style.		.443	
I act good just to get appreciation by my family.			.369
I sometimes unconsciously imitate other.			.429

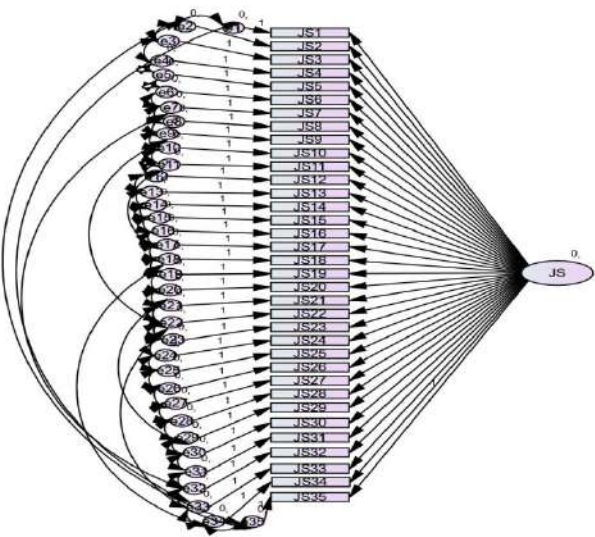
I am more intelligent than my siblings.	.267
Most of the time I judge people negatively.	.399
I feel my siblings are better than me.	.387
I act defensive when someone calls me jealous.	.567
I dislike certain people without any reason.	.505
I feel life of the people who are successful is easy.	.595
I often mimic other’s behavior.	.546
I feel people are obsessed with me.	.422
I believe i am a practicing Muslim.	.466

Eigen Value	10.35	2.264	1.762
% of variance	29.577	6.470	5.035
Kaiser-Meyer-Olkin Measure	.927		

Bartlett’s Test of Sphericity	5984.761**
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Note: N=500. p<0.001. EFA; Exploratory Factor Analysis. JS; Jealousy Scale

Figure 1: Confirmatory Factor Analysis (CFA) Model
X2= 1595.7(df=517); CFI= .821; NFI= .76; RMSEA= .065
CFI: Comparative fit index, NFI: Normed Fit Index, & RMSEA = Root mean square error of approximation



Discussion

The present research paper concludes that Jealousy is a universal phenomenon that exists throughout all stages of personal life. According to Hart and Carrington, (2018), feelings of jealousy were also observed in infants. Hence,the emotion of jealousy can affect anyone. It might appear as sibling jealousy (Boer et al., 1992), friendship jealousy (Kim et al., 2017), academic jealousy (Fazal dad et al., 2020), or professional jealousy at work (Andiappan & Dufour, 2020).

Jealousy stems from the psychosexual phases theory proposed by Freud (1905). A child experiences rivalry and jealousy with their same-sex parent for the love of the opposite-sex parent in the phallic stage of psychosexual development. According to Freud, jealousy may be caused by unresolved conflicts in phallic

stage and may appear as jealousy, competitiveness, possessiveness, or insecurity in childhood or in later life. In psychoanalytic literature, delusional jealousy has also been linked to early mother fixation (Freud, 1905). But according to Islam, jealousy has existed since the beginning of humanity. Therefore, one cannot underestimate the negative consequences of jealousy.

It has been concluded from the literature review that parents have a substantial impact on their children's emotional and psychological development (Grusnick et al., 2020). They could actively inculcate jealousy by openly comparing their child to others. These comparisons might make a child feel inferior and jealous. Parents can also unintentionally foster jealousy in their children by setting high standards and building a surrounding where competition with friends or siblings are promoted. In such circumstances, children could feel compelled to compete for their parents' love, attention, or approval (Boer et al., 1992). Sibling jealousy and competition can occasionally arise when a child feels that one sibling is more important than the others.

Friendship jealousy can occur when a child feels excluded or inferior to their classmates, and this can result in emotional and social issues (Anaya & Pérez-Edgar, 2019; Schofield et al., 2012). Jealousy can have a negative impact on a child's overall functioning and mental health. It may lead to the feelings of depression, low self-esteem, or anxiety. Children may struggle with relationships, emotional well-being, and overall development. Therefore, the implication of current study's is that, counselors and clinicians who work with children having behavioral difficulties should pay more consideration to these characteristics. They should be aware of the possibility that jealousy may be a contributing factor to a child's difficulties and should address it in their therapeutic approach.

The present study was carried out to develop an indigenous jealousy scale. Previous studies examine jealousy in a limited context of relationships that are mainly dedicated to romantic relationships. Even though jealousy is a frequently recurring universal emotion, still research that assessed jealousy from an Islamic perspective is scarce. That is why there was a need to develop a jealousy scale that can assess jealousy in general even among normal people.

While defining jealousy, psychologists often take into account Western beliefs; nonetheless, the term jealousy appeared in the Quran about 1400 years ago. According to Muslim scholars and the Holy Quran, jealousy was the first sin committed in heaven (2:34) and as well as in this world (5:27-31). When Allah SWT created Adam AS, He asked the angels to bow down to Adam AS, but Iblis refused because he was jealous of the honor given to Adam AS. (7:12 Quran). Quran has also acknowledged various incidents jealousy highlighting criminal consequences, such as the Prophet Adam's son Qabil killed his brother Habil for having a more beautiful wife out of jealousy (5:27 Quran). Another story of prophet Yousef AS and his stepbrothers is an open example of jealousy (9:12 Quran). In addition to being a serious sin in Islam, jealousy is also regarded as the most discouraging and negative feeling across the world's religions. It is one of the most prevalent diseases that affects human health psychologically and damages a person's mental tranquility and happiness.

In western literature, the root of jealousy traced back to the psychosexual stages theory put forward by Freud (1905) which argues that during the Oedipal stage of psychosexual development, a young child experiences jealousy and rivalry with their same-sex parent for the affection of the opposite-sex parent. However, Islam holds that jealousy dates back to the beginning of humankind Hence the detrimental consequences of jealousy cannot be underestimated.

To establish the psychometric properties of the scale, Inter-item Correlations, Factor Analysis and Cronbach Alpha Reliability were used. The results of Table No. 2 demonstrate that the jealousy scale has three dimensions, that is Cognitive, Behavioral, and Emotional. Thus the results supported the work of Pfeiffer and Wong (1989). According to the theoretical approach of Pfeiffer and Wong (1989), three

components of jealousy experiences can occur simultaneously. Each component can differentially correlate with other variables for which a unidimensional scale cannot be used. The value of the Inter-item correlation and Cronbach Alpha reliability were highly significant, which shows that the instrument is reliable to be used indigenously (Table 1).

One of the significance of developing this instrument of jealousy is to use this tool to detect and quantify jealousy in order to prevent or alleviate its harmful effects. A person's mental health may also be harmed by jealousy, in addition to causing interpersonal conflicts and emotional pain. Therefore, organizations should take proactive steps to address and regulate this feeling among individuals by measuring and analyzing jealousy levels. Early detection and treatment of jealousy can stop it from developing it into more significant problems or undesirable behaviors. The ultimate goal is to successfully handle jealousy and foster a healthy emotional climate to contribute to general improvements in mental health.

Implications

One of important reasons for developing the jealousy scale was, so that it could be used to measure and identify jealousy in order to prevent or alleviate its harmful effects. Jealousy can also have a negative impact on a person's mental health, generating emotional distress and interpersonal difficulties. Therefore, by monitoring and analyzing jealousy levels, educators and organizations can take proactive measures to address and regulate this feeling among students. By being identified and treated early, jealousy can be prevented from becoming more serious issues like bullying, hostility, or other undesired behaviors. The ultimate objective is to effectively manage jealousy and encourage a positive emotional environment in educational settings, in order to contribute to general improvements in mental health.

In the workplace, jealousy can be detrimental. It could lead to negative behaviors including competition, discrediting coworkers, and weakening teamwork. The professional jealousy among employees can be reduced by using this jealousy instrument by identifying the employees who may be more prone to jealousy. This enables employers to provide support and take proactive measures to reduce jealousy related issues. The absence of jealousy at work usually leads to a more peaceful and cooperative workplace environment. In a positive workplace environment, employees who feel less jealous are more likely to cooperate, support one another, and focus on common goals. The personal development of employees can be improved by addressing and managing jealousy. This preventive approach could improve overall performance within the company, increase job satisfaction, and create a more positive and industrious work environment. Furthermore, it might help people progress in their jobs, which benefits both them and the organization they work for.

Conclusion

In literature review, most of the studies limited jealousy to the realm of romantic relationships while generally ignoring its conceptualization from an Islamic perspective, the current study was conducted to construct an indigenous jealousy scale in order to fill a research gap. Jealousy despite being a universal and recurrent emotion, it received limited attention when it comes to religious teaching, particularly in Islam. The Quran defines jealousy as a first sin, such as Iblis' refusal to bend before Adam (2:34; 7:12), Qabil's murder of Habil (5:27–31), and the animosity of Prophet Yusuf's brothers (12:9) are all examples. These narratives emphasize jealousy, its destructive nature, which is consistent with the general religious agreement that jealousy is an evil and destructive emotion that affects psychological well-being and interpersonal harmony.

In western literature, Jealousy is frequently interpreted by using frameworks like Freud's psychosexual theory, which associates jealousy with the phallic stage. whereas, Islam places jealousy's beginnings before the beginning of human history, highlighting its basic and long-lasting effects.

To construct the psychometric properties of the newly developed scale, validity and reliability analyses were conducted, including Inter-item Correlations, Factor Analysis and Cronbach's Alpha. The three factors were identified in findings of analysis i.e. cognitive, emotional and behavioral were consistent with the

theoretical framework of Pfeiffer and Wong's (1989), viewed jealousy as a multidimensional construct. The scale showed high internal consistency which suggests that it is reliable for use in domestic settings.

The significance of this instrument lies in its potentialities to identify, measure, and treat jealousy, thereby reducing its adverse psychological and social impacts. By facilitating early identification, this jealousy instrument can aid in prevention of maladaptive behaviors and promotion of sound mental health.

The jealousy scale is a multi-dimensional scale with significantly good reliability. It is a highly reliable scale to be used in the Pakistani population that fits into the early- to middle-adulthood group. This instrument will measure the individual's level of jealousy. Ultimately, jealousy instrument provides a valuable means to promote better interpersonal relationships and emotional control in individual, family, and in organizational settings

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Challenges in English Communication Skills of University-Level EFL Learners

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This study aims to investigate the problems and needs related to English communication skills among EFL students and examine teacher perceptions of these skills. The participants in this study were 48 students and five English teachers in one university in Thailand. Data were collected using a questionnaire and a semi-structured interview. The questionnaire was first distributed to the students, followed by interviews with the teachers individually. The jamovi program was employed to analyze the data for mean and standard deviation, while content analysis was used for qualitative data. The findings from the questionnaire revealed that the students experienced the most difficulty with listening, followed by writing, speaking and reading skills, respectively. Regarding student needs, they preferred presentations the most for developing their speaking and listening skills. Moreover, findings from the semi-structured interviews with teachers indicated that students had problems with three skills: speaking, writing, and listening. Therefore, this study offers valuable insights to help teachers better understand the issues that the students currently face and to identify effective teaching strategies that will help students become more proficient in English communication skills. This study implies using technology, such as online platforms to enhance students' communication abilities and promote their learning experiences.

Keywords: English communication skills, EFL students, needs analysis, higher education

English communication skills encompass listening, speaking, reading and writing. These skills are essential for EFL students in the 21st century, especially in Thailand, where increased mobility and business interactions provide more opportunities to interact with foreigners. As Rido (2020) highlights, English communication skills are crucial for work and are in demand by both domestic and international employers. For example, officers may use listening and speaking skills when they communicate with clients on the phone or in meetings. They may also use their writing skills when contacting foreign clients via email and their reading skills when reading business contracts. Therefore, EFL students must prioritize developing these skills to effectively communicate with international clients, colleagues, or employers. Proficient communication skills can also lead to better employment opportunities, supporting students in their professional lives (Thuratham, 2022a).

To use English communication skills effectively in the workplace, however, students must also possess a solid foundation in English grammar and vocabulary. These components are critical for crafting accurate and meaningful messages, which are integral to communicative competence (Thuratham, 2022b). However, university students have still struggled with communication problems, which can hinder their development. Regarding linguistic factors, teachers faced challenges when teaching oral communication

skills, such as lack of vocabulary, poor grammar, and poor pronunciation (Maji et al., 2022; Raqib et al., 2023). Moreover, psychological factors like lack of confidence and low motivation are the primary barriers for effective communication (Purwati et al., 2023; Suwartono et al., 2020). The external factors, such as insufficient supporting tools, limited opportunities for oral practice, and class sizes also affected students' communicative development (Ha & Duc, 2024; Ibna Seraj et al., 2021). Additionally, it was found that students experienced more difficulties with online learning compared to face-to-face learning in the context of communication (Ishtiaq et al., 2024), so these learning modes shall also be evaluated to enhance their proficiency more effectively.

Addressing these challenges requires close attention to both the problems and the specific needs of students in developing English communication skills. Previous research in Thailand has examined the needs and challenges related to English communication skills among organizational staff (Kaewkunha, 2021; Namtapi, 2022; Utaiwan, 2019). However, few studies have focused on EFL students in tertiary education. To maximize support for students' communication skills, it is essential to explore teachers' perspectives; however, research on this aspect remains limited. Therefore, this study aims to investigate the needs and problems faced by EFL students at a public university in Thailand, as well as to examine teacher perceptions of these skills. By understanding these issues, the study seeks to identify effective teaching activities and methods to prepare students for and equip them with the necessary skills to succeed in international professional environments.

Research Questions

The objectives of this study are to investigate the problems and needs related to English communication skills among EFL university students and examine teacher perceptions of these skills. Accordingly, three research questions are outlined below.

1. What are the problems associated with English communication skills of EFL students?
2. What are the needs related to English communication skills among EFL students?
3. What are teachers' perceptions of EFL students' English communication skills?

Literature Review

English is widely recognized as a key medium for communication in diverse contexts, including business and education (Pratumchat, 2020). It enables individuals to interact with people from different linguistic and cultural backgrounds, often serving as a working language to achieve various professional and educational goals. For example, professionals in international companies rely on English to communicate with clients and colleagues, both verbally and in writing. However, successful communication requires not only linguistic competence but also the ability to engage meaningfully in interpersonal interactions (Thuratham, 2022a). Proficient English communication skills, therefore, involve mastering listening, speaking, reading, and writing to facilitate the exchange of ideas, knowledge, and collaboration in diverse settings, such as international conferences and workshops (Dunakhir & Osman, 2023). These skills are often considered essential soft skills highly valued by employers. Consequently, graduates with strong English communication skills are more likely to secure employment and command higher salaries in competitive job markets.

Despite its importance, English proficiency among Thai students remains a significant challenge. Particularly, they face considerable difficulties with English communication skills, especially listening and speaking (Bamroongkit & Aowsakorn, 2022; Cherdchoopong, 2020). When listening, students find it difficult to understand English due to lack of vocabulary knowledge and the speed of the speakers which had significant effects on students' listening comprehension (Bamroongkit & Aowsakorn, 2022). Important challenges in speaking include a lack of confidence, a fear of making mistakes, anxiety (Cherdchoopong, 2020; Suwartono et al., 2020) and low motivation in learning to speak English (Purwati et al., 2023). In writing, students struggled to use vocabulary, grammar, and structure. She also had difficulties in idea development and organization in paragraph writing (Pitukwong & Saraiwang, 2024; Prapobratanakul, 2024). Moreover, it was found that Thai students had problems with reading in deficiency vocabulary and

linguistic understanding (Thongsook, 2023) as well as text difficulty and time constraints (Boonmoh & Tuaynak, 2023), which affected their reading comprehension.

Considering these challenges, it is essential to address the needs of university students on English communication skills to bridge the gap between their current abilities and workplace requirements. Previous studies have mostly concentrated on the needs and challenges related to English communication skills among staff in the workplace (Kaewkunha, 2021; Namtapi, 2022; Utaiwan, 2019). A study led by Kaewkunha (2021) found that Thai employees, particularly in service industries, require proficiency in all communication skills but often struggle the most with speaking and writing. Similarly, staff working directly in international relations have identified listening and writing as the most challenging skills, and they needed to improve their listening skills the most (Utaiwan, 2019). For tourism personnel, they expressed difficulties in listening and speaking and were required to improve these skills (Namtapi, 2022). Therefore, this study aims to analyze the problems and needs associated with English communication skills among EFL university students. If educators gain a deeper understanding of the needs and challenges faced by students, they will be better equipped to identify suitable teaching methods and tools that effectively support students in English language learning and further enhance their communication skills.

Method

Research Design

This study used a survey research design to analyze the problems and needs related to English communication skills among university students at a public university in Thailand. This method focuses on collecting quantitative data by administering surveys to a sample or the entire population, with the aim of examining and describing their attitudes, opinions, behaviors, or characteristics (Khotimah, 2019, as cited in Vinte et al., 2023). Additionally, teachers' perceptions of the students' English communication skills were explored.

Participants

The participants in this study were classified into two groups based on the research instruments. The first group consisted of 48 university students majoring in English for International Communication at a public university in eastern Thailand. These participants were purposively selected based on the following criteria: (1) aged 18 years or older for undergraduates, (2) majoring in English for International Communication, and (3) having completed a questionnaire. The second group consisted of five English teachers from the same department. They were asked to provide their attitudes regarding English communication skills through a semi-structure interview. The teachers who willingly volunteered were selected to participate in the interview. This study was approved by the Research Ethics Review Committee for Research Involving Human Research Subjects of Rajamangala University of Technology Tawan-ok, Thailand on 28th June 2023 (COA No. 023, RMUTTO REC No. 025/2023). The participants signed the consent form before participating in the research study, and their data were kept confidential.

Instruments

Questionnaire

The questionnaire used in this study aimed to identify the problems with and needs regarding English communication skills among students majoring in English for International Communication. This questionnaire was adapted from Thuratham (2022a). It was the e-questionnaire which was chosen due to its numerous advantages, such as enhanced accessibility to participants and their perspectives, increased efficiency in data collection, and reduced expenses (Pitura, 2023). It consisted of both closed- and open-ended questions and was divided into four crucial parts. The closed-ended questions include: (1) general information, (2) problems with English communication skills, and (3) needs for learning English communication skills. The open-ended questions addressed three issues related to students' opinions on English communication skills, including: (1) the practical methods they usually use to practice their English communication skills, and (2) the topics they are interested in learning English to improve their English communication skills. Students were requested to complete the questionnaire within 15 minutes.

Semi-structured interview

In this study, a semi-structured interview was selected to examine English teachers' perceptions of students' English communication skills. This type of interview is particularly effective for qualitative research as it allows researchers to obtain in-depth data from interviewees and is flexible and adaptable for researchers to ask follow-up questions (Ruslin et al., 2022). The interviews were conducted after the students' questionnaire data had been collected. The teachers were interviewed individually. The interview consisted of four open-ended questions covering: (1) students' current English proficiency, (2) students' most problematic skill, (3) teaching activities/tools used by teachers, (4) the best way to improve students' skills. Each interview with the English teachers lasted approximately 20 minutes. The interviews were conducted in Thai and English to ensure clarity of the data collected. The responses were then collected, analyzed, and summarized.

Additionally, the questionnaire and interview were also evaluated through the IOC process to assess the content validity and appropriateness of the two instruments used in the research study. During this process, the instruments were reviewed and commented on by three experts from the English departments of three different universities to ensure reliability. Based on their feedback, the instruments were then revised accordingly.

Data Collection

The data for this study were collected using two research instruments: a questionnaire and semi-structured interviews. The questionnaire was administered online via Google Forms to 48 students majoring in English for International Communication at a public university in eastern Thailand. The students were given 20 minutes to complete the questionnaire, which aimed to assess their attitudes toward the problems and needs related to learning English communication skills. Subsequently, five teachers from the same English department as the students were interviewed to gain their perspectives and obtain more detailed information about the students' English communication skills and other related aspects. Each teacher interview lasted approximately 20-30 minutes. During the interviews, the researcher asked questions and took notes while also recording the responses using a mobile phone to ensure no key points were missed. The data collected through notes and recordings were compiled and transcribed. For data originally collected in Thai, translations into English were conducted to ensure consistency in the analysis. The data were then grouped according to content and analyzed to generate comprehensive results.

Data Analysis

In this study, the jamovi computer program (version 2.3) was utilized to analyze the data from the questionnaire for descriptive statistics, including mean and standard deviation (The jamovi project, 2022). For closed-ended questions, students' degrees of agreement on their needs and problems regarding English communication skills were interpreted using a 6-point Likert scale ranging from 6 to 1: strongly agree (6), agree (5), slightly agree (4), slightly disagree (3), disagree (2), and strongly disagree (1). Scores were interpreted as very positive(5.17-6), positive(4.33-5.16), slightly positive(3.49-4.32), slightly negative(2.67-3.50), negative(1.83-2.66), and very negative(1.00-1.82), respectively(Vate-U-Lan & Masouras, 2018). Meanwhile, the data from open-ended questions were qualitatively analyzed using structural coding analysis. The coded data were kept in Microsoft excel which facilitated the extraction of meaningful insights from the raw information. This involved coding and organizing similar data into groups based on common themes (Yuvayapan, 2019). Regarding the semi-structured interview, qualitative data were analyzed using content analysis. This method involved transcribing the data and coding it into themes (Thongsongsee, 2022; Thuratham, 2022a). After that, the data were summarized and presented descriptively to reflect the teachers' perceptions of students' English communication skills.

Results and Discussion

Problems in English Communication Skills

The present study employed a 6-point Likert scale to explore student attitudes toward their problems in English communication skills. The results were categorized into four skills, as outlined in Table 1 below.

Table 1

The student attitudes towards their problems in English communication skills

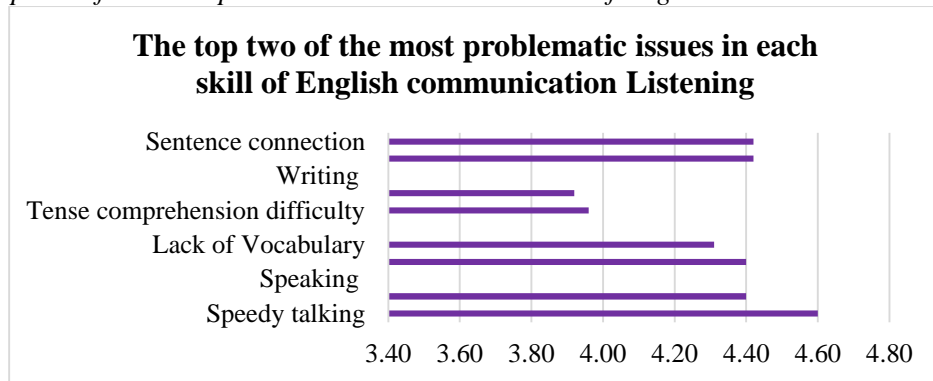
No.	Statements	\bar{X}	SD	Interpretation
Listening				
1	It's challenging for me to comprehend communication because I lack a wide vocabulary.	4.17	1.26	Slightly Agree
2	Understanding communication is difficult due to my limited knowledge of English grammatical structures.	4.13	1.12	Slightly Agree
3	I struggle to grasp communication due to its length.	4.40	1.09	Agree
4	Understanding communication is hindered by speakers' English accents.	4.29	1.35	Slightly Agree
5	The pace of speakers' speech makes it difficult for me to understand communication.	4.60	1.20	Agree
6	Unclear pronunciation by speakers makes it difficult for me to understand communication.	4.38	1.20	Agree
Speaking				
1	Expressing myself in English is challenging due to my limited vocabulary.	4.31	1.26	Slightly Agree
2	Constructing grammatically correct English sentences poses a challenge for me.	4.40	1.27	Agree
3	Speaking English accurately is difficult because I struggle with pronunciation.	3.96	1.30	Slightly Agree
4	Fear of making mistakes hinders my ability to speak English confidently.	4.29	1.52	Slightly Agree
5	I lack confidence in speaking English due to my strong Thai accent.	4.00	1.43	Slightly Agree
6	Insufficient practice speaking English hinders my fluency.	4.25	1.33	Slightly Agree
Reading				
1	Understanding texts is challenging because of my limited vocabulary.	3.92	1.33	Slightly Agree
2	Properly comprehending texts is difficult due to my lack of grammatical knowledge regarding English tenses.	3.96	1.27	Slightly Agree
3	Pronunciation difficulties make it challenging for me to read texts accurately.	3.63	1.39	Slightly Agree
4	Fear of making mistakes hinders my ability to read English texts.	3.54	1.41	Slightly Agree
5	Lack of knowledge on stress placement in sentences makes it difficult for me to read English confidently.	3.63	1.31	Slightly Agree
6	Insufficient practice in reading English texts hinders my fluency.	3.83	1.36	Slightly Agree
Writing				
1	Writing English sentences correctly is difficult because I am unsure of word spelling.	4.08	1.29	Slightly Agree
2	Meaningful sentence construction in English is challenging due to my limited vocabulary.	4.21	1.24	Slightly Agree
3	Accuracy in writing English sentences is hindered by my lack of grammatical knowledge in sentence structures.	4.40	1.12	Agree
4	Correct use of English tenses poses difficulties for me in writing sentences.	4.42	1.13	Agree
5	Connecting sentences cohesively is challenging for me.	4.42	1.11	Agree
6	Lack of confidence in using punctuation correctly	4.35	1.16	Agree

No.	Statements	\bar{X}	SD	Interpretation
	hinders my ability to write English sentences confidently.			

The results from Table 1 indicate that students expressed two levels of agreement regarding problems in English communication skills: 'agree' and 'slightly agree'. To give a clear overview of their problems, the top two of the most problematic issues in each skill were presented as follow.

Figure 1

The top two of the most problematic issues in each skill of English communication



According to the student attitudes towards their problems in English communication skills, it can be summarized that students encountered the most difficulties with listening, particularly with understanding fast speakers. This finding aligns with several studies that have identified the speaking speed of speakers as a significant factor influencing students' listening comprehension problems (Rungsinanont, 2023; Adi et al., 2022; Hardiyanto et al., 2021). Writing ranked second, as students indicated they struggled with grammatical knowledge in English tenses and connecting sentences. They lacked confidence in their writing, particularly in applying English tenses in appropriate contexts, due to a lack of practice and repetition (Listia & Febriyanti, 2020). Students also acknowledged difficulties in speaking, especially in using grammar correctly. Danti et al., (2023) found similar issues, attributing them to deficiencies in vocabulary, comprehension, writing-focused instruction, and practice. Additionally, students considered reading to be the least problematic skill. However, students still expressed difficulties due to their lack of grammatical knowledge, particularly with English tenses. Understanding tenses is crucial for comprehending texts and improving proficiency with functional language (Mustangin & Mulyah, 2023). Overall, since students struggled the most with listening due to the speed of spoken English, educators could implement task-based listening activities, such as note-taking and gap-filling, to enhance active listening skills. Regarding writing and speaking, it is evident that students faced difficulties with grammar.

Consequently, educators could employ strategies such as explicit grammar instruction and grammar-focused activities to support their learning. These activities should explicitly target grammatical issues, such as tenses, providing students with opportunities to review their own errors, identify patterns of difficulty, and address them effectively. Although reading was the least problematic skill, students still encountered challenges related to grammar. To address this, educators could teach grammar rules through authentic reading materials, allowing students to observe how English tenses are applied in context. Thus, an integrated teaching approach would be beneficial in reinforcing students' grammatical competence across all language domains while incorporating active, student-centered learning methods.

Needs in English Communication Skills

Students were provided with a questionnaire covering the four English communication skills to ascertain their needs in this domain. The students rated their agreement with all statements on the questionnaire, and these ratings were interpreted as displayed in Table 2 below.

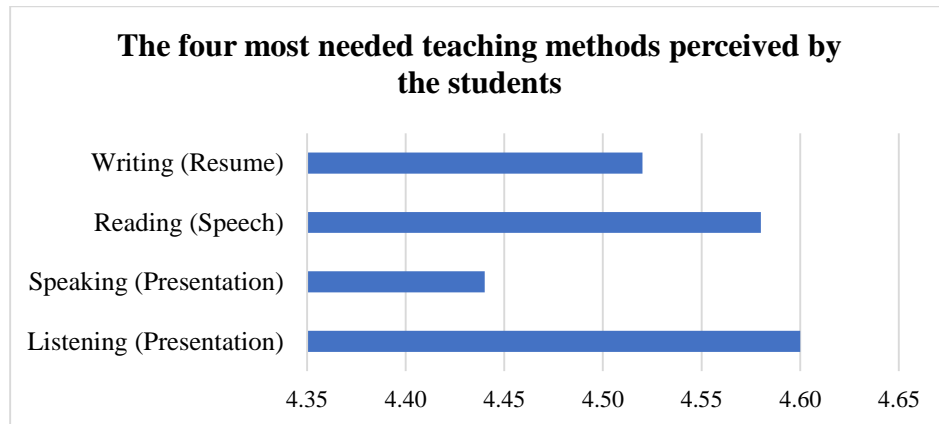
Table 2*The student attitudes towards their needs in English communication skills*

No.	Statements	\bar{X}	SD	Interpretation
<i>Listening</i>				
1	Listening activities on 'talking about your job.'	4.50	1.01	Agree
2	Listening activities on 'exchanging contact details.'	4.38	1.14	Agree
3	Listening activities on 'describing products.'	4.42	1.07	Agree
4	Listening activities on 'describing a workplace.'	4.25	1.06	Slightly Agree
5	Listening activities on 'talking on the phone'.	4.46	1.03	Agree
6	Listening activities on 'giving a presentation.'	4.60	1.05	Agree
7	Listening activities on 'making appointments.'	4.46	0.99	Agree
8	Listening activities on 'giving advice and suggestions.'	4.42	1.07	Agree
<i>Speaking</i>				
1	Speaking activities on 'talking about your job.'	4.31	1.06	Slightly Agree
2	Speaking activities on 'exchanging contact details.'	4.23	1.06	Slightly Agree
3	Speaking activities on 'describing products.'	4.29	1.17	Slightly Agree
4	Speaking activities on 'describing a workplace.'	4.02	1.04	Slightly Agree
5	Speaking activities on 'talking on the phone'.	4.23	1.15	Slightly Agree
6	Speaking activities on 'giving a presentation.'	4.44	1.13	Agree
7	Speaking activities on 'making appointments.'	4.19	1.14	Slightly Agree
8	Speaking activities on 'giving advice and suggestions.'	4.23	1.15	Slightly Agree
<i>Reading</i>				
1	Reading activities on 'resume.'	4.44	1.09	Agree
2	Reading activities on 'emails.'	4.48	1.01	Agree
3	Reading activities on 'reports.'	4.44	1.03	Agree
4	Reading activities on 'business profile.'	4.31	1.15	Slightly Agree
5	Reading activities on 'cover letters.'	4.35	1.10	Agree
6	Reading activities on 'speech.'	4.58	1.05	Agree
7	Reading activities on 'agreements.'	4.44	1.03	Agree
8	Reading activities on 'advertisements.'	4.52	1.17	Agree
<i>Writing</i>				
1	Writing activities on 'resume.'	4.52	1.13	Agree
2	Writing activities on 'emails.'	4.38	1.10	Agree
3	Writing activities on 'reports.'	4.31	1.09	Slightly Agree
4	Writing activities on 'business profile.'	4.27	1.22	Slightly Agree
5	Writing activities on 'cover letters.'	4.25	1.18	Slightly Agree
6	Writing activities on 'speech.'	4.38	1.12	Agree
7	Writing activities on 'agreements.'	4.23	1.15	Slightly Agree
8	Writing activities on 'advertisements.'	4.31	1.09	Slightly Agree

The results from Table 2 demonstrate that the students 'agree' and 'slight agree' with statements regarding needs in English communication skills. For clearer insights into the results, the four most needed teaching materials perceived by the students can be illustrated in Figure 2 below.

Figure 2

The four most needed teaching methods perceived by the students



Based on the findings, the students expressed a need to engage in various activities to enhance their English communication skills. Notably, the students showed a strong willingness to participate in ‘giving presentation’ activities for both speaking and listening practice. This aligns with Al-khresheh (2024), who found that EFL students improved their speaking skills after participating in presentation activities, demonstrated by better pronunciation, increased grammatical accuracy, improved fluency and enhanced self-confidence. Similarly, a study by Yuliani (2023) revealed that poster presentations significantly improved students’ listening abilities. Therefore, presentation-based activities could be effective teaching tools in EFL classrooms. Additionally, the students expressed interest in using speeches to practice reading. A study by Amin (2022) found that free text-to-speech applications facilitate oral repeated reading (RR) and listening while reading (LWR) activities, leading to improved reading fluency and comprehension. For writing, the students requested the use of resumes in classroom activities. Lina (2022) supported this approach, finding that using Google Docs to write job application letters and resumes helped students improve spelling, punctuation, and grammar.

To gain deeper insights into English communication skills, the students were asked to answer the open-ended questions in the questionnaire. The results were divided into two main points and summarized in Table 3 below.

Table 3

Student attitudes towards their performance in English communication skills

No.	Aspects	Results
1	Practical methods that students usually use to practice their English communication skills	<ul style="list-style-type: none"> Listening to music, podcasts Talking with foreigners Reading articles, books, stories and lyrics Writing emails Watching encyclopedias, cartoons, movies and series Learning online via social media platforms such as YouTube and TikTok Memorizing words Playing games
2	Topics that students are interested in learning English to improve their English communication skills	<ul style="list-style-type: none"> Business English in everyday life Job application Presentation Personal life (family, friends, and love) Professional English Sentence structures Tenses Travelling

Table 3 shows that students used various methods to practice their English communication skills, including listening, speaking, reading, and writing. In other words, when students wanted to practice listening skills, they usually listened to music and podcasts. They added that they gained a lot of vocabulary they hadn’t heard before. In the case of speaking, they preferred talking with foreigners as often as they could. The students expressed that the foreigners also taught them how to pronounce English words correctly. As for reading, the students explained that they usually read articles, books, stories, and lyrics that they were interested in to practice their skills. Additionally, the students mentioned that they practiced their writing skills by using emails. They also watched encyclopedias, cartoons, movies, and series with English subtitles to practice their communication skills. They have learned English and practiced their skills through social media platforms, such as YouTube and TikTok, as well as by playing games. With these methods, the students could increase their vocabulary and try to memorize new words.

Regarding student interests in learning English, the students expressed that they would like to learn English on various topics about business, English in everyday life, job applications, tenses, sentence structures, presentations, personal life, professional English, and travelling. The students particularly emphasized the importance of using English in the workplace to support their future careers.

Teacher Perceptions towards EFL Students’ English communication skills

Five teachers were interviewed to assess the students’ performance in English communication skills. The results from the semi-structured interviews were collected and summarized overall below.

Table 4
Teacher perceptions of EFL students’ English communication skills

No.	Aspects	Results
1	Current English proficiency of EFL students	Low to high levels
2	Most problematic skills in English communication	Speaking, writing, and listening
3	Methods to facilitate improvement in problematic skills	<p>Speaking:</p> <ul style="list-style-type: none">▪ Group discussion▪ Role-plays▪ Pronunciation drills▪ Interactive activities▪ Supportive & encouraging classroom environment▪ Giving advice▪ Giving responses in English <p>Writing:</p> <ul style="list-style-type: none">▪ Review of grammar basics and sentence construction▪ Practice writing skills▪ Feedback and comments from teachers <p>Listening:</p> <ul style="list-style-type: none">▪ Listening practice with audio scripts▪ Reflecting on students’ understanding
4	Best ways to improve EFL students’ English communication skills	<ul style="list-style-type: none">▪ Consistent practice▪ Exposure to the language in various contexts▪ Receiving personalized feedback▪ Encouraging students to engage in regular English conversations▪ Intensive skill practice▪ Using authentic materials▪ Changing students’ mindsets▪ Encouraging students to respond in English.

From above table, the results show that the English teachers observed a wide range of proficiency levels among EFL students, from low to high. While some students excelled in certain skills, such as speaking, others struggled with basics like grammar, vocabulary and pronunciation. This observation is

supported by the study of Jaya, Petrus and Pitaloka (2022), which revealed that the university students had speaking problems related to fluency, grammar, vocabulary and pronunciation. Moreover, the teachers identified speaking, writing, and listening as the most problematic skills. Many students lacked confidence in speaking due to a fear of making mistakes, similar to Yuh and Kaewurai's (2021) findings on Thai students. They struggled with pronunciation, fluency, and word choice, often feeling shy or hesitant. In writing, difficulties stemmed from issues with English tenses, grammar, and insufficient vocabulary. Listia and Febriyanti (2020) highlighted that English tenses affected both speaking and writing performance. Chuenchaichon (2022) further noted that students struggled with grammar and vocabulary in writing tasks. Listening comprehension also varied by proficiency level. Students struggled with fast speed, unfamiliar words, and different accents (Adi et al., 2022; Hardiyanto et al., 2021). Additionally, teachers encouraged students to practice logical thinking after listening. However, reliance on technology was seen as a barrier to developing critical thinking when students were asked to reflect on their comprehension.

However, the teachers used various teaching methods to help students improve their problematic skills. For speaking, they implemented activities such as group discussions, role-plays, pronunciation drills, and interactive exercises. These methods have been widely recommended for enhancing speaking skills (Hanh & Duc, 2022; Henisah et al., 2023). Teachers also created a supportive and encouraging classroom environment to boost students' confidence and provided advice to ensure they felt supported. Additionally, students were encouraged to respond to teachers in English. If mistakes were made, corrections were provided at the end of the class to aid understanding, as oral corrective feedback has been shown to effectively improve speaking skills (AbdAlgame, 2023; Gamlo, 2019). In writing, teachers focused on grammar basics and sentence construction. Students were given opportunities to practice, and feedback played a key role in their improvement, as supported by Hopper and Bowen (2023), who found that the teacher feedback positively influenced students' writing performance. For listening, teachers considered relevant topics and assigned listening practice with audio scripts, followed by reflections on understanding. With the constant development of technology, teaching tools such as audio files and podcasts have become valuable resources for practicing and developing listening comprehension (Abebe et al., 2022; Ayatfard, 2022).

In the teachers' opinions, the best way to improve EFL students' English communication skills varied. They emphasized the importance of consistent practice, exposure to the language in various contexts, and receiving personalized feedback. They also suggested encouraging students to engage in regular English conversations, both in and outside the classroom. This would greatly contribute to the development of fluency and confidence. Frequent practice of English communication skills was seen as crucial for helping students become more proficient and confident speakers, as supported by the study of Tipmontree and Tasanameelaep (2020). The use of authentic materials in teaching was considered the best way to enhance English proficiency. Using real objects to connect English words with meanings, contexts, and situations helps reinforce the students' skills continuously. This approach aligns with the findings of Treve (2023), which revealed that authentic materials could improve overall language proficiency, including vocabulary development, listening, reading comprehension, and writing abilities. Additionally, teachers believed students' mindset about "not having good English communication after years of study" should be changed. Instead, students should be encouraged to respond to teachers in English to improve their communication skills. For hesitant students, teachers could ask questions in English and provide Thai explanations for clarity. It is the duty of educators to employ various methods and approaches to motivate and involve students in language learning and development (Morales & Vaca-Cárdenas, 2023).

Limitations

The findings of this study provide valuable insights into students' difficulties and needs in English communication skills, as well as teachers' perspectives on students' proficiency. However, some limitations should be acknowledged. First, the study relies on self-reported data, which may be influenced by students' perceptions rather than objective assessments of their actual proficiency or learning needs. Second, the study relies solely on teachers' perceptions, which may introduce bias. While teachers offer valuable insights based on classroom observations and assessments, their perspectives may not fully capture students' actual experiences, challenges, or progress.

Conclusion

The present study examined the problems and needs related to English communication skills among EFL students and explored teachers' perceptions of their abilities. Comparing these skills, the results showed that students faced the most difficulties with listening, followed by writing, speaking, and reading. Specifically, students struggled to understand fast-speaking English speakers. During writing activities, students lacked confidence due to grammar weaknesses, especially with English tenses. This also made it harder for them to connect sentences cohesively. While some students exhibited good speaking abilities, many struggled with applying grammar correctly in speech, possibly due to a lack of confidence and fear of making mistakes. Grammar issues with tenses also affected their reading comprehension, though reading was the least problematic skill.

Regarding students' needs in English communication skills, the study found that students required various activities to strengthen their abilities, such as presentations for speaking and listening, speeches for reading, and resumes for writing. Using teaching materials that match students' interests should be considered to support their language learning effectively. This study also found that students became autonomous learners by practicing outside the classroom. For example, they listened to English songs, conversed with foreigners, read books, and wrote emails. These habits helped them improve their communication skills naturally. Social media also played a significant role in their learning as it provided easy access to useful information that benefited their language development.

According to teachers' perceptions of students' English communication skills, the study found that EFL students' English proficiency levels varied from low to high. However, teachers identified speaking as the most problematic skill, followed by writing and listening. Speaking problems were mostly attributed to lack of confidence, shyness, fear of making mistakes, incorrect pronunciation, and unfamiliar vocabulary. In writing, students still struggled with grammatical knowledge of tenses, making it difficult for them to construct meaningful sentences. For listening, students experienced comprehension issues, such as the speed of speakers, unfamiliar vocabulary, and various accents. These findings were consistent with students' opinions about listening problems. To address these issues, teachers emphasized the importance of creating a supportive classroom environment and using authentic materials for enhancing students' language learning and development. They recommended strategies such as regular conversation practice, personalized feedback, encouragement, and the integration of authentic materials into teaching. However, since the findings on needs, challenges, and other aspects of English communication skills were based on a survey of a limited group of students and teachers, further studies should explore additional teaching methods or interventions to address the identified problem areas, such as the use of technology to enhance English communication skills. Strengthening these skills is essential for students' future careers, as effective communication in English can expand their professional opportunities, improve workplace interactions, and increase their competitiveness in the global job market.

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Exploring Saudi EFL Students' Perceptions of Code-Switching as a Communicative Technique in EFL Classes

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The aims of this study are to investigate how Saudi EFL students feel about code-switching as a way to communicate in EFL classes and whether gender and GPA have any effects on the use of code-switching strategies. A sample of 173 Saudi male and female EFL students from two universities in Saudi Arabia participated in the study. Data was collected through a questionnaire consisting of 18 statements across six subscales, rated on a 4-point Likert scale. The findings revealed that most participants had positive perceptions of code-switching as a communicative technique, which they believed was effective in improving their comprehension, expression of ideas, and grades in exams. The results indicated that it should be used more frequently in EFL classes to promote communication and enhance learning. It was also revealed that there was no difference between male and female participants using code-switching strategies and no association between gender and GPA. This study provides valuable insights into the perceptions of Saudi EFL students towards code-switching and has implications for language teaching practices in Saudi Arabia.

Keywords: code-switching, EFL Saudi students, communicative techniques, EFL classes.

The Gulf countries are filled with multinational work environments where numerous nationalities work in various professions and fields. Apart from Arabic, English is commonly used for communication and business purposes. Arab bilinguals in these countries often switch between their native language and English. In Saudi Arabia, too, the integration process affects all aspects of life, including English language development, especially in EFL classrooms. To keep pace with the Kingdom's development in every industry and remain competitive in the global market, all Saudi tertiary academic institutes have been mandated to teach English. The focus is on the continuous use of English in communication and interactions to make students proficient in English. However, despite being encouraged to use English for instruction and communication, students may not fully express their thoughts and feelings in the language. Code-switching, which involves using two different languages in the same conversation, can help with this (Diko, 2024).

Code-switching (henceforth CS) is particularly common among bilinguals (Hsiao, 2024) and may have an impact on EFL students' linguistic development. This may aid students in better understanding the subject matter. Additionally, CS can help foster a sense of pride in their first language and culture, which can positively influence their self-esteem and motivation to learn. For students with low English proficiency, teachers can save time and help them gain a deeper understanding of the target language by CS it into their native language. However, the use of students' mother tongues for learning a foreign language has been debated over the years (El Boubekri, 2024; Orfan, 2023). This process may lead to interference between languages, making it difficult for learners to acquire each language properly. Additionally, CS can lead to incomplete mastery of both languages, as learners may not be able to access each language's features when switching between them (Alzabidi & Al-Ahdal, 2022).

Despite its criticism, there is growing interest in how CS functions as a communicative strategy in EFL classes (Fathimah, 2016; Temesgen & Hailu, 2022). Many studies have focused on teachers' opinions about using the first language in the classroom or its frequency in interactions (Gulzar & Al Asmari, 2014; Magid & Mugaddam, 2013; Zainil & Arsyad, 2021). In addition, a few studies have investigated EFL students' perceptions of CS in English teaching at universities in Saudi Arabia across gender and GPA. For example, Nasim et al., (2022) and Nasim (2022) reported (Saudi) Arab male and female students using mental translation strategies while listening to English text. Given the current massive development in the country, particularly in English teaching and learning, it is crucial for institutions to develop research-driven policies on the use of L1 in EFL classes (Catabay, 2016; Coelho & Steinhagen, 2022; Orfan, 2023) whereby educators could adjust their L1 use strategies to enhance students' learning. The study contributes to the literature on the use of L1 in EFL classes in Saudi Arabia. This study addresses the following research questions:

RQ1. What are the most and least commonly used code-switching sub-scales among Saudi male and female EFL students?

RQ2. How do perceptions of code-switching sub-scales differ between Saudi female and male EFL students?

RQ3. What are the most and least frequently used code-switching sub-scales according to GPA among Saudi EFL students?

RQ4. How do Saudi EFL students' perceptions of code-switching sub-scales differ across GPA levels?

RQ5. Does gender influence Saudi EFL students' perceptions of code-switching as a communicative technique in EFL classes?

RQ6. Does GPA level influence Saudi EFL students' perceptions of code-switching as a communicative technique in EFL classes?

Hypotheses

1. H0: There is no significant difference between Saudi female and male EFL students' perceptions of code-switching sub-scales.

Ha: There is a significant difference between Saudi female and male EFL students' perceptions of code-switching sub-scales.

2. H0: There is no significant difference between Saudi EFL students' perceptions of code-switching sub-scales across GPA.

Ha: There is a significant difference between Saudi EFL students' perceptions of code-switching sub-scales across GPA.

3. H0: There is no association between Saudi EFL students' gender and their perceptions of code-switching as a communicative technique in EFL classes.

Ha: There is an association between Saudi EFL students' gender and their perceptions of code-switching as a communicative technique in EFL classes.

4. H0: There is no association between Saudi EFL students' GPA and their perceptions of code-switching as a communicative technique in EFL classes.

Ha: There is an association between Saudi EFL students' GPA and their perceptions of code-switching as a communicative technique in EFL classes.

Significance of the study

This study explores CS between English and Arabic in Saudi EFL classrooms. It aims to contribute to the knowledge base of EFL teaching, namely, how CS is used when teaching English in Saudi universities. In particular, the study aims to clarify students' opinions about situations where CS occurs during English language instruction, how it benefits student learning, and why it occurs. As students' perspectives are equally significant for the future, the study examines their perspectives across gender and GPA, which are seldom explored in research. EFL teachers should be aware of the advantages of CS for language learning students. The timing of this study is critical since multiple language teaching in English is a topic of ongoing debate among researchers.

Literature Review

First languages (L1) can be used in English language classes in a variety of ways. In other words, people who speak more than one language switch codes divergently and discretely according to their communicative competence. In this view, switching codes is not indicative of a language deficit among its users, whether it is intentional or unintentional. In a class, a language or dialect shift or a style shift may occur for a variety of reasons, such as pedagogical and communicative purposes. Hall and Cook's (2012) literature review highlights a steady trend since the 1990s to reconsider the use of L1 in language education. They argue that L1 is a realistic choice and valuable in classroom settings. The review suggests a bilingual approach to teaching L2 in classrooms, stating that its use is only a beginning (Shin et al., 2019).

A bilingual instructor may alternate between languages to elaborate on a particular point. The meaning of complex elements in a foreign language is made clear by CS. In order to help students understand difficult lexical elements in English, the teacher can translate them into their native language. Similarly, An and Macaro (2022), after observing 30 classes, completing 231 surveys, and interviewing 60 students and teachers, discovered that students preferred a classroom that allowed them to utilize their own language to understand complicated scientific subjects. However, CS should gradually be reduced as the learner becomes more proficient (Outemzabet & Sarnou, 2023).

Students' emotions may also be affected by CS at a foundational level. It may be crucial for capturing their interest. Learners can feel more at ease and confident in their language skills with effective CS. This may lead to enhanced classroom confidence and a feeling of belonging. When expressing feelings or showing solidarity with a social group, speakers code-switch. They switch linguistically to persuade the audience (Mekheimer, 2023; Rihane, 2013). Nevertheless, overloading or inconsistent CS may confuse students. They may also experience tension and anxiety due to code-switching. They may fear being assessed or viewed as having less proficiency in their main language. According to Al Tale' and Alqahtani (2022), students in EFL courses preferred CS over target language-only instruction, and CS provided psychological support to EFL beginners. Williams et al. (2020) confirmed this effect of CS on facial emotional expression in a group of 68 Chinese-American children and parents, with a focus on the dynamic nature of these associations.

Using one's mother tongue is a crucial aspect of foreign language acquisition in EFL settings. Glušac et al. (2023) found that both university students and their ESP teachers utilize their native language (L1) in order to enhance L2 learning through pedagogical, linguistic, cognitive, and affective benefits. However, mother tongue usage hinders effective and productive second language acquisition. As CS was considered a random combination of two languages, shifting between the two was not allowed. According to those who favor it, if the target language is only used in English classes, it enhances and contributes to productive language learning. Those who oppose it say it negatively impacts the learning process if a substitute language is used. It does not matter whether the user is a student or a teacher. According to Binmahboob (2020), CS plays an important role in foreign language teaching. Teachers believe CS negatively affects language teaching and should not be used open-endedly. Learners were encouraged to reduce their reliance on their mother tongue and not use it in class.

The influence of CS on exam performance varies depending on learners' language competence and test-taking tactics. Some research suggests that CS may improve test performance, particularly for low-proficiency students who may need to utilize their native language to grasp instructions or ideas (Zhang et al., 2024). Moreover, CS may assist students in minimizing test anxiety and boosting confidence, which can improve exam performance (Cahyani et al., 2016). Moreover, excessive or incorrect CS may cause confusion, misunderstanding, and even penalization in examinations, resulting in lower overall exam scores and poor performance.

Code-switching has been studied in various contexts and cultures globally (Brdarević-Čeljo et al., 2024). While the use of CS in English language classrooms can be influenced by demographic variables such as gender, age, and achievement, perceptions of CS can differ based on culture, age, and socio-economic contexts (Al-Alawi, 2022). Previous studies have explored attitudes towards CS in different settings. For instance, Alenezi (2016) examined 189 Saudi Arabian ESP students and found no gender differences in their opinions on CS, with both male and female participants preferring it over monolingual teaching. Similarly, Asghar et al., (2016) conducted a study on Iranian EFL students and reported no gender differences in their attitudes towards CS. However, other studies, including Dewaele and Wei (2013) and Orfan (2023), found that female respondents had more favorable perceptions of L1 use in EFL classrooms than their male counterparts or used CS more than male participants.

Both EFL instructors and learners perceive CS as affecting language proficiency, which is assessed by terminal exams. In other words, CS is correlated with students' achievement. Carota (2021), Omar and Ilyas (2018), and Simasiku et al., (2015) studied learners' academic achievement in different contexts. Carota (2021) discovered that teachers were divided over the use of CS in the classroom; however, students strongly supported its use. A follow-up test conducted on the learners also confirmed that their language proficiency improved when they used CS. Omar and Ilyas (2018) took the age factor into consideration while conducting their study. Other than the positive attitudes of the younger participants towards CS, it was discovered that participants' use of L1 had an impact on their academic performance. This is to say that they got higher grades. Simasiku et al., (2015) conducted a study with 12 teachers and Namibian students to see if using the mother tongue in English-medium classrooms could improve academic achievement. The study's results showed that teachers perceived CS as a means to enhance academic achievement. In addition to that, CS was believed to help learners learn English better. Hence, it can be inferred that those learners who employ CS tend to get higher grades.

After the discovery of oil, English-speaking countries started doing business in Saudi Arabia, and CS and English education became necessary. Therefore, it is necessary to examine empirical Saudi attitudes toward CS as well as its personal and social characteristics. People's perceptions of CS are influenced by the language patterns and choices used by speakers. Also, because English is becoming more and more relevant as a global language, it might be interesting to look at how students feel about CS in EFL instruction (Omar & Ilyas, 2018).

The purpose of this study is to look at Saudi EFL students' perceptions of CS and how it affects both their mother tongue and target language. It also explores how the use of CS affects the emotional well-being and academic performance of students. Furthermore, it seeks to examine whether gender and GPA influence students' views on CS and their perception of their teachers. It is worth noting that the variables of GPA and gender are rarely overlooked in research on higher education in the Saudi context. Therefore, the goal of this study is to add to the existing research by looking at how these factors might affect how students think about and experience CS.

Method

Participants

The CS questionnaire was randomly distributed to the foundation-year EFL students studying at two Saudi universities, namely Northern Borders University and Prince Sattam bin Abdulaziz University. They were all native Arabic speakers studying English as a foreign language. Only 173 filled-in questionnaires were received by the researchers. A total of 84 (48.5%) male and 89 (51.4%) female EFL students responded to the questionnaire utilizing a random sampling technique to ensure that each

participant had an equal chance of selection. The sample was subjected to a normality test. The values of Kolmogorov-Smirnova and Shapiro-Wilk were 0.07 (almost non-significant) and 0.245 (non-significant) at $\alpha = 0.05$, respectively. This indicated that the data was normally distributed.

Measure

This research instrument consists of two parts. In the first section, the participants specified their GPA and gender. For enrollment in the Preparatory Year Program (PYP), or foundation year in Saudi Arabia, a five-point GPA scale is used. The students self-reported GPA values as part of their survey responses. Moreover, the second part was the eighteen closed-ended items on a four-point Likert scale. Each statement was marked 4 (strongly agree), 3 (agree), 2 (disagree), and 1 (strongly disagree). The CS scale had no neutral point from which to refrain from hedging. This instrument was divided into six parts (A–F), indicating six constructs related to CS (Table 1), and measured different aspects of CS as perceived by L2 learners. For example, the following statements serve as a representative of each sub-scale: *I prefer to study in English and Arabic, Mixing Arabic and English leads to the maintenance of both languages, I feel satisfied during the process of learning when I mix Arabic and English, I understand difficult concepts when taught in Arabic and English, I respect more the professor when teaching in Arabic and English, and Teaching in Arabic and English increases my chance of passing the examination.*

The CS survey was adapted from a study by Catabay (2016). The CS questionnaire was translated from English to Arabic and then presented to three professors who were fluent in both Arabic and English and worked as language instructors. Their input was received, and some modifications were made according to their suggestions, particularly the phrase “CS,” which was translated carefully and closely to its Arabic equivalent. They validated the content's accuracy so that students could comprehend each of the eighteen items. Cronbach's alpha was used to calculate the reliability coefficients for each statement and each of the six subscales. Table 1 displays the six discrete parts of the CS scale and their respective reliability coefficients.

Table 1
Distribution of Items and Sub-scales

Sub-scale	Items	Cronbach’s alpha
A) The Use of Code-switching in Teaching.	1-3	0.71
B) Code-switching and its Effects on L1 and L2	4-6	0.71
C) Code-switching and its Effects on the Emotional State	7-9	0.73
D) Code-switching and its Impact on Language Learning	10-12	0.71
E) Code-switching and its Effects on Teachers’ Image among the Learners	13-15	0.71
F) Code-switching and its Effects on Passing the Examinations	16-18	0.7
Overall	18 items	0.71

A brief explanation of each subscale is provided below:

- A) The Use of Code-switching in Teaching: This sub-scale explores the utilization of code-switching as a teaching strategy. It discusses how code-switching can be employed effectively in different educational settings.
- B) Code-switching and its Effects on L1 and L2: This sub-scale focuses on the impact of code-switching on both the first language (L1) and second language (L2) proficiency of learners. It examines how code-switching influences language development and acquisition.
- C) Code-switching and its Effects on the Emotional State: This sub-scale delves into the emotional effects of code-switching on individuals. It explores how code-switching practices can affect emotional states.
- D) Code-switching and its Impact on Language Learning: This sub-scale investigates the broader implications of code-switching on language learning processes. It explores how code-switching can facilitate or hinder language acquisition and linguistic competence.

E) Code-switching and its Effects on Teachers' Image among the Learners: This sub-scale analyzes how code-switching practices employed by teachers can influence their image and perception among students. It examines the impact of code-switching on teacher-student relationships and classroom dynamics.

F) Code-switching and its Effects on Passing the Examinations: This sub-scale explores the relationship between code-switching and academic performance. It examines whether code-switching practices impact students' ability to pass examinations or assessments.

Procedure

During the third week of the 2nd semester of the year 2022–23, the researchers distributed a survey among students via WhatsApp. The survey was made in Google Forms, and WhatsApp was used to collect data owing to its simplicity, cost-effectiveness, and participant accessibility. Improved randomization and less sample bias are some other justifications for utilizing WhatsApp (Ullrich, 2018). The respondents were informed in advance about the objectives and procedures of the research. They were also informed that their responses would remain confidential and that the findings would not affect their grades.

Data Analysis

The research used descriptive and inferential statistical approaches to analyze the data. The participants' choices were coded. IBM SPSS-25 was used to calculate means and their differences, independent sample t-tests, and chi-square tests. The criteria used to interpret the means and SDs were as follows: Lowest = 1.00–1.75; Lower moderate = 1.76–2.50; Higher moderate = 2.51–3.25; Highest = 3.26–4.00.

The main construct for measuring Saudi EFL learners' perceptions of CS and its relationship with individual variables such as gender and GPA was assessed with a chi-square test. The four-point Likert scale dataset with 4 (strongly agree), 3 (agree), 2 (disagree), and 1 (strongly disagree) was combined into two categories, e.g., positive and negative perceptions, which were coded as 1 and 2, respectively, for making a 2x2 contingency table. The effect size was measured using the phi coefficient to show the strength of the relationship between the variables. All the assumptions of using a chi-square test for independence were met.

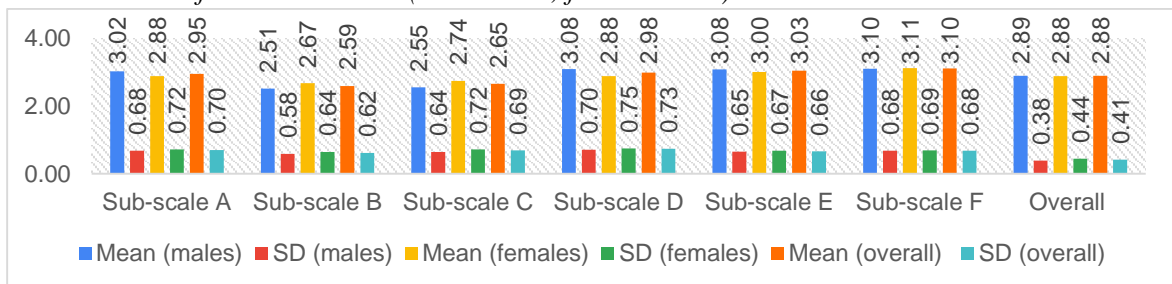
Results

RQ1. What are the most and least commonly used code-switching sub-scales among Saudi female and male EFL students?

To address the first research question, Figure 1 illustrates the means and SDs of the six sub-scales of CS used by Saudi male and female EFL students. Additionally, the figure displays their overall means and standard deviations.

Figure 1

Means and SDs for Six Sub-scales (males = 84; females = 89)



Both male and female Saudi EFL learners rated the frequency of their use of the six sub-scales of CS strategies on a 4-point Likert scale, with mean scores ranging from 2.51 to 3.10 for males and 2.67 to 3.11 for females. The least utilized sub-scale for both genders was sub-scale B, with male learners having a mean score of 2.51 (SD = 0.58) and female learners having a mean score of 2.67 (SD = 0.64). Sub-scale F

was the most preferred for both male learners, with a mean score of 3.10 (SD = 0.68), and female learners, with a mean score of 3.11 (SD = 0.69).

RQ2. How do perceptions of code-switching sub-scales differ between Saudi female and male EFL students?

A statistical analysis using a t-test was carried out on independent samples to examine potential gender differences in the use of CS sub-scales by EFL students. The results for each sub-scale are presented separately in Table 2.

Table 2

Independent Samples t-test for Sub-scales of Code-switching Strategies

		Levene's Test for Equality of Variances		t-test for Equality of Means				95% Confidence Interval of the Difference		
CS Sub- scales		F	Sig	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Sub-scale A	Equal variances assumed	1.46	0.23	1.31	171.00	0.19	0.14	0.11	-0.07	0.35
	Equal variances not assumed			1.32	171.00	0.19	0.14	0.11	-0.07	0.35
Sub-scale B	Equal variances assumed	0.21	0.65	-1.70	171.00	0.09	-0.16	0.09	-0.34	0.03
	Equal variances not assumed			-1.71	170.85	0.09	-0.16	0.09	-0.34	0.02
Sub-scale C	Equal variances assumed	0.63	0.43	-1.80	171.00	0.07	-0.19	0.10	-0.39	0.02
	Equal variances not assumed			-1.80	170.47	0.07	-0.19	0.10	-0.39	0.02
Sub-scale D	Equal variances assumed	0.10	0.75	1.84	171.00	0.07	0.20	0.11	-0.01	0.42
	Equal variances not assumed			1.84	171.00	0.07	0.20	0.11	-0.01	0.42
Sub-scale E	Equal variances assumed	0.45	0.50	0.79	171.00	0.43	0.08	0.10	-0.12	0.28
	Equal variances not assumed			0.79	170.90	0.43	0.08	0.10	-0.12	0.28
Sub-scale F	Equal variances assumed	0.00	0.98	-0.17	171.00	0.87	-0.02	0.10	-0.22	0.19
	Equal variances not assumed			-0.17	170.71	0.87	-0.02	0.10	-0.22	0.19
Overall Scale	Equal variances assumed	1.68	0.20	0.16	171.00	0.87	0.01	0.06	-0.11	0.13
	Equal variances not assumed			0.16	169.81	0.87	0.01	0.06	-0.11	0.13

Table 2 presents the results of the statistical analyses to investigate the differences between male and female Saudi EFL learners using various sub-scales of CS. The Levene's test scores for each sub-scale were greater than 0.05, indicating equal variances, which implies that the t-test results are not indicative of any statistically significant differences between the two groups' means. Therefore, the null hypothesis H₀ will be retained for all the sub-scales of CS, and the alternative hypothesis H_a will be rejected.

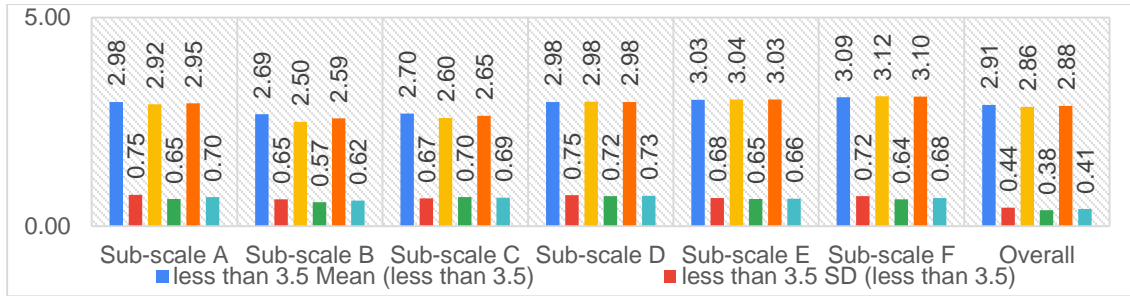
Moreover, the analysis shows that the overall mean difference in CS strategies between female and male Saudi EFL learners is also not statistically significant. The t-test analysis of independent samples revealed an F value of 1.68 at a significance level of 0.20 when equal variances are assumed. The p-value of $0.87 \geq 0.05$ shows that the difference between the overall means of CS for Saudi male and female EFL participants is not statistically significant. Therefore, the first H₀ is retained, and H_a is rejected.

RQ3. What are the most and least frequently used code-switching sub-scales according to GPA among Saudi EFL students?

In order to answer the second research question, the mean scores and standard deviations for the six sub-scales of CS strategies employed by Saudi EFL learners are presented in Figure 2, with a division into two GPA-based groups (<3.5 and >3.5). The figure also includes the overall means and standard deviations.

Figure 2

Means and SDs of Six sub-scales GPAs (less than 3.5 = 82; more than 3.5 = 91)



The range of means for the six sub-scales of the CS strategies for the group with less than 3.5 GPA was 2.69–3.09 and 2.50–3.12 for the group with more than 3.5 GPA on a Likert scale of 1-4. Both groups of learners, i.e., those with less than and more than 3.5 GPA, indicated sub-scale B as their least used group of strategies (for learners having less than 3.5 GPA, $M = 2.69$, $SD = 0.65$, and for learners having more than 3.5 GPA, $M = 2.50$, $SD = 0.57$). On the other hand, sub-scale F was most preferred by both groups of learners ($M = 3.09$, $SD = 0.72$) and ($M = 3.12$, $SD = 0.64$), respectively, for $<$ and > 3.5 GPA.

RQ4. How do Saudi EFL students' perceptions of code-switching sub-scales differ across GPA levels?

A statistical analysis using an independent-sample t-test was conducted to examine potential gender differences in the use of CS sub-scales by EFL students. The results for each sub-scale are presented separately in Table 3.

Table 3

Independent Samples t-test for Sub-scales of Code-switching Strategies ($<$ and > 3.5 GPA)

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
CS Sub-scales		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Sub-scale A	Equal variances assumed	1.94	0.17	0.56	171.00	0.57	0.06	0.11	-0.15	0.27
	Equal variances not assumed			0.56	161.29	0.58	0.06	0.11	-0.15	0.27
Sub-scale B	Equal variances assumed	1.32	0.25	1.99	171.00	0.05	0.19	0.09	0.00	0.37
	Equal variances not assumed			1.98	162.71	0.05	0.19	0.09	0.00	0.37
Sub-scale C	Equal variances assumed	0.29	0.59	1.02	171.00	0.31	0.11	0.10	-0.10	0.31
	Equal variances not assumed			1.02	170.22	0.31	0.11	0.10	-0.10	0.31
Sub-scale D	Equal variances assumed	0.18	0.67	-0.05	171.00	0.96	-0.01	0.11	-0.23	0.21
	Equal variances not assumed			-0.05	167.76	0.96	-0.01	0.11	-0.23	0.21
Sub-scale E	Equal variances assumed	0.51	0.48	-0.04	171.00	0.97	0.00	0.10	-0.20	0.20
	Equal variances not assumed			-0.04	167.43	0.97	0.00	0.10	-0.20	0.20
Sub-scale F	Equal variances assumed	0.85	0.36	-0.27	171.00	0.79	-0.03	0.10	-0.23	0.18
	Equal variances not assumed			-0.27	163.50	0.79	-0.03	0.10	-0.23	0.18
Overall Scale	Equal variances assumed	0.49	0.48	0.83	171.00	0.41	0.05	0.06	-0.07	0.18
	Equal variances not assumed			0.82	161.29	0.41	0.05	0.06	-0.07	0.18

Table 3 presents the results of Levene's test, indicating equal variances for each sub-scale of CS between two groups of Saudi EFL learners with GPAs $<$ and > 3.5 . The non-significant p-values (> 0.05) obtained from the t-tests suggest no significant difference between the means of the sub-scales of CS employed by the two groups. Therefore, the second H_a is rejected, and H_0 is retained for all sub-scales of CS.

The overall mean difference in CS strategies between the two groups is also examined, and the t-test analysis reveals that the F value of 0.49 at a significance level of 0.48 is not significant, given a p-value of 0.41 (>0.05). Hence, the difference between the overall means of CS of Saudi EFL learners with GPAs $<$ and > 3.5 is non-significant, leading to the rejection of H_a and retention of H_0 .

RQ5. Does gender influence Saudi EFL students' perceptions of code-switching as a communicative technique in EFL classes?

A cross-tabulation and chi-square test were conducted to determine the effect of gender on perceptions of CS strategies, and the results are presented in Tables 4 and 5.

Table 4

Cross tabulation of Gender and Perceptions

		Negative Perceptions	Positive Perceptions	Total
Male	Count	15	69	84
	Expected Count	16.5	67.5	84
	% within Gender	17.90%	82.10%	100%
	% of Total	8.70%	39.90%	48.60%
Female	Count	19	70	89
	Expected Count	17.5	71.5	89
	% within Gender	21.30%	78.70%	100%
	% of Total	11.00%	40.50%	51.40%
Total	Count	34	139	173
	Expected Count	34	139	173
	% within Gender	19.70%	80.30%	100%
	% of Total	19.70%	80.30%	100%

Table 5

Measures of Association for Gender and Perceptions

Measure	Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Nominal by Interval	Eta	Gender Dependent	0.044	
				0.564
Symmetric Measures	Value			
Nominal by Nominal	Phi	-0.044		0.564
Risk Estimate				
Odds Ratio for Gender	0.801	0.377	1.703	
For cohort Perceptions =				
SD/D	0.836	0.456	1.536	
SA/A	1.044	0.901	1.21	
N of Valid Cases				173

The relationship between gender and perceptions of using CS strategies is depicted in cross-tabulation table 4. The table shows that out of the 173 participants, 48.6% ($n = 84$) had positive perceptions about using CS strategies, while 51.4% ($n = 89$) had negative perceptions. Of the male participants, 82.1% had positive perceptions, while 78.7% of the female participants had positive perceptions. The chi-square value for this relationship was 0.334 with a p-value of 0.564, suggesting no significant association between gender and perceptions of using CS strategies.

The directional measures in Table 5 show that the effect size (Eta) for this relationship is 0.044, indicating a small effect. The risk estimate for gender shows that the odds ratio for males to have positive perceptions of using CS strategies is 0.801. This indicates that females are slightly more likely to have positive perceptions of using CS strategies than males. However, the confidence interval (CI) for this odds ratio ranges from 0.377 to 1.703, suggesting that this difference is not statistically significant.

In conclusion, the results of this study indicate that there is no association between gender and perceptions of using CS strategies among EFL learners. Therefore, the third H_0 is accepted, and H_a is rejected. However, females may be slightly more likely than males to have positive perceptions of using CS strategies.

RQ6. Does GPA level influence Saudi EFL students' perceptions of code-switching as a communicative technique in EFL classes?

For calculating the influence of GPA over perceptions of CS strategies, a cross-tabulation and chi-square test were run. The test results are given in Tables 6 and 7.

Table 6
Cross-tabulation of GPA and Perceptions

<i>Cross tabulation of GPA and Perceptions</i>		Negative Perceptions	Positive Perceptions	Total
less than 3.5	Count	13	69	82
	Expected Count	16.1	65.9	82
	% within GPA	15.90%	84.10%	100%
	% of Total	7.50%	39.90%	47.40%
more than 3.5	Count	21	70	91
	Expected Count	17.9	73.1	91
	% within GPA	23.10%	76.90%	100%
	% of Total	12.10%	40.50%	52.60%
Total	Count	34	139	173
	Expected Count	34	139	173
	% within GPA	19.70%	80.30%	100%
	% of Total	19.70%	80.30%	100%

Table 7
Measures of Association for GPA and

Measure	Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Nominal by Interval	Eta	GPA Dependent	0.044	0.233
Symmetric Measures	Value			
Nominal by Nominal	Phi	-0.091		0.233
Risk Estimate				
Odds Ratio for GPA	0.628	0.292	1.353	
For cohort Perceptions =				
SD/D	0.687	0.368	1.282	
SA/A	1.094	0.945	1.267	
N of Valid Cases				173

The cross-tabulation in Table 6 shows the distribution of perceptions of students (SD/D: strongly disagree/disagree, SA/A: strongly agree/agree) across two GPA cohorts (less than 3.5 and more than 3.5). The chi-square test of independence was not significant, indicating no association between GPA and perceptions ($\chi^2(1) = 1.425$, $p = 0.233$). Of the 82 students in the less than 3.5 GPA cohort, 13 (15.9%) had negative perceptions (SD/D), and 69 (84.1%) had positive perceptions (SA/A). In the cohort with more than a 3.5 GPA, 21 (23.1%) had negative perceptions, and 70 (76.9%) had positive perceptions. These differences were not statistically significant.

The directional measures in Table 7 show that the effect size (Eta) and symmetric measures of association (Phi and Cramer's V) for this relationship are 0.091 for all three measures, indicating a weak association between GPA and perceptions. However, these measures also indicated that the association was not statistically significant, with p-values greater than 0.05.

The odds ratio for GPA (less than 3.5 / more than 3.5) was 0.628, indicating that students with GPAs less than 3.5 were less likely to have negative perceptions than those with GPAs more than 3.5. The risk estimate for students with positive perceptions and less than a 3.5 GPA was 0.687, indicating a 68.7% chance of having positive perceptions, compared to students with positive perceptions and more than a 3.5 GPA. For students with negative perceptions and less than a 3.5 GPA, the risk estimate was 1.094,

indicating a 9.4% greater chance of having negative perceptions compared to students with negative perceptions and more than a 3.5 GPA.

Overall, the analysis suggests that there is a weak association between GPA and perceptions, but the association is not statistically significant. Therefore, the fourth H0 is accepted, and Ha is rejected.

Discussion

Code-switching preferences across gender and GPA

The findings showed that Saudi learners utilized CS strategies frequently with higher moderate levels in the classrooms at various levels. A similar trend was also found across their GPA and gender. Among the six sub-scales, sub-scale B (Code-switching and its Effects on L1 and L2) was found to be preferred by both genders. This means that the use of CS did not cause any hindrance to learning EFL as well as Arabic. Both languages supported each other. They supported the beneficial impact of strategically using the native language (L1) in the second language (L2) classroom (Carota, 2021). However, compared to other sub-scales, it was found to be the least utilized. The reason could be that participants may not have much knowledge of or may not perceive the effects of CS on their L1 and L2 proficiency. Therefore, it is imperative for language educators to raise learners' awareness of the potential effects of CS. This is because it will enable them to use it strategically, especially in multilingual contexts where CS is a common practice. Magid and Mugaddam (2013) observed similar results in their study.

Conversely, sub-scale F (Code-switching and its Effects on Passing the Examinations) was found to be the most preferred by all learners. This suggests that learners use CS to enhance their performance in language assessments. The finding that sub-scale F was the most preferred by both male and female Saudi EFL learners irrespective of their low and high GPA could be attributed to the fact that examinations are considered a crucial part of the education system in Saudi Arabia, and success in these exams is highly valued. Therefore, students may have perceived the use of CS as a means of increasing their chances of passing the exams. This finding matches with other research that displayed the positive effects of CS on language testing, where CS can be used as a beneficial strategy to improve learning outcomes (Omar & Ilyas, 2018; Alrebish, 2020; Carota, 2021).

The sub-scale E (the effects of code-switching on teachers' image among learners) was second-ranked. The participants thought that CS helped instructors establish rapport with their learners and created a more engaging classroom environment. Additionally, CS could help educators demonstrate their linguistic and cultural competencies, which enhanced their credibility and authority in the classroom. It can also be a cultural bridge between the teacher and students with a common language or cultural background. However, if used excessively or inappropriately, it may have a negative impact on the teacher's image and credibility. These findings also support previous studies by Adriosh and Razi (2019) and Fathimah (2016).

The third and fourth sub-scales were D (the impact of code-switching on language learning) and A (the use of code-switching in teaching). The findings highlighted the role of CS in language teaching and learning contexts, where teachers and learners may employ it to facilitate communication and understanding. The participants, regardless of their low and high grades, perceived the usage of L1 as necessary in order to clarify intricate grammar concepts, introduce a vast vocabulary, and simplify challenging ideas. The results are consistent with the studies of An and Macaro (2022), Aldalbahy (2023), and Alomaim and Altameemi (2022), who found that learners preferred to use their first language to learn a second language. Contrary to this, Binmahboob (2020) examined teachers' attitudes toward using CS and found them negative. They encouraged learners not to speak their mother tongue in class and to reduce their dependence on it.

Regarding the other sub-scale C (the effects of code-switching on the emotional state), the results revealed that learners felt satisfied when mixing Arabic and English and were not confused when code-switching was used in the classroom. Al Tale' and Alqahtani (2022) and Williams et al., (2020) found that students in EFL courses showed a preference for CS over receiving instruction exclusively in the target

language because it provided psychological support to EFL learners who were beginners. In contrast, Dewaele and Wei (2013) showed that CS can alleviate anxiety and increase confidence in learners.

Variation in code-switching across gender and GPA

The participants perceived the use of CS at a higher moderate level across GPA. They also had similar perceptions about using CS, both Saudi male and female EFL learners, with slight variations in intensity. However, the specific sub-scales of CS use and their distribution among male and female learners, these variations did not suggest any statistically significant differences between the means of the male and female groups as well as GPAs $<$ and $>$ 3.5. Alenezi (2016) study conducted in the Saudi EFL context and Asghar et al., (2016) study in the Iranian EFL context also did not find any gender differences in participants' opinions on CS. Both male and female participants in these studies preferred CS over monolingual teaching, suggesting that they share similar attitudes, possibly due to their similar cultural and linguistic backgrounds. In contrast, Orfan (2023), Nasim et al., (2022), and Kane (2020) noticed significant differences between male and female participants' responses. Orfan (2023) and Kane (2020) found women more engaged in CS more frequently than men, but Nasim et al., (2022) found male Saudi learners using more CS than women.

Code-switching and its association with gender and GPA

The non-significant relationship between gender and GPA with perceptions of using CS strategies among Saudi EFL learners revealed no influence of GPAs or genders. While there is a weak association between gender and GPA with code-switching, the effect size is small, and the finding suggest no meaningful association between them.

Although gender may not play a crucial role in determining EFL learners' perceptions towards using CS strategies, the odds ratio suggests that females may be slightly more likely to have positive perceptions towards using CS than males. Similarly, Romaine (1995) found that although men tend to code-switch more often than women, the difference is small and not statistically significant. Similarly, Aldalbahy (2023) found that gender differences in CS behavior are minor and not statistically significant.

This information is valuable for educators and researchers. They should not focus solely on gender to improve perceptions of CS strategies among learners. Instead, they should focus on factors that may be more strongly associated with perceptions, such as prior knowledge, attitudes towards technology, or learning styles.

It is imperative to note that the study's findings are based on a specific sample and context and may not generalize to other populations or settings. Therefore, future research is required to further understand the association between gender and perceptions of using CS in different contexts and with different populations. Further evidence of the relationship between gender and perceptions of using CS is required.

This finding challenges the notion that students' academic performance, as measured by GPA and language use, is strongly linked to their perceptions of code-switching. In other words, these factors do not seem to have a strong impact on their perceptions of code-switching. The weak association means that students with high GPAs are not more likely to have positive perceptions of CS use than those with low GPAs. Also, students with lower GPAs were less likely to have negative perceptions of CS in teaching. This may be because students with lower GPAs struggle more with learning the language and may see CS as a helpful strategy to aid their understanding. On the other hand, students with higher GPAs may have a more advanced understanding of the language. They may feel that CS is unnecessary or even disruptive to their learning. Furthermore, exposure to similar language and cultural contexts among both low- and high-GPA students may have led to similar attitudes towards CS (Simasiku et al., 2015).

The weak association between GPA and perceptions of CS use suggests that the use of CS is not dependent on learners' academic ability or GPA. Instead, it is dependent on their individual language learning preferences and strategies. As a result, it may be a habitual behavior influenced by factors other than academic performance, such as language background, socialization, and personal preferences (Galante & dela Cruz, 2024; Simasiku et al., 2015). Additionally, CS may serve various communicative functions,

such as clarification, emphasis, or identity (García & Wei, 2014), which may not be affected by academic achievement. This highlights the need for further research to explore the complex relationships between language use, academic performance, and cultural and linguistic factors among EFL learners. Some previous studies have suggested that students with high GPAs use CS less frequently than those with low GPAs, but the results of this study do not support this idea (Simasiku et al., 2015; Omar & Ilyas, 2018).

Overall, these results can be useful for educators and researchers interested in understanding the link between academic achievements and language use in the classroom. More importantly, these results are specific to the sample and context studied, and more research is needed to confirm and expand on these findings.

The results indicate that Saudi male and female EFL learners perceive CS as a useful communication technique in EFL classes, with high overall means for their use of the six sub-scales of CS strategies in a similar capacity. In contrast, low and high GPAs did not make any significant contributions to choosing their CS.

Conclusion

This study on the use of code-switching sheds light on the perception of CS among Saudi female and male learners. The outcomes mention that these participants utilize CS frequently and prefer it for certain purposes, such as enhancing their performance in language assessments. The finding that CS was least utilized in sub-scale D may indicate a lack of awareness among participants of its potential impact on their language learning. Furthermore, participants perceived the use of L1 as necessary to clarify complex grammar concepts and simplify challenging ideas. It is worth noting that while there were slight variations in the intensity of CS use between male and female learners, gender did not play a significant role in determining their perceptions of using CS strategies. Overall, the study highlights the importance of understanding the role of CS in EFL learning. It suggests that it can be an effective tool for educators to create a more engaging classroom environment.

Pedagogical implications

The study on the use of code-switching in the Saudi EFL context has several pedagogical implications for educators. Firstly, it suggests that CS can be an effective tool for enhancing learners' performance in language assessments. As a result, educators could encourage learners to use CS strategically to facilitate their understanding and performance in assessments. Secondly, the study found that participants perceived the use of L1 as necessary to clarify intricate grammar concepts, introduce novel vocabulary, and simplify challenging ideas. Therefore, educators could incorporate L1 use into their teaching strategies to help learners comprehend complex language concepts. Thirdly, the study highlights the importance of creating a more engaging classroom environment through the use of CS, which can help educators establish rapport with their learners. Therefore, educators could use CS to create a more relaxed and comfortable atmosphere in the classroom, making it easier for learners to participate and engage with the language.

Limitations and recommendations

The study had limitations due to the small sample size of Saudi EFL students, which may not represent the entire population. It also lacked the inclusion of other variables like teacher attitudes and the classroom environment that could have influenced students' perceptions of CS. Future research should increase the sample size to ensure more reliable results and consider other variables to gain a comprehensive understanding of the effects of CS on student perceptions. Additionally, incorporating qualitative research methods would provide a deeper understanding of the phenomenon under investigation.

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Unmasking Digital Prejudice: A Multimodal Critical Discourse Analysis of Racial, Gender and Ideological Violence in Memes Targeting Kamala Harris' Speeches

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This research aims to find instances of racial and gender prejudice in memes that portray Harris' speeches. This study analyzes the role of memes depicting the political speeches of Kamala Harris as instruments for propagating and legitimizing destructive ideologies such as racial discrimination, gender bias, cultural stereotyping, and symbolic violence. The dataset consists of 9 internet memes that will be purposively sampled. This study employs a qualitative method, utilizing the Multimodal Critical Discourse Analysis (MCDA) framework by Kress and Leeuwen (2006), to investigate how political memes shape gender and racial narratives about Kamala Harris. MCDA enables the examination of how combining text, images, typography, layout, and rhetorical techniques, including humour, pathos, and irony creates meaning. Between 2021 and 2024, 9 memes were carefully chosen from YouTube Reels, Facebook, Instagram, and Twitter, emphasizing material that alludes to Harris' political persona and public statements. The findings reveal that memes often destabilize Harris' political identity by mocking her authority, reinforcing stereotypes, and distorting her public image. These strategies also demonstrate how digital discourse can perpetuate exclusionary narratives about race, gender, and power. Future research should explore meme discourses, intersectional policy-making, and the effects of digital stereotyping. Educational systems should incorporate media literacy training, social media platforms should adopt ethical standards, culturally aware AI systems should be developed, and counter-narratives that empower meme creators should be promoted to foster a more inclusive digital media ecology.

Keywords: memes, multimodal critical discourse analysis, Harris speeches, racial and gender biases, irony, humour, pathos

All through her career, Kamala Harris has broken boundaries based on her sexual orientation and origin. She has established a lengthy reputation as a political trailblazer during the last thirty years. In addition to being an arraigning attorney in San Francisco, California, she is the only African American woman who meets the qualifications to serve as the U.S. Representative for California. Her inauguration as the 44th president of the United States took place on 20 January 2021. Researchers have studied how the media have depicted Harris throughout her political career. They have often found that writers draw assumptions about her gender and ethnicity to paint her as unqualified for office.

Some have compared Harris to previous black women who have sought elective office, such as Peta Lindsay, Shirley Chisholm, and Carol Moseley Braun, in a study by (Lewyckyj, 2021). Although Harris received the same media attention as the other contenders, it was primarily negative. Dolan et al., (2021) compared women of various ethnic backgrounds, and black women are often associated with more grounded assumptions. Cassese et al., (2022) revealed that Harris was frequently identified by her race. Her race accounted for about one-third of the descriptive phrases used to describe her. Earlier in Harris' research, researchers examined the portrayal of women differently, including investigating intersectionality, sexual orientation bias, and women' activist theory. Additional research on intersectionality, political candidates, and

campaigns is still necessary. but thoughts serve as a critical benchmark for treating women. This analysis examines the use of memes and deceit on Facebook groups, which frequently post fake news out of context, to rectify this gap in the existing literature. Deception to mislead is known as disinformation (Gebel, 2021). The researcher chose Facebook, Twitter, Instagram, and screenshots from YouTube Reels as the platforms for investigation since they are the biggest worldwide social systems with "2.8 billion monthly active users" from 2021 to 2024. According to a 2020 Pew Research Center study, approximately half of U.S. citizens regularly or occasionally access news on digital communication platforms, with Facebook being a primary medium for news (Shearer & Mitchell, 2021). It is essential to communicate and address media representations of all women to provide insights into patterns and arrangements. It, too, contributes to broader sexual orientation and race by exploring the generalizations experienced by Harris and how they are depicted in open talk. Moreover, it dives into web culture, examining how memes are made and spread on social systems and how these forms impact the audience's recognition and the political setting in Harris addresses. Concerning technology, the current digital era introduced memes as flexible cultural objects that express existing public utterances and mould their future direction. Mortensen and Neumayer (2021) studied that memes represent digital objects that move between alternative and mainstream sites, gather attention, and mold ideological patterns while fostering unified communities through joint humour engagement. Originally coined by Dawkins (1989) and later adapted by Shifman (2013), memes are understood as "structures that reproduce by imitation." The individualization of information sharing on social media has changed the way people engage with politics (Farkas & Bene, 2021; McGregor, 2019; Metz et al., 2020). Online memes provide anyone, even young people, with an easy way to engage with politics through amusing content (Kirner-Ludwig, 2020). The digital participatory environment includes memes that use words, images, and hashtag combinations to communicate civic action (Beskow et al., 2020). Through gender-and-race-dependent representation systems on Facebook, Instagram, YouTube Reels, and Twitter, this study explored how digital memes function as interactive communication tools to shape Kamala

Harris' public image. The research by Lin et al., (2024) showed that meme formats work to connect younger people with political figures, but they also preserve offensive stereotypes. During Harris' campaign period, Bland et al., (2024) discovered that memes propagated these historical racial stereotypes of "Jezebel" and "Tragic Mulatto." Cerja et al., (2024) created the "digital public woman" idea to demonstrate how humour and irony function in memes to hide misogynoir through media entertainment. Complex semiotic and ideological processes can be decoded by using the frameworks proposed by Kress and van Leeuwen (2006), Multimodal Critical Discourse Analysis (MCDA). By utilizing this approach, the researchers can thoroughly analyze how political memes use rhetorical components, including humour, irony, sarcasm, pathos, and exaggeration to deliver multiple cultural and political interpretations. Rezeki et al., (2024) examined how political memes function as ideological tools. The researchers used Leeuwen's social semiotic framework through symbolic elements like colour gestures in text for political identity. Tianli and Chen (2024) investigated the ways in which rhetorical humour, particularly sarcasm connected with hyperbole and metaphor, simplifies complex political criticism while intensifying emotional reactions. The findings revealed that memes are effective multimodal instruments for influencing public discourse due to their ability to change digital media platforms that provoke strong emotional reactions. Moreover, the study of political discourse via speeches can offer more information about how ideology and group dynamics are communicated to the wider community. For example, Kashif and Nusrat (2023) critically examined the speech made by Imran Khan, the 22nd Prime Minister of Pakistan, on September 27, 2019, during the United Nations General Assembly. This research used Van Dijk's (1997) Political Discourse Analysis. The findings revealed how Khan's speech created ideological stances and in-group-out-group divisions while addressing global issues like Islamophobia, climate change, and the Kashmir conflict by analysing both macro and micro discourse structures. The current study, therefore, builds on such discourse-oriented frameworks to investigate how memes that target Kamala Harris' political speeches normalise violence and prejudice against marginalised identities, especially women of colour, by utilising sarcasm, humour, pathos, and textual-visual aspects.

Based on that, the following research question was focused on:
How do memes targeting the political speeches of Kamala Harris engage irony, humor, and pathos to reveal

discriminatory or violent ideologies?

Literature Review

The studies reviewed focus on how memes, such as "coconut tree" memes, shape public perception and influence racial and gender stereotypes. Lin et al., (2024) examined how "coconut tree" memes influenced Kamala Harris' political image among younger audiences. It analyzed how humour and pop culture references influenced the public perception of Harris and the audience's emotional reactions. The results showed that meme culture often simplifies political characteristics, potentially maintaining racial and gender-based stereotypes. However, the study did not explore how humour, irony, or emotional appeal are interpreted within memes. Tianli and Chen (2024) expanded the examination of rhetorical techniques by comparing the rhetorical strategies that are used in Chinese and English talk shows. They aimed to discover how cultural factors and language barriers impact communicating humour and to understand audience commitment, frequency, and effectiveness of humour in different contexts. The study found that satire, exaggeration, ridicule, sarcasm, irony, and simile were used over 75% of the time in both shows. The study also found that talk show humour can strengthen stereotypes, but did not investigate their impact on public perception or memes.

In another recent study, Gil-Torres et al., (2024) studied South African political memes during COVID-19 to understand their impact on political discourse on Twitter. They examined 351 memes and found that while political subjects were present, they used humorous techniques for entertainment rather than effectively delivering messages. The study did not address the interpretation of Harris' speeches through emotive techniques and humour in memes. In a more semiotic approach, Rezeki et al., (2024) studied the semiotic Framework used by political memes to develop and contest narratives on social media. They analyzed 47 memes, focusing on 11 effective techniques and their impact on political discourse. The study found that memes, through humour, irony, rationalization, and moral perspective, are powerful rhetorical tools for developing political ideology and controlling public debates. The researchers found that memes function beyond entertainment value, creating alternative methods to shape public understanding faster than established media channels. Memes aimed at Vice President Kamala Harris were examined for their misogyny and digital public woman concepts (Cerja et al., 2024). They looked at how the "public woman" stereotype has evolved and how it has been used politically by Black women. The study evaluated the rapid spread of digital media, which strengthened these stereotypes through humorous and ironic memes and targeted hashtags. Amjad and Rasul (2017) offered insight into how gendered identities are constructed in Pakistani news blogs. Through critical discourse analysis, the study demonstrates how linguistic choices frame working women's identities within a patriarchal social context. Such findings echo the ways visual and textual strategies in digital memes similarly reinforce or challenge gender norms, albeit in a different media environment. Steele (2023) explored how memes contribute to identity formation, media distrust, and misinformation spread in right-wing digital spaces, especially during the January 6th U.S. Capitol insurrection. The research analyzed memes on Gab, revealing that they use humour, irony, and emotional messaging to hide their politics and reinforce political agendas. Memes function as ideological echo chambers, reinforcing biases and preventing users from encountering competing thoughts. The study did not explore how memes manipulate public opinion. Schmid et al., (2024) studied how humour in far-right memes on German Telegram Channels drove higher extremist political content engagement rates. They analyzed 1,200 memes from 2020 to 2021, focusing on how humour influenced the spread of memes and categorizing radical politics for mainstream public consumption. The study did not consider how humour frames Harris' statements in meme form. Hakoköngäs et al., (2020) studied how far-right political discourse in Finland uses memes to persuade audiences and build ideological frameworks. The study examined 426 Facebook memes originating from far-right organisations Finland First and Soldiers of Odin between 2015 and 2017. The research revealed that memes endorse extremist ideologies through humour and emotional appeals, serving as excellent simplifiers of political information and rendering it accessible and compelling to wider audiences. McVicker (2021) analysed 120 memes from the 2020 U.S. presidential election, highlighting their humour, manipulation to influence public opinion, and inaccuracies. The study analysed memes from both left- and right-leaning perspectives. Evidence indicates that humour was the predominant rhetorical device, fulfilling 75% of all propaganda criteria.

Over 70% of the memes utilised digital modification techniques, prioritising textual correctness over graphic presentation to evoke the most potent emotional response. This study addresses a knowledge gap about the mechanisms by which memes convey humour, pathos, and irony. Bland et al., (2024) explored the existence of social media memes, which defamed Kamala Harris during the presidential campaigns between 2020 and 2021. This research focuses on the stereotypes that propagate racial and sexual pride. The paper explored the positive and negative portrayals of Harris and showed the contributions of Facebook in spreading the lies. This research showed that memes frequently reproduced the lectures of Harris by using humour and emotional appeal, and it described the permanency of cultural prejudices in electronic media. Fordjour (2023) analyzed how Kamala Harris conveys self-representations through social media, with particular attention to the memes and emotional stories that she exploited to create an almost automatic positive impression of her speeches and personal identity. The study examined 357 official tweets during Harris' inaugural year as vice president, revealing that memes employed humour, irony, and sorrow to present an alternative viewpoint. Nevertheless, the study did not assess the employment of pathos and humour in memes that reinterpret Harris' words, underscoring the significance of comprehending Harris' self-branding strategies. Nee (2023) explored the use of humour, pathos, and ironic messages by the Twitter users to create educative profiles of Kamala Harris. The analysis showed that consumers have a tendency to associate Harris with hard-edged and dehumanising imagery, putting her in the combative and sluttish frame. The study also demonstrated that memes which conceal negative aspects have to be used in order to support the continuance of these stories.

Although the primary goal of the research was not addressed, it highlights the importance of combating gender and racial stereotypes in political narratives.

Method

The study is designed as an interpretive, qualitative analysis. This study examines how meaning is created and communicated through multimodal texts by concentrating on a limited but topically varied collection of political memes. The qualitative method facilitates a comprehensive examination of the discursive, semiotic, and ideological elements of memes disseminated on prominent social media platforms. Nine memes were selected through purposive sampling as a representative dataset for critical discourse analysis. The analytical unit under consideration is the meme, which is viewed in terms of its multimodal wholeness, regarding image, caption, font, design, colour, and composition. This approach is based on the multimodal analysis framework explained by Kress and van Leeuwen (2006), which analyzed the memes with three dimensions of meaning, i.e., representational, interpersonal, and compositional. The aim of these dimensions is to produce a critical evaluation of such rhetorical and ideological methods underlying memes that renew Harris, specifically how such textual and visual cues interact to reinforce hierarchies in society, as well as to advance cultural stereotypes and propagate discrimination on the basis of identity.

Theoretical Framework

The current study uses Multimodal Critical Discourse Analysis (MCDA) based on Kress and Van Leeuwen's (2006) framework. In MCDA, researchers highlight three metafunctions of communication which are dependent on one another, i.e., representational meaning, interpersonal meaning, and compositional meaning through which ideology, power, and social identity are constructed and reproduced.

Representational Meaning

This dimension relates to how people, things, activities, and settings are depicted inside the picture. This analysis explores the visual portrayal of Kamala Harris in the memes, including her expressions (e.g., serious, laughing, angry, bewildered), and the symbolic implications of these representations within broader discussions of race, gender, and authority. For example, memes of Harris with exaggerated expressions frequently convey stereotypes such as the "angry Black woman" or the "inept female leader."

Interpersonal Meaning

This metafunction emphasizes the connection between the image/text and the observer. This analysis examines how visual elements, including eye gazing, facial expressions, modality (reality versus exaggeration), and textual tone (irony, satire, pathos), influence the viewer's perception of Harris. It examines how memes influence emotional responses to undermine her authority or to ridicule her identity.

Compositional Meaning (Textual/Design)

This element pertains to the arrangement of components—layout, prominence, framing, color, and typography. It analyzes how design directs the viewer's focus and facilitates meaning construction. For instance, large bold typefaces may indicate violence or mocking, while dark filters or distorted proportions can evoke discomfort, so promoting the demonization or trivialization of Harris' public image.

Through the integration of these three meta functions, MCDA elucidates that memes serve not just as entertainment but also as constructs of ideological narratives, specifically perpetuating race- and gender- based biases while normalizing symbolic violence against women of color in positions of political authority.

Data Collection

The dataset comprises nine memes that were selected through purposive sampling from social media platforms, including Facebook, Instagram, Twitter, and YouTube Reels, between 2021 and 2024. The selection of these memes was determined not by quantitative metrics (such as likes or shares) but by their discursive significance, specifically, their illustrative employment of irony, humor, pathos, racialized visual tropes, and gendered symbolic elements that correspond with the study's aim to elucidate how these memes perpetuate violence and discrimination against marginalized groups, especially women of color. Despite the absence of frequency percentage analysis, this selective sample facilitated a critical discourse analysis that highlights the ideological substance and communicative effect of the memes, rather than their popularity metrics. The selection aimed to illustrate various prejudices, multimodal tactics, and thematic concerns, such as questioning Kamala Harris' genuineness, distorting her racial identity, and ridiculing her political positions on economic and gender justice.

The selection of these platforms was based on their high meme circulation rates in the digital realm. Nine memes were chosen in order to guarantee a manageable sample that faithfully captures the wide range of gender and ethnic representations connected to Kamala Harris' political remarks. This example makes it possible for a thorough analysis of numerous patterns, such as how Harris' facial expressions, like smiling, smirking, and skepticism, are framed to fit racial stereotypes, such as the "sassy Black woman," making her feelings seem exaggerated, unprofessional, or unimportant. However, the multimodal approach remains consistent and focused. The selection procedure was guided by the following inclusion criteria:

Each meme explicitly references Kamala Harris' political speeches, policy statements, or public persona. Multimodal analysis was appropriate for memes that contained both textual and visual components. To be relevant and consistent, hashtags such as #Kamala Harris, #Political Memes, #Harris Speech, #RacialSatire, and #Gender Bias were used to identify memes that specifically addressed Harris' political character.

Political memes about Kamala Harris that were created through 2021-2024 via Twitter, Facebook, Instagram, and YouTube Reels platforms were chosen. The study uses a multimodal analytical approach through a strategic-ideological approach to explore concepts of temporal relevance, multimodal performance, intersectionality representation, satirical approach, comic purpose, ironic language, racialization and media production. The quotations that are provided by Harris himself in the political speeches are also used to contextualize the discourse.

Purposive sampling is used in this study to collect nine memes that present key view points on leadership assessment, authenticity discussions, and stereotyping. Multimodal Critical Discourse Analysis (MCDA) will be used to examine the selected memes and compare them to news reports from the

mainstream media. The study focused on political discussions, visual memes, and reaction videos while examining memes gathered from Twitter, Facebook, Instagram, and YouTube.

Representational Meaning

The researcher represented the positions that were attributed to Kamala Harris, such as leader, jest, menace, marionette, or caricature, and examined how her portrayal elicited cultural, racial, and gender prejudices. Particular emphasis was placed on emblematic gestures or expressions (e.g., smirking, pointing, exaggerated facial contortions) that reflected recurring archetypes such as "untrustworthy," "sassy," or "over-emotional."

Interpersonal Meaning

The analysis of viewer orientation involved the gaze direction (demand/offer), camera angle (power dynamics), and engagement methods. The tonal features of the text (sarcasm, irony, emotive exaggeration) were examined to see how audiences are prompted to ridicule, fear, distrust, or dismiss Harris. Rhetorical strategies such as irony, humor, ridicule, euphemism, and hyperbole were analyzed and interpreted concerning gender and racial ideology.

Compositional Meaning

Design elements were assessed for salience, informational value (left-right, top-bottom arrangement), framing (distinction or association between image and text), color application, and typographic selections. The study analyzed how these selections increase the ideological function of the meme; for example, the use of bold block characters in all caps may signify yelling, panic, or sarcasm.

Results

Analysis of Meme 1



Figure 1. Witch Cackle Meme

This meme originates from X. Twitter, as indicated by the tweet from the user "@MrJohn" at the top of the image; the meme's posting date is 29 September 2024. This meme features Kamala Harris mid-laugh, with exaggerated facial features captured in a candid moment. The overlaying text reads: *"Imagine a career of so few accomplishments that you will lie about working at McDonald's."* At the same time, the tweet above adds: *"She is feigning average Americanness to secure votes, as she is unpopular and disingenuous."* The meme deploys humor, sarcasm, and visual framing to delegitimize Harris' political identity.

Representational Meaning

The image captures Harris laughing, an act typically associated with positivity or confidence. However, recontextualized beneath the sarcastic caption, the meaning shifts. Her expression is reframed to suggest arrogance, deception, or unearned confidence. The meme constructs a binary opposition: Harris, the elitist manipulator, vs. the honest "average American." Her identity as a Black and South Asian woman is portrayed as performative and fraudulent, reinforcing racial and gendered mistrust.

Interpersonal Meaning

The sarcastic tone positions the viewer as someone who should ridicule Harris. Phrases like *"so few accomplishments"* and *"lie about working at McDonald's"* are emotionally charged and patronizing. The viewer is invited to laugh at Harris, not with her, establishing a superiority dynamic. The use of emojis (e.g., "cap") and social metrics (likes/retweets) fosters group validation, encouraging further ridicule and viral spread.

Compositional Meaning

The meme follows a conventional structure: image above, sarcastic caption below. The centered crop exaggerates Harris' open-mouthed laugh, while the bold, white-on-black font adds visual intensity. The layout creates a visual hierarchy, first the face, then the text that guides the viewers to interpret the laughter as absurd. The tweet above strengthens the meme's legitimacy by adding a timestamp and user interaction, simulating public consensus.

Findings

Racial Stereotype Reinforced: Uses the "sassy Black woman" trope by mocking Harris' laughter.

Gender Bias: Presents female confidence as arrogance or inauthenticity.

Use of Irony and Sarcasm: Satirical text undermines her achievements and authenticity. **Delegitimization of**

Political Identity: Suggests Harris fabricates working-class ties for political gain. **Visual-Textual Framing:** Strategic design exaggerates expressions to provoke ridicule.

Viewer Positioning: Aligns the audience against Harris using ridicule, emojis, and viral cues.

Analysis of Meme2.



Figure2.Coconut Tree Meme

It was used humorously and critically on Twitter (now X), particularly in light of Vice President Kamala Harris' central role in the Democratic campaign following President Biden's resignation after July 2024. Through its composition, visual display, and written text, this meme presents multiple political dimensions of Kamala Harris by applying Kress and van Leeuwen's (2006) Multimodal Critical Discourse.

Representational Meaning

The meme features Kamala Harris in mid-speech, wearing a blue blazer and gesturing energetically during an interview, set against a dark background. The meme quotes her line, *"You think you just fell out of a coconut tree?"* a phrase removed from its original context. Without the surrounding dialogue, the expression

becomes ambiguous and open to interpretation. This visual-textual representation invites viewers to infer absurdity, disconnection, or theatricality, which depend on their political stance. The portrait of Kamala Harris in the meme under consideration puts her within the framework of the Democratic organizational allegiance, which is inaugurated by the blue jacket she wears; also, the close-up format brings about the foreground of an excited, affective presentation. The meme transforms the context of the communication of Harris since by removing the context of the spoken quote, it has redefined how Harris speaks publicly and transformed her speech into an object of humour, satire, or part of a controlled political speech. The line can be interpreted (depending on the interpretative framework of the viewer) as a clear statement of conviction or as some kind of ambiguous half-truth, subjected to purposeful contextual elision. This way, contextualization can be treated as an ideological filter that allows the readers to reconstruct the words of Harris in either a critical or celebratory register.

Interpersonal Meaning

With the help of humour, drama, and irony, this meme in question works to form the affective stance of the viewer towards Harris. By carefully applying the technique of cropping and design, she makes her “loud laughter” louder, an effect that is produced in a performance on the theater. Such a reaction is especially dismissed by critical observers, thus reaffirming notions of emotional flimsiness or lesser dedication to political seriousness. On the other hand, religious people associate the behaviour with charisma and sociability. People who are already inclined to distrust Harris would interpret the meme as proof of his flippancy or incapacity. On the other hand, supporters can see it as a powerful woman who expresses herself freely. Political discourse is characterized by this polysemic effect, in which meaning is contingent upon the viewpoint of the spectator.

Compositional Meaning

The composition of the meme increases its persuasive power. The quoted statement is immediately readable and emotionally charged due to the stark contrast between the brilliant white serif type and the dark background. The statement is positioned on the left, and Harris' moving face takes up most of the right side, leading the viewer's eye through a visual route that resembles reading from left to right. By removing interpretive signals and isolating Harris from any surrounding factors, the cropped image highlights her emotional outburst. The meme is simple to spread, copy, and reinterpret in digital settings because of its dual design, i.e., bright, humorous text and a clear image. As a result, it invites users to encode their ideological meanings and serves as both a political critique and a template for memes.

Findings

Contextual Ambiguity as a Weapon: A decontextualized speech quote turns a potentially rhetorical phrase into a subject of derision or sarcasm.

Visual Stress on Expressiveness: It highlights the intensity of emotions in a way that could be regarded as either sensible or absurd.

Irony and Pathos: By employing irony and gently ridiculing material, the meme plays on the audience's preconceived biases.

Multivocal Viewer Interpretation: The polysemic aspect of the meme is highlighted by the multivocal viewer interpretation, which permits both positive and negative readings based on ideological affinity.

Gender Perception of Authority: The dramatic tone and expressive body language have the potential to reinforce unfavourable stereotypes about women, especially Black women, as being unduly sentimental.

Design-Driven Message Control: Carefully chosen typeface, contrast, layout, and framing create a polished, palatable meme that blends in seamlessly with online political discourse.

Meme Virality and Social Interpretation: Memes are designed to be shared, retweeted, and repurposed, thereby increasing their ideological impact across various online platforms. This is known as meme virality and social interpretation.

Analysis of Meme3



Figure3.Kamala isbrat

The above meme, taken from Facebook and uploaded on 22 July 2024, employs irony, humour, and pathos. According to Kress and van Leeuwen's Multimodal Critical Discourse Analysis (2006), this meme reveals how the artist alters public reception of Kamala Harris' speech.

Representational Meaning

This meme digitally manipulates Kamala Harris' image by placing her in an absurds scene with **pixelated sunglasses**, a **cartoonish backdrop of coconut trees**, and a distorted layout that mimics internet humor templates. At the center, there is Harris' quoted phrase, "*You think you just fell out of a coconut tree?*", which is lifted from its original political speech and repurposed in this humorous visual format.

The serious intent of Harris' statement, which is likely referencing personal responsibility or social justice, is lost entirely in this recontextualized image. As a result, she loses some other depth and authority, and a political figure is reduced to a silly meme-worthy figure. The overlay text "Kamala IS brat" further skews her by using a degrading and infantilising term and associating her with immaturity or emotional impulsivity labels that have historically been used to disrepute women in leadership roles.

Interpersonal Meaning

The humour, irony, and pathos are used to create distance between the audience and the intended rhetorical message. The use of humorous graphics and pejorative language promotes the attitudes of people, ridiculing them instead of questioning the speaker. As a result, the notion of a recipient is established as a digital spectator who takes political aspects as a subject of humour making but not as a knowledgeable analyst. This reformation of the communicative environment makes the serious political argument turn into a meaningless joke. The fact that the meme reduces women (who exude confidence) to descriptors of being too emotional or fake is in line with the current online discourse that diminishes the power of women.

The meme operates as a **performative rejection of Harris' legitimacy**, relying on exaggerated visuals and humorous irony to degrade her public persona.

Compositional Meaning

The meme's layout contributes to its undermining effect. Harris' face is visually altered with pixel glasses (a common internet trope implying "mock confidence" or "not to be taken seriously"), and the background includes coconut trees, turning a metaphorical expression into a literal, juvenile joke. The text "**Kamala IS brat**" is positioned boldly across the meme in stylized font, making it the most attention-grabbing feature. This draws the viewer's eye before any interpretation of the original quote can occur. The **clashing visual elements** (pixelation, tropical imagery, meme-style font) disconnect the meme from political

seriousness and instead package it as viral content. By rearranging the visual and verbal elements, the meme not only trivializes the speaker's message but actively **reverses her rhetorical intent**, turning an assertive political point into a punchline. This format, familiar and easily shareable, contributes to how quickly the meme circulates, spreading political mockery while detaching from facts or context.

Findings

Decontextualization and Mockery: The memes trips Harris' quote of its original meaning and repackages it for humour, robbing it for its rhetorical significance.

Infantilization and Gender Bias: The phrase "Kamala Sabrat" infantilizes Harris, echoing sexist portrayals that depict women leaders as emotionally immature.

Visual Humor to Undermine Authority: Pixelated sunglasses and tropical scenery convert a serious figure into a meme character, degrading her political credibility.

Irony and Share ability: The meme uses irony and visual exaggeration to increase entertainment value, inviting audiences to ridicule rather than engage.

Public Opinion Shaping via Aesthetics: Layout and visual-textual arrangement prioritize humour over substance, influencing how audiences interpret Harris' identity and legitimacy.

Cultural Meme Tropes: In corporate popular internet meme aesthetics (sunglasses, distorted fonts, cartoon background) to appeal to younger or cynical online audiences while trivializing political speech.

Analysis of Meme 4.



Figure 4. YouTube Reels, clip from CNN coverage of Kamala Harris' Guatemala visit, June 2021

Representational Meaning

The meme features a real clip of Kamala Harris during her 2021 visit to Guatemala, saying, "*Do not come*" to migrants considering that they cross the U.S. border illegally. The original context, i.e., a formal political statement on immigration, is visually extracted and **reframed in a satirical format**, juxtaposed with a Trump-era meme or humorous video that mocks her seriousness.

The added overlay, "*I regret my decision*," is not part of Harris' original speech. It serves as a fabricated error, suggesting Harris is now ashamed of her previous stance. This altered the pairing that **creates a contradiction between the visual gravitas of her face and the unexpected regretful tone**, implying insincerity or failure. By portraying her as a confused or repentant individual rather than as a legislator, the representational content ultimately undermines her power.

Interpersonal Meaning

The meme allows both intra-individual laughter and the verbalization of group disapproval through the use of sarcasm and visual mockery. The theme of Kamala Harris and her expressive face, which has always been interpreted as being of serious political interests, is transformed into either melodramatic or insincere in the world of memetics. It is therefore open to the audience to become part of the mockery, identifying that the image was just an inane reversal of the serious Harris official skin.

Those who are already skeptical of her position on immigration would naturally take the meme as a confirmation of their pre-existing gut feelings that she was either ideologically reactive or a phony. The tone of emotion, where the portraits of Harris as overwhelmed or fragile are projected in spite of the apparent satire in the projections, could be interpreted as setting a tone of tragedy. Therefore, the meme not only subverts the reputational capital of Harris but also creates a pretentious intimacy that endears the audience to it.

Compositional Meaning

A solemn occasion is indicated by Harris' formal attire, professional lighting, and visual centering in the frame. However, by combining the clip with sarcastic music, altered sentences, and fragmented cuts from irrelevant video content (such as Trump videos or meme sounds), its solemnity is undermined. For immediate effect, the words "I regret my decision" are superimposed in a bold type face, usually in red or white. The meme's hilarity is enhanced by this visual-verbal dissonance, which transforms a political statement into a joke. The overlay text initially captures the viewer's attention and frames the interpretation of the video clip. The meme's ideological impact in online political discourse is facilitated by its viral replication design, which makes it simple to spread, remix, and meme further.

Findings

Misrepresentation through Decontextualization: The meme reinterprets the phrase "Do not come" to imply weakness or inconsistency by taking it out of its political context and adding a fake sorrow.

Delegitimization of Leadership: The meme calls into question the Harris' political integrity and decision-making by suggesting that she regrets her position.

Visual-Ironic Contrast: Combines formal visuals with exaggerated edits and satirical text to ridicule the speaker.

Gendered Double Standard: Suggests emotional instability or indecision, traits of ten unfairly assigned to women leaders, especially women of color.

Emotional and Comedic Appeal: Engages pathos and humor to provoke viewer reactions, positioning Harris as both laughable and untrustworthy.

Participatory Mockery: Encourages viewers to engage with the meme as a political joke, reinforcing ideological narratives through virality and satire.

Analysis of Meme5.



Figure5. "Office Promotion" Meme. Facebook, posted on August 31, 2024.

The above meme was taken from Facebook and posted on 31 August 2024. Under Kress and van Leeuwen's Multimodal Critical Discourse Analysis (2006), the meme showing Kamala Harris with the caption "That one employee who has not done anything for 3 years, but thinks they have earned a promotion" shows digital political communication via irony, humour, and pathos.

Representational Meaning

According to this meme, Kamala Harris appears to give a speech while standing tall and confident in front of an American flag while dressed professionally. The background, which represents institutional legitimacy and national authority, conveys a sense of strength, leadership, and patriotism. The satirical text that is superimposed, however, severely undermines this visual seriousness: "That one employee who has not done anything for three years, but thinks they have earned a promotion."

By equating political leadership with poor performance in a corporate setting, this contrast reframes Harris image from one of a respectable leader to one of an inefficient employee. The meme makes the political message approachable and easy to understand by using a culturally recognizable office metaphor, especially for viewers who are fed up with what they perceive to be passivity on the part of the government or symbolic representation that yields no consequences.

Interpersonal Meaning

The meme uses pathos and irony to change how people view Harris' achievements. The caption's caustic and insulting tone presents the spectator as superior to the subject in terms of knowledge, competence, or deservingness. By implying that Harris is unworthy of her position and unaware of her inefficiency, this rhetorical framing evokes feelings of superiority and suspicion in the audience.

The meme turns political discontent into collective laughter by inciting criticism through humour. It appeals to emotions such as **resentment**, **disillusionment**, and **ridicule**, inviting viewers to question the merit of Harris' leadership. Her competence is framed as **symbolic rather than substantive**, thereby reinforcing gendered and racialized skepticism surrounding women of color in power.

Compositional Meaning

Visually, the meme contrasts two modes: a **professional photographic composition** (flags, lighting, pose) and a **casual meme aesthetic** (bold text, social-media style font). The overlay text is placed at the top or bottom of the image, in all-caps or bold white font, consistent with standard meme design for visibility and immediacy.

This **visual-textual dissonance** (formal image vs. mocking text) intensifies the irony and directs the viewer's interpretation. The traditional symbols of power (the flag, podium, confident pose) are hollowed out by the text's implication: Harris may look the part, but has not earned her place. The composition encourages viewers to laugh, share, and perpetuate the narrative of **unearned promotion**, a trope that echoes deeper prejudices about affirmative action, tokenism, and race/gender politics.

Findings

Irony and Workplace Analogy: Makes use of the "lazy employee" cliché to downplay Harris' contribution to public service and undermine her achievements.

Visual-Textual Contrast: Uses snarky meme text to undermine the authority conveyed by the American flag and podium.

Racialised and gendered stereotyping: Strengthens the idea that women of colour in leadership roles are appointed symbolically rather than meritoriously.

Humor viewer alignment: By positioning Harris as out of touch, the filmmakers set the audience as having more normalcy than the official in question and use humorous ridicule to unite the audience around a collective disappointment in political authority.

Emotionally Manipulative Framing: The video plays on the tropes of incompetence and pride as symbolizing Harris to elicit corps discontent with power structures.

Cultural Accessibility: Metaphorical meme-economy deployments at the workplace make a political critique more accessible and transferable, thereby boosting meme relatability and shareability.

Public Delegitimation: Politicising their derision into further scorn of institutions. In the case of political imagery, turning ridicule into a perfect norm weakens the perceived legitimacy of their political institutions and exposes social-media ridicule.

Analysis of Meme 6.



Figure 6. “Foghorn Leghorn Accent” Meme

This meme was taken from Facebook and posted on 3 September 2024. Through irony, humorous tones, and emotional appeal, the meme presents Kamala Harris’ speech delivery to the viewers by linking it to Foghorn Leghorn. The Multimodal Critical Discourse Analysis framework by Kress and van Leeuwen (2006) explains how textual and visual components create the primary message of a text.

Representational Meaning

This meme depicts that Kamala Harris is delivering a public speech side-by-side with a well-known cartoon character, **Foghorn Leghorn**, a Looney Tunes rooster known for his exaggerated Southern drawl. The meme references an actual moment when Harris was accused of using an unnatural accent during a campaign rally. Still, it distorts the moment by visually aligning her with a caricature of artificiality and buffoonery.

It is a purposeful visual assault to pair a cartoon farm animal with a professional politician. Foghorn Leghorn is used in the meme to imply that Harris’ speech is performative, phony, and cartoonish. This makes fun of her genuineness, especially when it comes to her ability to relate to Southern Black or working-class audiences. “Kamala not so much,” the following text confirms this portrayal by raising questions about her likability and speech pattern. By comparing her to a mythical rooster, she symbolically loses her political leadership status.

Interpersonal Meaning

Three important elements of the meme's interpersonal function are satire, partisanship, and cultural familiarity. Viewers are positioned as observers who are asked to laugh with Harris rather than join in. The image is clearly framed in the context of a political conflict, with the tagline “KAMALA HARRIS TROLLED FOR ‘FAKE ACCENT’ BY TRUMP SUPPORTERS” at the bottom, prompting

viewers to take a partisan stance. Because of this, the meme stops being a simple form of mockery and starts to be used as a tool for political polarisation.

The humorous aspect of the comparison is its incongruity, i.e., a cartoon rooster and a vice president. However, the impact is more than just amusing. Viewers who question Harris' authenticity, especially those who believe that she speaks differently or uses her Blackness for political ends, find emotional appeal in the meme. This speaks to the racialised and gendered discourses that women of colour often face when their voices or tones deviate from norms.

Compositional Meaning

By horizontally aligning Kamala Harris and Foghorn Leghorn, the meme visually places them on the same level and highlights equivalence. The cartoon image and Harris' face are positioned in a way that encourages direct visual comparison. This composition method supports the rhetorical idea that Harris' public speaking is as exaggerated and unrealistic as that of a cartoon character.

The form of the typical typographic hierarchy of an illustrated news panel is a repeat of the tabloid headline. The huge, capital caption at the bottom centre places the visual image within an immediate discourse of spectacle. It also makes Harris the subject of columnist mocking as it positions her as the center of the scene and highlights the disputed dialogue between her and Trump. Font, placement, and image contrast are all aesthetic choices meant to increase emotional impact and encourage rapid online engagement through likes, shares, and jeers.

Findings

Delegitimisation by Cartoon Comparison: When Harris is likened to a legendary rooster, her authority and gravity are undermined.

Attacks on Harris' Accent and Authenticity: These charges perpetuate racialised stereotypes about code-switching or performative identity by characterising Harris' speech patterns as fake, dishonest, or manipulative.

Partisan Framing: The title clearly links the meme to Trump supporters, situating it inside a contentious political debate.

Mockery of Public Speech: By dismissing Harris' formal speech as absurd, it turns a campaign moment into a widely circulated joke.

Race and Gender: Intersectionality undercuts a woman of color's leadership by mocking her voice and communication style, which are common clichés used to denigrate women in politics.

Components of Design Make the Message Stronger: A horizon tall layout and sensational language reinforce the desired emotional provocation and mockery while increasing viewer impact.

Analysis of Meme 7.



Figure 7. "Ukraine/Do You Understand?" Meme

This meme was taken from clips that were uploaded to YouTube on 3 March 2022. Kamala Harris' 2022 remarks about Ukraine serve as a potent example of a meme that shows how digital media platforms use pathos and ironic humor in political discourse. Kress and van Leeuwen (2006) used Multimodal Critical Discourse Analysis (MCDA) to examine how visual elements in texts create significant ideological constructions that alter audience comprehension.

Representational Meaning

Kamala Harris' 2022 remarks regarding Ukraine, which were initially included in a policy commentary during the Russia-Ukraine war, are reframed in this meme. Because the meme's satirical images and subtitles contrast with her words, her remarks come across as basic, clumsy, or unimportant. Her real-life remark is stripped of its diplomatic context in order to show her as unfit for international affairs, context and

paired with absurd or excessive visuals, including confused face expressions or inappropriate video combinations. By condensing complicated foreign policy in to a single statement and putting it into a humorous meme template, Harris positions himself as a caricature of political incompetence, particularly that of someone who is racially and ideologically "unfit," rather than as an informed policymaker.

Interpersonal Meaning

Through pathos, the meme appeals to the viewer's feelings, which are frequently uncertainty, guilt, or discontent. Rather than promoting interaction with Harris' message, it makes her speech into an internet joke. Her fans can feel that her authority is unfairly mocked, while those who are already critical of her are in a position to feel validated. Because Harris' public character is understood through mockery rather than thoughtful criticism, this strategy contributes to a delegitimizing interpersonal effect. By promoting ridicule-based rejection rather than dialogue and strengthening ideological divisions, it fosters togetherness through mocking.

Compositional Meaning

The layout typically follows a viral meme format: Harris' photo is edited into awkward postures or paired with humorous background clips. Fonts are bold, emojis may be used for exaggeration, and captions misrepresent quotes to reinforce the absurd tone. The **clash between visual cues (e.g., official setting)** and **textual trivialization** (jokes, sarcasm) disorients the viewer, pushing them to see the speaker as comically out of depth.

Findings

Recontextualized Mockery: Serious political commentary is trivialized for entertainment.

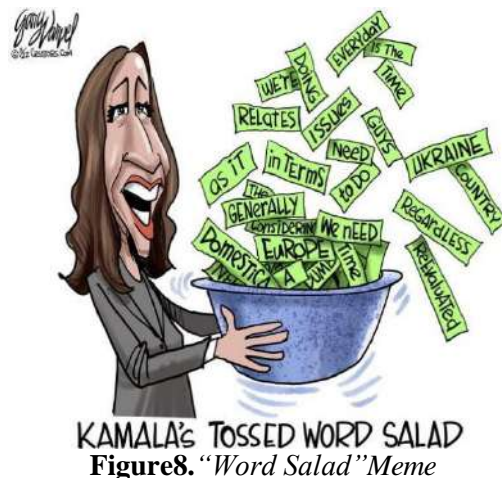
Undermines Credibility: Replaces diplomatic intent with exaggerated incompetence.

Visual-Textual Irony: Distorts meaning by pairing formal visuals with comedic captions

Gendered and Racialized Stereotyping: Implies Harris is not intellectually or professionally capable.

Audience Manipulation: Uses humor to provoke mistrust and dismissiveness

Virality over Veracity: Formats are designed for engagement, not accuracy



Six months ago, the meme was posted on Facebook. The meme depicts that Kamala Harris is assessing her language responses by tossing around word salad, a collection of random word fragments with an ironic and pathological twist. By applying Kress and van Leeuwen's MCDA framework, which incorporates visual and textual data, create shared meanings that bring attention to Harris.

Representational Meaning

This meme visualizes Kamala Harris' 2022 speech by using the metaphor of a **literal tossed salad** to represent fragmented and disorganized speech. Key words like "Ukraine," "considering," and "issues" are separated and scattered like salad ingredients, emphasizing perceived incoherence. Harris is shown mid-

speech, often gesturing expressively, which visually mimics the confusion of the "word salad" metaphor. By connecting Harris' verbal delivery to meaningless fragments, the meme strips her of rhetorical competence, aligning her with confusion rather than leadership.

Interpersonal Meaning

The meme uses **sarcasm and visual exaggeration** to position the viewer as intellectually superior. The viewer is encouraged to see Harris not as a stateswoman, but as someone whose words lack coherence or value. Emotional appeal is embedded in the mockery—pathos emerges from the **audience's shared frustration or embarrassment** at seeing a national leader portrayed as incoherent. This humor works interpersonally to delegitimize Harris, especially among viewers who already question her qualifications, encouraging disbelief in her communication ability and broader leadership.

Compositional Meaning

The meme includes **green text strips** (visually mimicking salad toppings), a disorganized layout, and font variations to amplify the joke. The salad metaphor is executed through both **visual pun** and **symbolic attack**, with Harris' speech contents treated as chopped and tossed fragments. The composition favors emotional and comedic impact over factual or political engagement.

Findings

Speech Incompetence Stereotyping: Depicts Harris as unable to articulate policy coherently.

Sarcasm Through Visual Metaphor: The "Wordsalad" metaphor renders the communication nonsensical.

Delegitimization via Humor: Encourages mistrust in Harris' leadership through ridicule.

Gendered Visual Devaluation: Frames assertiveness as chaotic and disordered.

Emotional Manipulation (Pathos): Engages frustration and distrust, discrediting political messages.

Meme Logic Reinforces Dismissal: Make critical speech moments fodder for comedy.

Analysis of Meme 9.



Figure 9. "Venn Diagram" Meme

Taken from Facebook and posted on 6 October 2022. Using irony, humour, and pathos, the meme with Kamala Harris inside a Venn diagram framework generates a multimodal critique consistent with the ideas of Kress and van Leeuwen's (2006) Multimodal Critical Discourse Analysis (MCDA).

Representational Meaning

This meme features Kamala Harris placed inside a **Venn diagram**, where two overlapping circles are labeled:

"People who should not be anywhere near the levers of power." "People who love Venn diagrams"

Harris is shown at the center of the overlap, directly associating her comment about liking Venn diagrams with political incompetence. This representation **ridicules her intellectual capacity and communication**

choices, trivializing her leadership by linking a harmless academic reference to mockery and failure.

Interpersonal Meaning

The meme positions the spectator to regard Harris as both absurd and unworthy by attacking her character with empathy and sarcasm. It capitalizes on the conflict between a personal quirkiness and the public's expectation of political seriousness. Although she is tasked with important duties, the audience is urged to mock her for taking pleasure in little matters. This personal framing raises questions about the significance of her political presence while evoking both laughter and disdain.

Compositional Meaning

The meme makes fun of the Venn diagram structure, which is typically used for logical analysis or instruction. Harris' positioning at the intersection graphically emphasizes the concept that she fits into both of the unwanted groups. The fonts are bold, clean, and meme-standard, with an emphasis on contrast and clarity. Ironically, the academic structure exacerbates the insult by suggesting that even her reasoning is flawed.

Findings

Trivialising Political Identity: The concept of political identity is also trivialized when infirmity is converted to appear harmless objectives.

Irony between words and images: There is a habitual irony of language or image opposed to personalised commending that regularly makes personalised statements a political liability.

Personality and Style Mockery: In parallel, stylistic and personality-oriented criticism are based on the idea that a lack of skill is visible in aggressive communication decisions.

Using a woman's character as evidence: Likewise, the use of the character traits of women as evidence is gendered and disqualifying.

Framing structurally: Lastly, framing in the context of diagrammatic logics supposedly bases assertions on assumed objectivity, and the memetic aspect deepens such assertions with a merging of personal attack and didactic aesthetics.

Results

In this research, the researcher examines nine political memes that criticize Kamala Harris' public discourse by using multimodal critical discourse analysis. The memes were chosen on a heterogeneous modal structure and ideological numbering. Every meme is questioned through a Multimodal Critical Discourse Analysis (MCDA) model that follows Kress and Van Leeuwen's (2006) framework and focuses on representational, interpersonal, and compositional aspects. These memetic texts, which arouse such an analysis, should not be seen only as a humorous commentary but as a more strategic object that circulates the polarizing ideological discourse. They humiliate the speech, identity, and credibility of Harris by using irony, manipulating visual images, and even cultural stereotypes such as racial and gendered stereotypes. The general findings that follow summarize the results of the nine memes.

Witch Cackle Meme (Twitter, 29 September 2024): Uses a cropped image of Harris laughing along with caustic wording to mock her line of work. It recasts her self-assurance as dishonest and inept, supporting the Stereotype that Black women in positions of authority are performative or unworthy.

Coconut Tree Meme (Facebook, 22 July 2024): Takes Harris' quote "You think you just fell out of a coconut tree?" out of context and digitally distorts it. The meme infantilizes her and depicts her as nonsensical, using irony and humor to trivialize political discourse and mock Black cultural expression. **Coconut Tree – Brat Meme** (Facebook, 31 August 2024): Shows Harris making a rhetorical remark but overlays a cartoonish backdrop and the phrase "Kamala is brat." This meme reduces her to an emotional, childish figure, playing on stereotypes that women of color are irrational or aggressive.

Do Not Come Meme (YouTube Reels, June 2021): Extracts Harris' immigration warning ("Don't come") from a CNN interview and inserts it into a comic mashup with Trump commentary. The meme portrays her as hypocritical and weak, undermining her stance on immigration with emotional sarcasm.

Office Promotion Meme (Facebook, 31 August 2024): Juxtaposes Harris before an American flag with

the caption "That one employee who has done nothing for 3 years..." The meme frames her as symbolically promoted rather than earned, feeding narratives about tokenism and racialized professional doubt.

Foghorn Leghorn Meme (Facebook, 3 September 2024): Pairs Harris' public speech with Looney Tunes' Foghorn Leghorn, mocking her speaking style and accent. It implies that her speech is unnatural or exaggerated, drawing on racialized perceptions of inauthenticity and performative Blackness.

Ukraine/Do You Understand? Meme (You Tube Reels, 3 March 2022): Extracts a serious diplomatic comment about the Ukraine war and layers it with humorous clips, implying she lacks international awareness. It trivializes foreign policy and rebrands Harris' rhetoric as clueless and incoherent.

Word Salad Meme (Facebook, early 2024): imagines an actual salad bowl full of word fragments with green tints, such as "Ukraine" and "considering." The meme delegitimises Harris' intelligence and policy expression by making fun of her speech patterns and portraying them as meaningless gibberish.

Venn Diagram Meme (Facebook, 6 October 2022): Harris serves to represent not only one who should not be in a position of power, but also one who would prove to have an unreasonable attraction to Venn diagrams. In general, such a dual designation would be interpreted as evidence of a lack of sufficiently adequate leadership capacity and as a target of pedagogically inclined quirks. It can be considered, then, that the Venn diagram used in this work is a tool of both political commentary and academic parody.

Table 1
Frequency of Discursive Themes Across Kamala Harris Memes

Discursive Themes	Number of Memes (out of 9)
Delegitimization of Authority	9
Sarcasm & Irony	9
Visual-Textual Distortion	9
Emotional Manipulation (Pathos)	8
Racial Stereotyping	7
Gender Stereotyping	6
Mockery of Speech	6
Trivialization of Identity	5
Political Polarization	4

An in-depth analysis of recurring discursive motifs in the nine memes about Kamala Harris on a theme of politics illustrates that irony, delegitimization, and visual-textual distortion were frequently and strategically deployed (Table 1), all of which serve to undermine her legitimacy and leadership. Eight of the memes also use pathos, which is emotional manipulation in this case, used in order to influence the attitudes of the viewers through the use of sarcasm and mockery. We even see the racial and gender stereotypes defining Harris as a woman of colour, which once again testifies to the nature of her identity as being intersectional. Examples like partisanship, the parody of speech, and the trivialization of identity further demonstrate that memes are tools of ideological contest, mixing symbolic violence with laughter, to achieve influence over the popular mindset.

Discussion

The analysis of nine political memes addressed to Kamala Harris produced an idea of recurrent rhetorical manoeuvres that confirm the previous studies of digital discourse and multimodal satire. The results support the idea of memes being used outside the sphere of entertainment and being used for ideological polarisation, racial and gender profiling, and political demonisation.

Demonisation of authority

The memes continually portray Harris as incompetent, lying, or just a figurehead as opposed to genuine, thus lowering her perceived credibility and competence. Illustrating that it is common to have Harris diminished to undeserving custodianship of governmental power employed through ale code and oblique mockery, (Nee, 2023; & Bland et al., 2024) have adequately insisted on it. This paper substantiates those findings. The memes, like "Kamala IS brat and That one employee who has not done anything... seem to have coded cultural cliches questioning her authority.

Gender-based and racially-based stereotypes

The amount of racial stereotypes invoked by seven memes notably includes: “sassy Black woman” and “Jezebel.” There are also six memes perpetuating gendered tropes: emotional instability and infantilisation. These patterns align with Cassese et al., (2022), who demonstrated that the media presentations focus on the race of Harris, and Cerja et al.,(2024), who introduced the idea of a digital public woman as a way to perform the delegitimisation of Black women through humour and irony.

These tropes were evident in memes like the “Witch Cackle” and “Foghorn Leghorn” comparisons, which symbolically challenge Harris authority through emotive caricature.

Employing Humour, Irony, and Pathos as Manipulation Strategies

Every meme used exaggeration, parody, and sarcasm to provoke emotions such as disdain, laughter, or disbelief. This is consistent with Tianli and Chen (2024), who noted that rhetorical comedy in political situations commonly uses exaggeration, irony, and metaphor to demystify difficult ideas and elicit powerful audience responses.

Visual-Text Distortion

Through the use of cropping, facial exaggeration, and typography (bold caps, emoji, filters), memes purposefully change meaning and give emotional interpretation precedence over rational analysis. Rezeki et al., (2024) claimed that the colour schemes and patterns of memes are used to support ideological narratives. These design elements were evident in the visual layout of memes like the “Word Salad” and “Coconut Tree” forms, which promote ridicule rather than reflection. An excellent illustration of how visual metaphor and layout can transform political discourse into a joke is the meme’s positioning of Harris next to cartoon characters or salad ingredients.

Audience Engagement and Political Polarization

Using comedy to foster unity against Harris, memes frequently encourage partisan cohesion. This tendency is similar to that of Steele (2023) and Schmid et al.,(2024), who discovered that far-right meme comedy serves as a political echo chamber and encourages exclusionary beliefs. Furthermore, Lin et al., (2024) showed how participatory media culture can be used to perpetuate objectionable stereotypes through meme virality. These memes’ use of ambiguous sarcasm and sarcastic detachment makes them “safe” to spread, even when they include highly coded meanings, which broadens their ideological appeal. By clearly connecting meme aesthetics to rhetorical violence and illustrating how irony and emotional distortion combine to delegitimize marginalized political leaders, our findings build on previous research. This analysis offers a more longitudinal and intersectional perspective than more general meme studies (e.g., McVicker, 2021) since it concentrates on particular speech distortions and multimodal framing of Harris’ identity between 2021 and 2024.

Conclusion

Using Vice President Kamala Harris as a case study, this work has critically analyzed how political memes serve as instruments of digital discourse that sustain racial, gender, and ideological violence against disadvantaged political actors. Using Kress and van Leeuwen’s (2006) Multimodal Critical Discourse Analysis (MCDA), the study found that memes’ textual and visual components consistently misrepresent Harris’ original speech acts and public persona in ways that undermine her authority and promote negative stereotypes.

Sarcasm and satire are employed as tools of symbolic exclusion in the modern meme landscape, being used to illustrate the complex power structures within the texts. Through framing Kamala Harris as incompetent, inauthentic, or otherwise unqualified to lead (or, in particular, to highlight that she is a woman of colour), visual irony, quotation out of context and gendered caricature are employed to discredit her legitimacy. This rhetorical maneuver renders salient political issues and makes them sticky and iconic through parodies that sneak along resonant ideological constructs like anti-Blackness, misogyny, and partisan polarization. These memes are, therefore, used to belittle serious political arguments, illustrating that the

medium lacks the neutrality of ideology. They often operate as digitally mediated acts of rhetorical violence, shaping public perception not only of political figures but also of race, gender, and authority itself. In doing so, they risk normalizing discrimination and symbolic erasure, particularly when they target individuals from historically marginalized communities.

Future Recommendations:

- Investigate how diverse audiences interpret and emotionally respond to such memes (reception studies).
- Compare meme depictions of male and female politicians across racial lines.
- Explore the legal and ethical boundaries between satire and hate speech in digital communication.
- Integrate quantitative methods (e.g., engagement metrics) to measure how widely harmful meme content is circulated and consumed.
- Ultimately, this study contributes to the growing recognition that digital satire, especially in the form of memes, is not harmless entertainment; it is a potent ideological force that can reinforce inequality, marginalize voices, and challenge the democratic integrity of public discourse.

Limitations

- **Small Sample Size:** Only nine memes were analyzed, limiting generalizability to broader meme cultures.
- **Platform Restriction:** Memes were collected from a few platforms (Facebook, Twitter/X, Instagram, and YouTube), excluding others like TikTok or Reddit.
- **No Audience Reception Analysis:** The study does not include how viewers interpret or emotionally respond to the memes.
- **Single Subject Focus:** Concentrates solely on Kamala Harris, without comparing representations of other political figures.
- **Contextual Interpretation Bias:** Meme meanings depend on cultural context; interpretations may vary and are subject to researcher bias.
- **English-Language Limitation:** All memes were in English and U.S.-centric, excluding multilingual or international meme discourse.

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Geographic and Socioeconomic Predictors of Disaster Preparedness among Barangay Health Emergency Responders and Residents: Evidence from Dapitan City

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This study investigated the levels of disaster awareness and preparedness among Barangay Health Emergency Response Teams (BHERTs) and residents in Dapitan City, Philippines, specifically examining the influence of geographic and socioeconomic factors. Employing a descriptive-correlational design, data were collected from 380 respondents, comprising BHERT members and randomly selected residents, across 15 barangays in Dapitan City. Structured questionnaires assessed disaster awareness, attitude, and preparedness. Ordinal logistic regression analysis, using maximum likelihood estimation ($\alpha = 0.05$), identified significant geographic and socioeconomic predictors of awareness, attitude, and preparedness levels. Findings indicate high levels of awareness regarding common hazards such as typhoons (87.9%), earthquakes (84.2%), and floods (75.8%), yet overall practical preparedness remains low. Higher family monthly income ($p = 0.007$) and residential proximity to river-plain ($p < 0.001$), near river ($p = 0.010$), and near river-mountain areas ($p = 0.006$) were significant predictors of a more favorable disaster awareness attitude. For BHERT preparedness, higher educational attainment ($p = 0.024$) and classification as a very highly vulnerable barangay ($p = 0.023$) were significant positive predictors. Conversely, age ($p = 0.030$) was inversely correlated with BHERT preparedness. Sex, occupation, and attendance at disaster preparedness training did not emerge as significant predictors. BHERTs were consistently rated as "Partially Prepared" across all dimensions, including systems and structures, policies and plans, building competencies, and equipment and supplies. The study concludes that a persistent gap exists between awareness and practical preparedness, with geographic and socioeconomic factors critically shaping both. However, a crucial observation is that while statistically significant, the models' explanatory power for both awareness attitude (Nagelkerke $R^2 = 0.031$) and BHERT preparedness (Nagelkerke $R^2 = 0.0445$) is low. The result suggests that these measured factors are not the sole determinants of awareness and preparedness, highlighting the need for future research to investigate a broader range of variables and informing the development of targeted interventions addressing topography, income, and education.

Keywords: BHERT, vulnerability, education, disaster awareness, disaster preparedness, geography, socioeconomic predictors, Philippines

The Philippines, located within the Pacific Ring of Fire and exposed to an average of 20 typhoons annually, is one of the world's most disaster-prone nations (United Nations Office for Disaster Risk Reduction, 2023). In 2022, natural disaster-related damages reached approximately 30 billion pesos, underscoring the country's severe and recurring threats (Statista Research Department, 2024). The World Bank and the Philippine government have invested in proactive risk management and resilience-building efforts, recognizing the critical importance of effective local disaster risk reduction (World Bank, 2023).

Climate-related disasters in the Philippines disproportionately affect socioeconomically vulnerable areas. Provinces such as Pangasinan, Pampanga, Nueva Ecija, and Cagayan report among the highest aggregated and average damage ratios, indicating widespread structural damage during extreme weather events (Cabico, 2023; Esquire Philippines, 2023; Noriega, 2023). These provinces also rank among the country's poorest (Philippine Statistics Authority, 2022). Poverty limits disaster preparedness. Poor households often reside in high-risk areas due to economic necessity and have less access to protective infrastructure (Hallegatte, 2020; Castañeda et al., 2020). With fewer resources, they invest less in prevention and recovery (Hallegatte et al., 2017, as cited in SAMHSA, 2017), further compounding their vulnerability.

Within this national context, local government units (LGUs) and their constituent barangays, as the lowest administrative units, play a pivotal role in ensuring community preparedness (Porio & Roque-Sarmiento, 2019). This study focuses explicitly on Dapitan City in Zamboanga del Norte, Western Mindanao, which recorded a poverty incidence of 36.1% in 2021, significantly higher than the national average of 18.1% (Laput, 2019; PSA, 2019; PSA, 2022b; 2022c). This high poverty incidence is particularly relevant, as poor populations are disproportionately affected by natural disasters due to fewer resources for prevention and mitigation, and often reside in hazardous locations with less protective infrastructure. By concentrating on Dapitan City, the research provides a localized examination of disaster preparedness challenges within a highly vulnerable and socioeconomically disadvantaged urban-rural setting, thereby contributing specific, actionable data for local policymakers.

This study integrated Social Capital Theory and risk perception to develop a comprehensive framework for analyzing disaster awareness and preparedness. Social capital, long recognized as pivotal in disaster risk management, underpins this approach (Zhao et al., 2025). Bourdieu conceptualizes social capital as the aggregate of actual or potential resources accessible through durable social networks (Bourdieu & Wacquant, 1992, cited in Gauntlett, 2011; Claridge, 2015). Toyon (2022) further emphasizes its role in accessing social potential within agent-controlled systems. This study posits that social networks and the resources they facilitate—such as mutual assistance and information exchange—are central to preparedness. In the Philippines, cultural values like *bayanihan* (community spirit) exemplify bonding social capital, promoting resilience through mutual support in turbulent times (Vadil et al., 2025).

Risk perception complements social capital by shaping individual and collective disaster management behaviors. It has been consistently linked to preparedness actions, particularly when risks are perceived as imminent and severe (Twigg, 2013; Kalin & Yeşilyurt, 2025). This study measured risk perception via disaster awareness and preparedness attitudes. Prior research indicates that greater knowledge of hazards enhances risk perception, encouraging proactive behavior (Bahramzadeh Gendeshmin et al., 2025). The framework also incorporates the influence of socioeconomic conditions and prior experience. Higher education correlates with improved awareness and disaster responsiveness (Bahramzadeh Gendeshmin et al., 2025; Rivera, 2021), while socioeconomic status strengthens engagement in preparedness (Han & Wu, 2024). Likewise, past disaster experience or residing in hazard-prone areas elevates risk perception, prompting greater preparedness (Kalin & Yeşilyurt, 2025). By grounding the study in these theoretical constructs, the research aims to explain how and why geographic and socioeconomic factors shape disaster awareness and preparedness, moving beyond correlation to uncover underlying mechanisms (Zhao et al., 2025).

While existing literature has broadly addressed disaster knowledge and awareness in regions like Zamboanga del Norte (Padua, et al., 2015; Telen, 2015; Campiseño, 2015; c& Aquino, 2015; Flores, 2015; Jacinto & Campiseño, 2015; Subong & Luza, 2015; Banquiao & Maratas, 2015), a significant gap persists in the comprehensive understanding of how specific geographic and socioeconomic factors interact to predict both disaster awareness and practical preparedness at the granular barangay level, particularly in a multi-hazard, high-poverty urban-rural context such as Dapitan City. Previous studies often focus on general awareness or preparedness without deeply exploring these combined factors' predictive relationships on residents and the designated local emergency responders (BHERTs).

This study can have several key contributions. First, it provides a dual perspective by analyzing residents and BHERTs, offering a more holistic view of community-level preparedness that includes the general populace and the frontline responders. Second, it employs a quantitative approach to identify predictors rather than merely describing correlations, providing actionable policy and intervention design insights. Third, the research integrates specific geographic variables (e.g., topography, proximity to rivers/mountains) with socioeconomic factors (e.g., income, education) to offer a nuanced understanding of localized vulnerability and its impact on preparedness. This comprehensive analysis addresses a critical void in the local literature, providing data directly relevant to policymakers in Dapitan City and contributing to the broader academic discourse on community resilience in vulnerable settings.

In line with the identified gaps, this study aims to (1) describe the profile of BHERTs and residents; (2) assess their levels of disaster awareness, attitudes, and preparedness; and (3) identify significant geographic and socioeconomic predictors of disaster awareness, attitudes, and preparedness. Therefore, the study addresses the following core research questions: (a) What is the disaster awareness, attitude, and preparedness level among BHERTs and residents? (b) Which geographic and socioeconomic variables significantly predict disaster awareness attitude and disaster preparedness?

Method

This study utilized a descriptive-correlational research design. This approach was selected as it allows for the systematic description of the characteristics of a population (e.g., disaster awareness and preparedness levels) and the examination of relationships between variables (e.g., geographic and socioeconomic factors as predictors of awareness and preparedness). Fifteen Dapitan City, Philippines barangays participated in the study within a three-month data gathering period (October to December 2024), such as Oyan, Daro, San Vicente, Carang, Sto. Niño, Ilaya, Sulangon, Dampalan, Opao, Oro, Sicayab-Bucana, Selinog, Sinonoc, Tag-ulo, and Taguilon. Using the maps of the Dapitan City Disaster Risk Reduction and Management Office, these barangays were categorized according to their vulnerability to hazards in terms of infrastructure, roadways, and population. It ensured representation from diverse geographic areas within the city. The study population consisted of residents and all members of Barangay Health Emergency Response Teams (BHERTs) in Dapitan City (Barangay Executive Officer, Barangay Tanod, and two Barangay Health Workers [Department of the Interior and Local Government, 2020]) from the participating barangays, representing a census of these key local responders. The residents within these 15 barangays were randomly selected to participate. The total sample size of 380 respondents from a population of 28278 was determined using the Cochran formula. This formula was applied with a 95% confidence level, a 5% margin of error, and an estimated population proportion of 0.5 (to maximize sample size for unknown proportions), ensuring that the sample was statistically representative of the target population within the selected barangays.

Data were collected using a structured instrument with three parts. The first part gathered data on the respondents' profiles in terms of age, sex, education, income, sources of disaster information, barangay classification (as to vulnerability to disaster), and topography of residence. The second part of the instrument, assessing the respondents' disaster awareness attitude, was adopted from a standardized instrument referenced by Hargono et al., (2023) from Tuladhar et al., (2015). Responses for this instrument were measured using a five-point Likert scale, with scores of 1 (strongly disagree) as the lowest to 5 (strongly agree) as the highest level of disaster awareness attitude. The third part, which focused on the preparedness of BHERTs, was based on the study by Dariagan (2021) and categorized into four dimensions: systems and structures, policies and plans, building competencies, and DRRM equipment and supplies. Statements in this instrument were rated on a three-point scale: 1 - not prepared (1.00-1.66), 2 - partially prepared (1.67-2.33), and 3 - prepared (2.34-3.00). To ensure these multi-item scales' internal consistency and reliability, Cronbach's Alpha coefficients were calculated for each dimension among the 30 pilot individuals who were not part of the target respondents. All scales demonstrated good internal consistency, with Cronbach's Alpha values ranging from 0.84 to 0.99 (awareness attitude=0.95; preparedness: system = 0.84; policies and plans = 0.98; building competence = 0.99; equipment and supplies = 0.98). Ethical

clearance was obtained prior to data collection from the Jose Rizal Memorial State University Research Ethics Committee, and all respondents were provided informed consent. Confidentiality of responses was strictly maintained.

Descriptive statistics, including frequencies, percentages, and means, were employed to characterize the demographic profile of the respondents and to assess their levels of disaster awareness attitude and preparedness. For inferential analysis, ordinal logistic regression was utilized to investigate the influence of predictor variables on the ordinal outcomes of preparedness levels and disaster awareness attitude. The predictor variables included sex, age, barangay classification (as to vulnerability to disaster), topography of residence, highest educational attainment, family monthly income, source of disaster information, and attendance at disaster preparedness training. These were converted into dummy variables to accommodate the categorical nature of variables such as barangay classification and topography. For instance, in the topography analysis, "plain" areas served as the reference category, allowing for the interpretation of other topographic classifications (e.g., "near river-plain," "near river," "near river-mountain") relative to this baseline. Similarly, "Highly Vulnerable" was established as the reference category for barangay classification. Maximum likelihood estimation with a significance level of $\alpha = 0.05$ was used for all regression models. All statistical analyses were conducted using Jamovi 2.3.28.0. Table 1 provides the operational definitions and measurement types for all key variables used in this study to clarify the key variables.

Table 1
Key Variables and Operational Definitions

Key Variables	Operational Definition (with Measurement Type)
Disaster Awareness	Refers to the respondent's recognition of various disaster types commonly or seldom experienced in their locality (e.g., typhoon, earthquake, flood, tornado, industrial accident, etc.), measured using a dichotomous scale (Yes/No) across 13 disaster types.
Disaster Awareness Attitude	Refers to the respondent's level of agreement with positive behaviors and values related to disaster awareness and risk reduction (e.g., participation in campaigns, retrofitting knowledge, emergency bag preparation, prioritization at different levels), measured using a Likert-type scale (Ordinal).
Disaster Preparedness	Refers to the perceived readiness of barangays in terms of systems and structures, policies and plans, building competencies, and equipment and supplies, as evaluated by BHERTs, measured through mean scores using a 3-point descriptive scale (1 = Not Prepared, 2 = Partially Prepared, 3 = Fully Prepared).
Geographic Predictors	Refers to locational and physical features of the respondents' residence, such as topography (e.g., plain, mountain, coastal, near river, valley, island) and barangay classification in terms of vulnerability. Measured as nominal/categorical variables.
Socioeconomic Predictors	Refers to respondents' social and economic characteristics that may influence awareness, attitude, and preparedness, including sex, age, occupation (Resident or BHERT), educational attainment, and family monthly income. Measured using categorical (nominal/ordinal) and continuous variables.

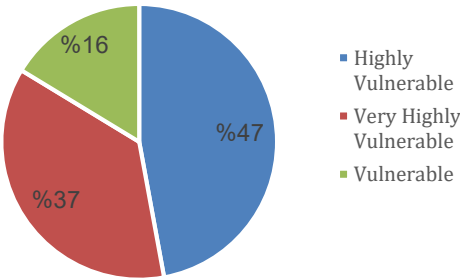
Results

Respondents' Demographic Profile

The study included 380 respondents, aged 18 to 81 years. The sample was almost equally distributed by sex, with males constituting 60% and females 40%. Residents accounted for most respondents (81.3%), while BHERT members comprised 18.7%. Many respondents resided in highly vulnerable barangays (47%), followed by those in very highly vulnerable areas, as depicted in Figure 1.

Figure 1

Distribution of Respondents by Barangay Classification as to Vulnerability



Regarding the topography of residence, over a quarter of the respondents (26.8%) lived in plain areas, followed by those in coastal (23.2%) and near-river areas (21.1%). This distribution highlights the significant proportion of the population residing in areas susceptible to water-related hazards (Table 2).

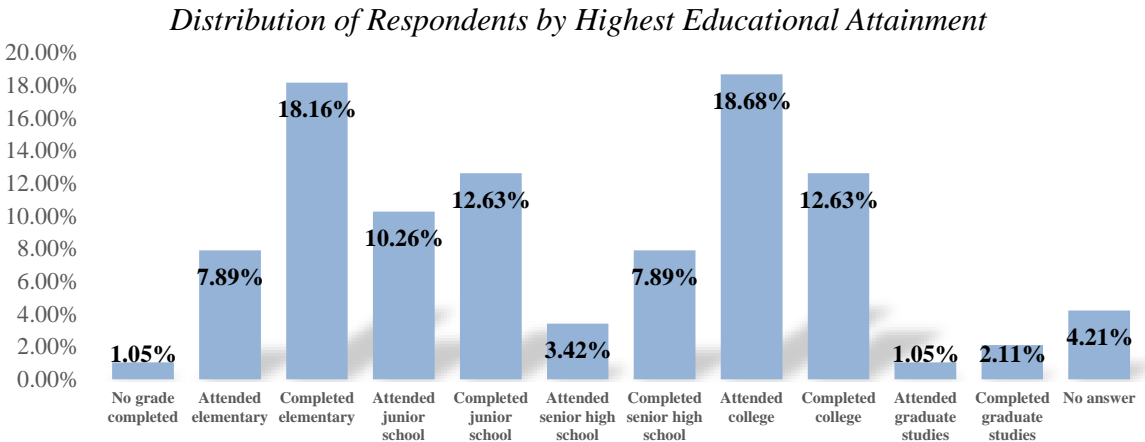
Table 2

Distribution of Respondents by Topography of Residence

Topography of residence	Frequency	Percentage
Plain	102	26.8%
mountain	75	19.7%
Coastal	88	23.2%
near river-plain	6	1.6%
near river	80	21.1%
none of the above	5	1.3%
near river - mountain	5	1.3%
Valley	8	2.1%
Island	9	2.4%
near road	2	0.5%

Educational attainment varied, with60.3% of respondents having completed basic education (elementary to senior high school), and only 3.2% having pursued graduate studies. This educational profile (Figure 2) illustrates respondents' predominant basic education level.

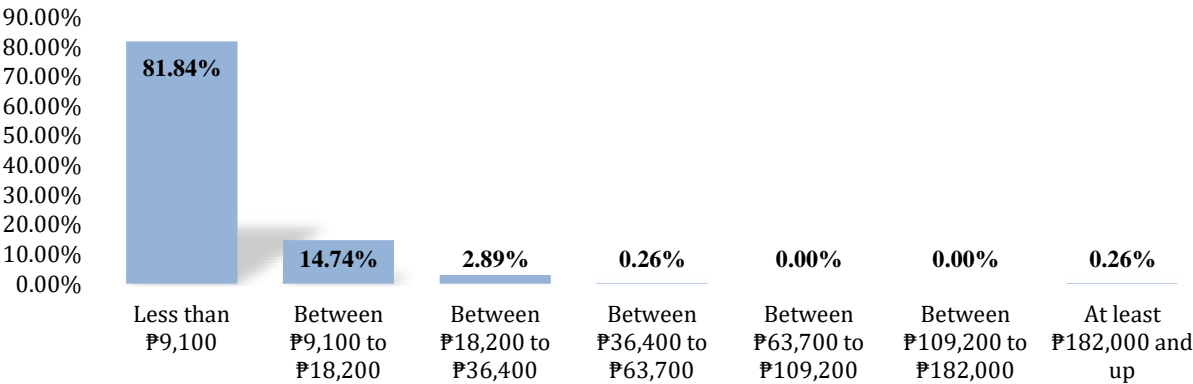
Figure 2



Regarding family monthly income, a substantial majority (81.84%) reported earning less than ₱9,100 per month, highlighting the widespread low-income status among the respondents (Figure 3).

Figure 3

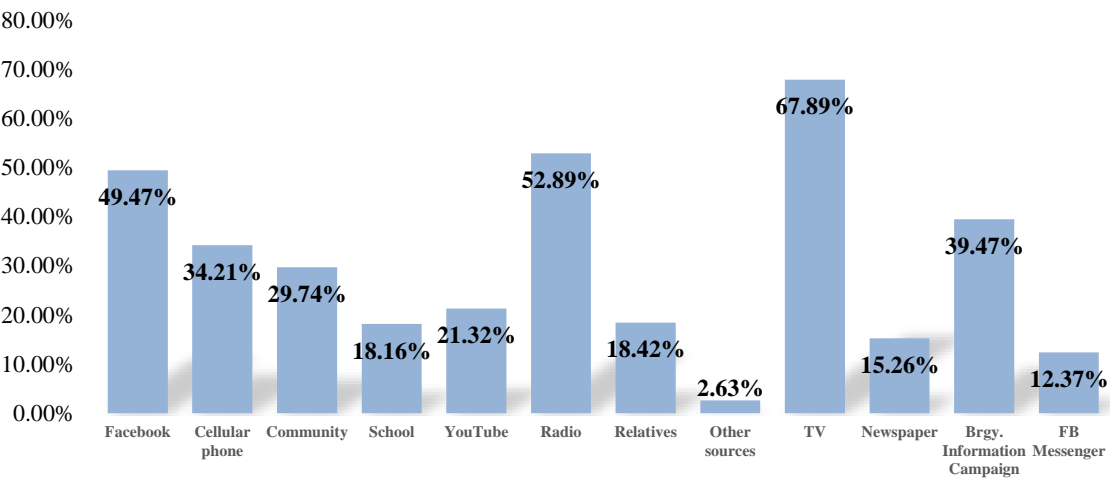
Distribution of Respondents by Monthly Income



Source of Information, Disaster Awareness, Attitude, and Experiences

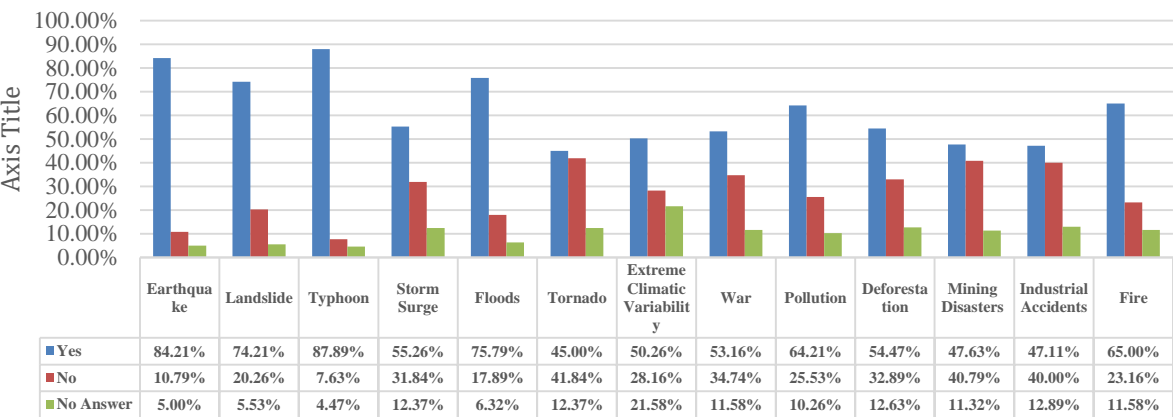
Respondents primarily obtained disaster information from TV (67.89%), radio (52.89%), and Facebook (49.47%). Barangay information initiatives and community efforts were cited as information sources by 39.47% and 29.74% of respondents, respectively. It illustrates continued reliance on traditional mass media alongside social media (Figure 4).

Figure 4
Frequency Distribution of Sources of Disaster Information



Disaster awareness was highest for typhoons (87.9%), earthquakes (84.2%), and floods (75.8%). Conversely, awareness was lower for tornadoes (45.4%), mining disasters (47.8%), and industrial accidents (47.1%). Figure 5, displaying the percentage of "Yes" responses for each disaster type, visually highlights these disparities in awareness.

Figure 5
Frequency Distribution on Disaster Awareness



Respondents exhibited a generally positive disaster awareness attitude, with an overall mean attitude score of 3.98, indicating an "Agree" verbal description. The highest mean score was recorded for "having a good relationship with neighbors and community" (4.28, "Strongly Agree"). Table 3 provides a detailed breakdown of these attitudes.

Table 3*Disaster Awareness Attitude of the Respondents*

Statements	Mean	Verbal Description
I used to participate in voluntary activities for disaster awareness campaigns	3.91	Agree
I am aware of retrofitting of buildings	3.55	Agree
I used to prepare emergency bags for disasters	4.13	Agree
I have a good relationship with my neighbors and community	4.28	Strongly Agree
I think repair of road blockage and transportation breaks are important	3.81	Agree
I give priority to disaster awareness in local, regional, and national level	4.16	Agree
I know recovery after disaster is a crucial work	4.14	Agree
Overall Mean	3.98	Agree

The frequency of experienced disasters varied (Table 4), with typhoons reported as experienced "sometimes" (mean 2.85), while earthquakes (mean 2.25) and floods (mean 2.28) were experienced "rarely". Less common hazards, such as tornadoes, mining, and industrial accidents, were reported as "never" experienced. The observed pattern suggests that awareness levels generally align with the frequency of direct experience with specific hazards.

Table 4*Frequency of Experienced Disasters*

Disasters	Mean	Verbal Description
Earthquake	2.25	Rarely
Landslide	1.81	Rarely
Typhoon	2.85	Sometimes
Storm Surge	2.00	Rarely
Floods	2.28	Rarely
Tornado	1.40	Never
ECV	2.41	Rarely
War	1.22	Never
Pollutions	2.08	Rarely
Deforestation	1.58	Never
Mining	1.23	Never
Industrial	1.52	Never
Fire	1.68	Never

Disaster Preparedness

As shown in Table 5, participation in disaster preparedness training was relatively low across respondents, with a higher proportion among BHERTs (35.21%) compared to residents (19.74%). A substantial number in both groups did not specify their training status (64.79% of BHERTs; 66.02% of residents), limiting a more complete assessment of training coverage.

Table 5*Distribution of Respondents to Disaster Preparedness Training Grouped by Occupation*

Group by occupation	Disaster preparedness training attended	Frequency	Percentage
BHERTs	Did not specify	46	64.79%
	Attended	25	35.21%
	Total	71	100.00%
Residents	Did not specify	204	66.02 %
	Attended	61	19.74 %
	None	44	14.24 %
	Total	309	100.00%

Furthermore, organized disaster preparedness efforts at the barangay level were reported by a relatively small proportion of BHERTs (Table 6). Only 18.31% indicated that training orientations had been organized, and 15.49% reported the availability of preparedness equipment and facilities. These figures suggest that fewer than one in five BHERTs perceived their barangays to have operational structures, which may partly explain the low training participation observed (Table 5).

Table 6

Frequency of BHERTs who identified as having the Training Organized, Disaster Preparedness Equipment and Facility, and Disaster Preparedness and Management Plan

Training, equipment, facility, and management plan	Frequency	Percentage
Training Orientation Organized	13	18.31
Disaster preparedness equipment and facility	11	15.49
Disaster preparedness and management plan	8	11.27

Overall, BHERTs' self-perceived disaster preparedness was consistently rated as "Partially Prepared" across all dimensions, with a grand mean of 2.15. Individual dimensions, including systems and structures (2.16), policies and plans (2.18), building competencies (2.18), and equipment and supplies (2.10), showed similar levels of preparedness. These results in Table 7 highlight significant preparedness gaps at the barangay level.

Table 7

Disaster Preparedness of Barangays as Perceived by the BERTs

Statements	AWV	Verbal Description
1. Systems and structures		
Mobilization of BDRRM plan/structures and activation of systems and processes	2.22	Partially Prepared
Evacuation and Relief	2.11	Partially Prepared
Mean	2.16	Partially Prepared
2. Policies and plans		
Early warning	2.19	Partially Prepared
Mobilization of DRRM structures and activation of systems and processes	2.21	Partially Prepared
Evacuation and Relief	2.14	Partially Prepared
Search and Rescue	2.20	Partially Prepared
Mobilization of DRRM Structures and Activation of Systems and Processes	2.17	Partially Prepared
Mean	2.18	Partially Prepared
3. Building competencies		
Early warning	2.25	Partially Prepared
Evacuation and relief	2.14	Partially Prepared
Mobilization of DRRM structures and activation of systems and processes	2.13	Partially Prepared
Search and rescue	2.20	Partially Prepared
Lifelines	2.18	Partially Prepared
Mean	2.18	Partially Prepared
4 Equipment and supplies		
Early warning	2.14	Partially Prepared
Mobilization of DRRM structures and activation of systems and processes	2.05	Partially Prepared
Evacuation and relief	2.04	Partially Prepared
Search and rescue	2.11	Partially Prepared
Lifelines	2.15	Partially Prepared
Mean	2.10	Partially Prepared
Grand mean	2.15	Partially Prepared

AWV – Average Weighted Value

Ordinal Logistic Regression Analysis for Disaster Awareness Attitude of the Respondents.

The ordinal logistic regression analysis for disaster awareness attitude revealed that family monthly income and specific topographic locations were significant predictors (Table 8). Higher family monthly income was significantly associated with a more favorable attitude toward disaster awareness ($p = 0.007$, Odds Ratio = 1.54, 95% CI [1.13, 2.10]), indicating that for every unit increase in income category, the odds of having a more favorable attitude increased by 54%. Geographically, respondents living near river-plain

areas showed a significantly greater likelihood of a favorable disaster awareness attitude ($p < 0.001$, Odds Ratio = 21.37, 95% CI [3.81, 119.8]), compared to those in plain areas. Similarly, those near river areas ($p = 0.010$, Odds Ratio = 2.06, 95% CI [1.19, 3.57]) and near river-mountain areas ($p = 0.006$, Odds Ratio = 14.71, 95% CI [1.99, 108.7]) also exhibited more favorable attitudes, relative to plain areas. These findings suggest that exposure to specific environmental hazards is strongly associated with heightened awareness attitudes.

Conversely, living in valley-plain areas was marginally associated with a lower disaster awareness attitude ($p = 0.051$, Odds Ratio = 0.25, 95% CI [0.06, 1.00]), suggesting a potentially diminished perception of danger in these locations. Sex ($p = 0.857$), barangay classification ($p = 0.243$ to 0.465), educational attainment ($p = 0.269$), occupation ($p = 0.576$), age ($p = 0.601$), and frequency of disaster experience ($p = 0.148$) did not significantly influence disaster awareness attitude in this model.

The goodness-of-fit of the ordinal logistic regression model was assessed using several indices. The model yielded a statistically significant overall improvement over the null model, $\chi^2(17) = 56.30$, $p < 0.001$. However, the effect size was modest, as indicated by a Nagelkerke R^2 value of 0.031 and a McFadden R^2 of 0.0291, suggesting that the predictors explained approximately 3% of the variance in disaster awareness attitude. The model's Deviance was 1879, with an AIC of 1983 and BIC of 2183, supporting an acceptable, though not strong, model fit. These results imply that specific predictors (e.g., income, topographic location) significantly influence disaster awareness attitude, but other unmeasured factors may also play a substantial role.

Table 8

Ordinal Logistic Regression Analysis for Disaster Awareness Attitude Based on Sex, Barangay Classification (as to vulnerability to disaster), Highest Educational Attainment, Occupation, Family Monthly Income, Age, Frequency of Disaster Experienced, and Topography of Residence for both Residents and BHERTs

Model Coefficients - Disaster Awareness Attitude Mean

Predictor	Estimate	SE	Z	p	Odds ratio	95% Confidence Interval	
						Lower	Upper
Sex:							
Male – Female	-0.03620	0.20111	-0.1800	0.857	0.964	0.65027	1.43
Brgy Class:							
Very Highly Vulnerable – Highly Vulnerable	0.25483	0.21829	1.1674	0.243	1.290	0.84118	1.98
Vulnerable – Highly Vulnerable	-0.22711	0.31082	-0.7307	0.465	0.797	0.43253	1.47
Highest Educational Attainment	0.04688	0.04238	1.1063	0.269	1.048	0.96450	1.14
Group by occupation:							
Residents – Barangay Officials	-0.15286	0.27359	-0.5587	0.576	0.858	0.50248	1.47
Family Monthly Income	0.43184	0.15958	2.7061	0.007	1.540	1.12912	2.13
Age	0.00411	0.00786	0.5234	0.601	1.004	0.98878	1.02
Ave Dis-Often	0.22823	0.15774	1.4469	0.148	1.256	0.92205	1.71
Topography of residence:							
mountain – plain	-0.05470	0.29096	-0.1880	0.851	0.947	0.53475	1.67
coastal – plain	-0.02301	0.26736	-0.0861	0.931	0.977	0.57869	1.65
near river-plain – plain	3.06196	0.91284	3.3543	< .001	21.369	4.02728	167.33
near river – plain	0.72552	0.28297	2.5639	0.010	2.066	1.18756	3.60
none of the above – plain	-0.11504	0.87112	-0.1321	0.895	0.891	0.15955	5.04
near river - mountain – plain	2.68857	0.98285	2.7355	0.006	14.711	2.34997	126.39
valley – plain	-1.39978	0.71883	-1.9473	0.051	0.247	0.05824	1.03
island – plain	0.21290	0.70073	0.3038	0.761	1.237	0.30617	4.85
near road – plain	-1.28109	2.05139	-0.6245	0.532	0.278	0.00852	8.47

Model Fit Measures

Overall Model Test

Model	Deviance	AIC	BIC	R ² _{McF}	R ² _{CS}	R ² _N	χ ²	df	p
1	1879	1983	2183	0.0291	0.00450	0.0313	56.3	17	< .001

Note. The dependent variable 'Disaster Awareness Attitude Mean' has the following order: 1.00 | 1.14 | 1.43 | 2.00 | 2.14 | 2.29 | 2.33 | 2.43 | 2.57 | 3.00 | 3.14 | 3.17 | 3.29 | 3.33 | 3.40 | 3.43 | 3.50 | 3.57 | 3.67 | 3.71 | 3.75 | 3.83 | 3.86 | 4.00 | 4.14 | 4.17 | 4.20 | 4.29 | 4.33 | 4.43 | 4.50 | 4.57 | 4.71 | 4.80 | 4.86 | 5.00

Ordinal Logistic Regression Analysis for Disaster Preparedness of BHERTs

For BHERT preparedness, the ordinal logistic regression analysis identified the highest educational attainment, barangay classification, and age as significant predictors (Table 9). Higher educational attainment was a significant positive predictor of BHERT preparedness (p = 0.024, Odds Ratio = 1.29, 95% CI [1.04, 1.63]), indicating that for each unit increase in educational level, the odds of higher preparedness increased by 29%.Barangay classification also significantly influenced BHERT preparedness. BHERTs in "Very Highly Vulnerable" barangays showed significantly higher preparedness (p = 0.023, Odds Ratio = 4.68, 95% CI [1.25, 18.17]) compared to those in "Highly Vulnerable" areas. Similarly, BHERTs in "Vulnerable" barangays also demonstrated higher preparedness (p = 0.050, Odds Ratio = 2.99, 95% CI [1.10, 9.17]) relative to "Highly Vulnerable" areas.

Conversely, age was inversely correlated with BHERT readiness (p = 0.030, Odds Ratio = 0.95, 95% CI [0.91, 0.99]), suggesting that for every one-year increase in age, the odds of higher preparedness decreased by 5%. Family monthly income (p = 0.466), sex (p = 0.403), disaster preparedness training attended (p = 0.977, p = 0.268), and disaster awareness attitude (p = 0.578) were not significant predictors of BHERT preparedness in this model. The overall model was not statistically significant, χ²(9) = 14.8, p = 0.096, suggesting that the whole model did not significantly improve upon the null model. Furthermore, model fit indicators such as the Nagelkerke R² = 0.0445, Cox & Snell R² = 0.0404, and McFadden R² = 0.00837 all suggest the model has very low explanatory power, explaining less than 5% of the variance in preparedness.

Table 9
Ordinal Logistic Regression Analysis for Disaster Preparedness Based on Age, Highest Educational Attainment, Family Monthly Income, Sex, Barangay Classification (as to vulnerability to disaster), Occupation, Disaster Preparedness Training Attended by BHERT
Model Coefficients - Grand Mean Disaster Preparedness

Predictor	Estimate	SE	Z	p	Odds ratio	95% Confidence Interval	
						Lower	Upper
Age	-0.0496	0.0229	-2.1693	0.030	0.952	0.908	0.994
Highest Educational Attainment	0.2574	0.1137	2.2638	0.024	1.294	1.041	1.629
Family Monthly Income	-0.3106	0.4263	-0.7286	0.466	0.733	0.318	1.716
Sex:							
Male – Female	-0.4178	0.4993	-0.8368	0.403	0.658	0.246	1.755
Brgy Class:							
Very Highly Vulnerable – Highly Vulnerable	1.5428	0.6783	2.2743	0.023	4.678	1.255	18.172
Vulnerable – Highly Vulnerable	1.0963	0.5602	1.9570	0.050	2.993	1.010	9.170
Disaster preparedness training attended:							
Attended – Did not specify	0.0151	0.5136	0.0294	0.977	1.015	0.368	2.790
None – Did not specify	1.7346	1.5658	1.1078	0.268	5.667	0.183	177.030
Disaster Awareness Att	0.1575	0.2832	0.5560	0.578	1.171	0.677	2.081

Model Fit Measures

Model	Deviance	AIC	BIC	R ² _{McF}	R ² _{CS}	R ² _N	Overall Model Test		
							χ ²	df	p

Model Fit Measures

Model	Deviance	AIC	BIC	R ² _{McF}	R ² _{CS}	R ² _N	Overall Model Test		
							χ^2	df	p
1	353	425	502	0.0404	0.00837	0.0445	14.8	9	0.096

Note. The dependent variable 'Grand Mean Disaster Preparedness' has the following order: 2.0 | 1.0 | 3.0 | 1.94 | 1.73 | 1.76 | #DIV/0! | 2.06 | 2.41 | 1.88 | 2.94 | 2.12 | 1.65 | 1.69 | 2.82 | 2.19 | 2.13 | 1.06 | 2.08 | 2.88 | 1.5 | 2.35 | 1.71 | 2.69 | 1.57 | 2.2 | 2.5 | 2.86

Discussion

This study aimed to assess disaster awareness and preparedness among BHERTs and residents in Dapitan City, identifying the influence of geographic and socioeconomic predictors. The findings reveal a critical dichotomy: while general awareness of common hazards is high, practical preparedness measures remain largely insufficient, particularly at the community and BHERT levels. The analysis successfully identified key socioeconomic factors (education, income) and geographic vulnerabilities as significant predictors, underscoring their crucial role in shaping awareness, attitudes, and preparedness levels. These results directly address the study's objectives and provide a nuanced understanding of local disaster readiness.

Theoretical Engagement and Interpretation of Predictors

Socioeconomic Factors: Education and Income. Higher educational attainment significantly predicts BHERT preparedness, aligning with evidence on education's role in disaster readiness (Bahramzadeh Gendeshmin et al., 2025; Rivera, 2021; Han & Wu, 2024). Education enhances cognitive capacities to process complex information, interpret risks, and apply knowledge, thereby improving protocol adherence, training participation, and community-level risk reduction. Knowledge also positively predicts disaster-risk perception (Heydari et al., 2022, as cited in Bahramzadeh Gendeshmin et al., 2025), reinforcing the pathway from education to preparedness. Izquierdo-Condoy et al., (2023) consistently highlighted that preparedness—often developed through undergraduate and postgraduate disaster training—is critical to the effectiveness of health personnel and essential for mitigating disaster impact.

Higher family monthly income is positively associated with a favorable disaster awareness attitude, since wealthier households can afford preparedness resources such as emergency supplies and home retrofitting (Yuan et al., 2021). Low-income households face systemic barriers, limiting their ability to convert awareness into preparedness, often prioritizing basic needs over disaster planning (Yuan et al., 2021). This relationship highlights that while awareness exists across income levels, converting it to proactive attitudes is often economically mediated, forming a resource-action nexus. Addressing socioeconomic disparities is crucial for equitable preparedness, as lower-income individuals face barriers regardless of knowledge.

Despite individual predictor significance, the ordinal logistic regression model for disaster awareness attitude, though overall statistically significant ($\chi^2(17) = 56.30, p < 0.001$), showed limited explanatory power (Nagelkerke $R^2 = 0.031$), explaining only about 3% of variance. This low power indicates unmeasured determinants beyond demographics and location, such as psychosocial motivators, cultural beliefs, or information credibility, which may be stronger drivers. Future research should broaden its scope to capture these nuanced influences.

Geographic Factors: Vulnerability and Topography. The study's results indicate that residing in highly vulnerable barangays significantly predicts BHERT preparedness, and proximity to rivers and mountainous areas correlates with a more favorable disaster awareness attitude among residents. This aligns with Risk Perception Models: direct, frequent hazard exposure (e.g., floods, landslides) heightens perceived risk, fostering proactive awareness and, for BHERTs, a greater imperative for robust preparedness. Findings are consistent with Dariagan et al. (2021) on varying geographic preparedness levels.

A noteworthy nuance is that disaster awareness was lower in valley-plain areas, suggesting potential risk underestimation due to less frequent direct disaster experiences. This highlights a risk communication challenge: less threatened areas may develop "optimism bias" or "normalcy bias," reducing preparedness despite vulnerabilities. This underscores that risk communication must be tailored to perceived risk levels and historical experiences of geographic subgroups. Perceived risk is critical; Vergil and Khan (2025) found that risk assessment shapes aid program participation, and flood-prone respondents showed that subjective insecurity drives preparedness and aid reliance.

The overall model for BHERT preparedness was not statistically significant ($\chi^2(9) = 14.80$, $p = 0.096$), with a Nagelkerke $R^2 = 0.0445$, explaining only about 4.5% of variance. This indicates that while some individual variables (age, education, barangay vulnerability) were significant, the combined predictors offer limited explanatory value for BHERT preparedness. The low R^2 suggests measured factors are poor predictors of barangay preparedness, implying unmeasured factors like institutional readiness, training quality, or psychosocial motivators may be more influential.

Age and Preparedness. The inverse correlation between age and BHERT preparedness is complex. This contrasts with Kim and Kim (2022), who reported higher disaster preparedness in older age brackets, but aligns with Titko and Ristvej (2020), suggesting the relationship is not universally positive. Contributing factors in Dapitan City may include older BHERT members' diminished physical capacity, reduced engagement in technology-reliant training, or generational differences in information-seeking. This points to a systemic issue in supporting older BHERT members, suggesting current training/dissemination methods may not be accessible or tailored to older adults, leading to reduced perceived preparedness. Inclusive preparedness strategies that consider diverse demographic needs are crucial.

Bridging Awareness and Preparedness: The Role of Information and Action

A central finding of this study is the persistent "knowledge-action gap" between high disaster awareness for common hazards and the overall lack of practical preparedness. Information alone does not translate to tangible behaviors; bridging this gap requires addressing factors beyond cognitive awareness, such as resource access, perceived self-efficacy, and collective efficacy, which are closely linked to social capital theory. Reliance on traditional mass media (radio, TV) and social media (Facebook) for disaster information, coupled with lower engagement in barangay-level campaigns, suggests a disconnect in dissemination strategies. While mass media raises general awareness, localized campaigns translate this into actionable behaviors, foster community engagement, and build collective efficacy.

The positive attitude towards "good relationships with neighbours and community" reflects strong cultural social cohesion, a key bonding social capital component. Social Capital Theory posits these relationships as resources for refuge and resilience, facilitating information exchange and mutual support. However, Su and Thayaalan (2024) note that while social capital is valued, its functional application may be limited or context-dependent, primarily for economic support where trust is confined to immediate relatives. This nuanced understanding is vital for effective community-based DRRM, moving beyond simplistic views of community ties. Preparedness in high-risk areas is shaped by economic capacity, cultural, and social bonds; Okun and Arun's (2020) study shows that collectivist cultures enhance preparedness through social resources and family cohesion, mirroring the finding that vulnerable area respondents rely on community-based knowledge over formal training.

Systemic Gaps in Barangay Preparedness

The consistent "Partially Prepared" status of BHERTs across all dimensions (systems and structures, policies and plans, building competencies, equipment and supplies) indicates significant systemic deficiencies at the barangay level. Low rates of organized training, equipment availability, and formal management plans further compound this. These institutional shortcomings impede translating individual awareness into a collective, effective disaster response. This situation reflects a lack of organizational capacity or institutional resilience within local governance, which is critical for comprehensive DRRM.

Despite individual BHERT awareness or positive attitudes, the absence of robust systems, adequate equipment, and consistent training prevents higher preparedness. These findings align with Dariagan et al., (2021) on varying LGU preparedness, underscoring the need to shift focus from individual to foundational and structural elements of local disaster management.

Limitations and Future Research

This study, while insightful for Dapitan City, has limitations. Its cross-sectional design precludes definitive causal relationships; associations were identified, but direct causality cannot be inferred. Reliance on self-reported data may introduce social desirability bias. The specific geographic focus limits direct generalizability to other regions without further validation. Future research could address these limitations. Longitudinal studies would track changes and establish causal links between interventions and outcomes. Qualitative research (e.g., interviews, focus groups) could explore underlying barriers to preparedness, providing richer contextual data. Intervention studies testing tailored programs based on identified predictors would offer practical validation. Expanding geographic scope would enhance generalizability and allow broader comparative analyses.

Conclusion

This study reveals a complex interplay of geographic and socioeconomic factors shaping disaster awareness and preparedness in Dapitan City. While residents exhibit high awareness of common hazards, a significant gap persists in their practical preparedness. This finding directly challenges a simplistic view of risk perception, suggesting that awareness alone is an insufficient driver of preparedness behavior.

The analysis showed that higher educational attainment and income were significant predictors of BHERT preparedness and more favorable awareness attitudes, respectively. Geographic vulnerability also played a crucial role, with residents in riverine and mountainous areas exhibiting heightened awareness compared to those in valley-plain areas. An inverse relationship between age and BHERT preparedness was also found. However, systemic deficiencies at the barangay level often undermine these individual strengths, where teams consistently reported being "Partially Prepared." Furthermore, while community relations indicate a strong foundation of social capital, a lack of institutional and physical resources limits its practical utility.

A key finding from our statistical models is their low explanatory power (low R^2), demonstrating that the measured variables are not the sole determinants of readiness. This underscores that current theoretical frameworks, which often focus on individual demographics and knowledge, are incomplete. Therefore, a more holistic theoretical framework is necessitated, incorporating institutional capacity, training quality, and psychosocial motivators to explain preparedness outcomes better. This approach moves beyond simple correlation to uncover underlying mechanisms and inform the development of more effective interventions.

Based on the study's findings, the following actionable recommendations are proposed to enhance disaster preparedness in Dapitan City:

- **For Local Government Units (LGUs) and Barangay Councils:**
 - Strengthen Localized Training:** Implement regular, targeted training beyond individual knowledge to build collective efficacy. These programs should be tailored to specific barangay risks and address the limitations highlighted by the study's statistical models.
 - Increase Resource Allocation:** Advocate for increased funding to improve barangay-level equipment and facilities, directly addressing the "Partially Prepared" status of BHERTs.
 - Develop Tailored Plans:** Support barangays in creating disaster management plans that reflect their unique vulnerabilities.
- **For community leaders and local organizations:**
 - Improve Dissemination:** Use media (radio, TV, and Facebook) for campaigns that explicitly

promote practical preparedness behaviors, not just general awareness.

Foster Community Initiatives: Build on the cultural value of *bayanihan* by supporting community-led initiatives like drills and early warning systems to convert social capital into tangible actions.

- **For the City Disaster Risk Reduction and Management Office (CDRRMO):**
Enhance BHERT Training: Re-evaluate and improve BHERT training curricula to be more practical and hands-on, focusing on psychosocial resilience and institutional readiness.

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Russia's Eurasian Aspirations and its Strategic Reach towards South Asia: Implications for Regional Connectivity

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This study analyzes Russia's Eurasian aspirations and strategic reach toward South Asia. It focuses on the important implications that regional connectivity can bring. The research investigates how Russia engages with South Asia and how it shapes the geopolitical landscape that increases the opportunities for regional connectivity. The paper also examines the aim of Russia presented by its strategies and presents initiatives for strengthening its presence in the region. Considering both economic and security elements of infrastructure projects spanning the Eurasian landmass, with particular attention to their influence on Pakistan and India, it assesses the strategic relevance of regional connectivity in Russia's foreign policy. Finally, given the rise of China and the retraction of U.S. power following the departure of its troops from Afghanistan, this paper hypothesizes about Russia's future trajectory in respect. It explores how these worlds events might affect Russia's attitude to South Asia and its more general Eurasian policy, therefore changing the scenario of regional connectivity .

Keywords: Russia, South Asia, regional connectivity, US, China

Russia's geography stretches towards Europe and Asia, making it the world's largest state by area on Earth. Russia's economy is largely driven by its vast energy reserves, which generated \$338 billion in revenue in 2022 (RFE/RL, 2022). The graph below shows the substantial value of Russia's proven mineral and energy resources, further highlighting the country's importance in the worldwide energy market. According to the Valdai Club (2019), Russia has the largest proven reserves of natural gas worldwide, with 14.4 trillion cubic meters of gas reserves and 9.04 billion tons of oil reserves. The total value of its mineral and energy resources, including oil, gas, gold, diamonds, copper, iron, and coal, is estimated at 55.2 trillion rubles, cementing Russia's important role in the international energy and mineral market.

<https://valdaiclub.com/multimedia/infographics/mineral-and-energy-resources-of-russia/>



Furthermore, EFSAS (2019) argued it has a highly sophisticated defense industry and has become one of the most strategically important players in the global arms market. Russia is the second-largest exporter of high-tech military equipment after the US, with an annual turnout of around \$15 billion. Currently, its major and most loyal customers remain China and India, according to EFSAS (2019).

The geopolitical landscape of the South Asian region is undergoing significant transformation, driven by the strategic maneuvers of regional and global powers. In this context, Russia is increasing its position and strategic reach towards South Asia, which has attracted major attention. This paper aims to investigate the consequences of Russia's Eurasian ambitions for South Asia regarding regional connectivity. It is situated especially with a Eurasian identity, close to the distance between Europe and Asia. Its strategies and projects in this area show this identity and its goal of increasing its regional impact, with some countries observing Russia's actions as a threat to regional stability and others seeing them as a necessary step towards regional integration and shared prosperity, after Russia's military intervention in Ukraine.

Russia's past involvement in South Asia was complicated by geopolitical goals, strategic alliances, and regional disputes, among other elements. Knowing Russia's current policies and initiatives in that field requires a full awareness of this past knowledge. From Pro-Western Diplomacy (1991–1995) to Great Power Diplomacy (2014–present), Liu (2022) looked at in his studies how Russia has modified its foreign policy over the years.

Russia's main interest in South Asia, according to Kurlantzick (2022), was long-standing cooperation with India, first launched during the Soviet era. Employing solid defense cooperation, Russia and India have not only enhanced their mutual relations but also significantly changed the regional balance of power. Moreover, Kurlantzick (2022) observed that in the Soviet era, Russia's relations with Pakistan were more complex due to Pakistan-India historical conflicts. Yet, the last two decades witnessed its relations with Pakistan improving year by year. Russia is not focusing only on two-way relations with regional states and actively is using regional platforms like the Shanghai Cooperation Organization (SCO) to enhance its regional power broker profile. Its regional connectivity initiatives, such as the International North-South Transport Corridor, which connects Russia to India, have strategically shaped its interests.

Nonetheless, Pakistan-India's adverse relations, such as the Kashmir conflict and both states' rivalry to increase influence in Afghanistan, were the main barriers to South Asia's regional connectivity and South-Central Asian regional connectivity. This kind of conflict formed a problem for Russia's regional connectivity initiatives and strategic interests.

This study has the following research questions.

1. How do Russia's Eurasian aspirations align with its initiatives and policies in the South Asian region?
2. What role does regional connectivity play in Russia's strategy to enhance its influence in South Asia?
3. How do Russia's relations with the South Asian region affect the geopolitical balance?
4. How can the US withdrawal of the forces from Afghanistan and the rise of China affect Russia's future strategic reach towards the South Asian region?

Theoretical Framework and Research Methodology

The Regional Security Complex Theory (RSCT) is used in this study to analyze Russia's Eurasian aspirations and strategic reach towards South Asia. This theory was first written in the book titled "Regions and Powers: The Structure of International Security" by Barry Buzan and Ole Waever (2003). According to Buzan and Waiver (2003), regional security has three elements: regional major powers' existence, power distribution, and security interdependence among states. Against the context of Russia's Eurasian goals towards South Asia, this theory proposes a constructive background to comprehend the complex regional security dynamics. Rezvani (2020) highlighted that the main objectives of Russia's Eurasianism were to counterweight the Western domination in the Eurasian region and restore its century-old hegemony in ex-USSR states. Diesen (2019) analyzed that Russia wanted to increase regional cooperation and economic integration and to decrease reliance on Western political and economic systems. The RSCT theory effectively

resonates with Russia's Eurasian aspiration in South Asia. It perfectly reverberates the limitations and opportunities presented to Moscow's strategic calculus.

Russia's Role as Probable Regional Security Actor:

South Asia is a convoluted region with vested interests from multiple stakeholders. Russia, as a probable and primary regional security actor, may influence the region with the instrumentalization of energy diplomacy and SCO. Russia's involvement via SCO enhances its credibility in the region with the utmost promise of regional stability and collaboration. Moscow's involvement in the region counterbalances Western influence along with the promotion of mutual economic and security interests (Batoool & Muzaffar, 2024).

Power Distribution with Uneven Interdependence:

The South Asian region endures an uneven distribution of power and presents some possible limitations along with opportunities. Russia is leveraging the SCO platform for shielded penetration into the region. However, the grievances between China and India cause some disputed cracks that Russia must perceive and navigate deliberately. This dynamic situation in the region emphasizes RSCT's notion of power asymmetry as a vital calculation of regional security architecture (Walyat, 2025).

Security and Threat Perception:

A critical aspect of RSCT underscores the region's complexity with interdependent security concerns. Unusual chaos and turmoil can reverberate across the border. Bakare's research (2021), highlighted that Russia's Eurasian goals regarding regional connectivity focused on the South Asian states such as Afghanistan, Pakistan, and India. Afghanistan's border is attached to Russia's ex-Soviet Central Asian states. Russia is strategically located at the crossroads of Europe and Asia, making them key to its efforts to promote economic integration and cooperation in the region. However, Russia's goals to design a regional security complex in other regional powers' existence, such as India and China, are challenging because both powers have their own regional interests. The South Asian region was facing a high-level rivalry between Pakistan and India, India and China, which caused integration challenges.

This research has adopted a qualitative research design to carry out an in-depth analysis of Russia's Eurasia Aspiration and regional connectivity in South Asia. Within the contextual setting, the approaches used in the research allow for the nuanced exploration of Russia's Eurasian aspirations projection into the South Asian region. This research has shed light on different critical aspects of Russia's strategic decisions, including the narratives, foreign policy and discourses that shape Russia's Eurasian identity and its aspirations' credibility.

Data Collection and Sources:

The data collection consists of both primary and secondary sources. This two-way approach ensures analytical depth and credibility. As primary sources, data was gathered from official documents, policy statements, speeches, policy documents, and intergovernmental materials. To contextualize the official material, a wide range of scholarly and analytical literature was examined and used. Peer-reviewed journal articles, books by regional connectivity experts, and analytical pieces from reputable think tanks have also been used.

Data Collection and Criteria:

To ensure reliability and credibility, sources were selected based on a rigorous criterion. All sources directly resonate with the research questions. Efforts were made to include sources from diverse geopolitical viewpoints. Conscious efforts were made to mitigate bias and provide a balanced analysis. Credible publications were prioritized. A two-pronged analytical approach has been applied in this research with thematic analysis and process-tracing. This research aims to examine a comprehensive knowledge of Russia's Eurasian aspirations, collecting thoughts from various experts, and it also acknowledges the complexities and controversies surrounding this critical issue in international relations.

Russia's Eurasian Goals

Katzenstein and Weygandt (2017) examine that Russia has a profound self-image as a Eurasian power, implications for its foreign policy, shaping its geopolitical strategies, economic engagements, and cultural narratives. Russia's policies were based on a state-centric approach and anti-Western views, and it portrays its position as a central player in its regional sphere of influence. But, in an international context, Russia's approach is neglected, which results in a significant cost, while its domination in Eurasia is opposed by global perspectives. Amilakhvari and Baghaturia (2024) say that Russia's diplomatic relations have been limited after the invasion of Ukraine, and it selected to follow its policy mainly using hard power/neo-imperial strategies only.

Smith's study (1999) discussed that Russia's Eurasianism concept had emerged in the early 1990s. It marked a change in its foreign policy that joined the regions into Russia's Eurasian identity, such as the Near Abroad, Europe, and Asia. Skuratov (2021) argued that this ideological foundation is reinforced by classical Eurasian doctrines that balance Russia's Western and Eastern foreign policy vectors, emphasizing its unique civilizational community. Bazavluk's study (2021) examined that Russia's main agendas under Eurasianism are the integration of the Eurasian Economic Union (EAEU) and developing a multipolar world. The crisis and weaknesses of Western liberal democracy have presented opportunities for Russia, which seeks to exploit its Eurasian identity as a unique political and cultural offering and attract like-minded nations to its integration projects (A Review of Research on Russia's Strategic Adjustment to the West under the Background of Russia-Ukraine Conflict, 2024).

Rieber (2018) viewed that, historically, Russia's relationship with Asia has been intricate and multifaceted. Although a sizable portion of Russian territory is in Asia, Russia's cultural and political focus has often been inclined towards Europe, especially since Peter the Great's efforts to modernize Russia through Western European practices and ideologies. However, the expansion of the Russian Empire in the 19th century revived its interest in Asia as the empire enlarged and reached this region.

Sarkisyanz (1954) demonstrated that Russia has struggled to develop a coherent ideology regarding its role in Asia. Unlike Western colonial powers, Russia did not create an elaborate ideological framework to justify its expansion into Asia, remaining oriented towards the West, even when interacting with Asian countries.

Trenin (2006), demonstrated that after the fall of the USSR, progressively Russia has accepted the significance of the Asian region. The rise of China and other emerging Asian states economically has increased Russia's interests and attracted its policymakers. In the last two decades, Russia has portrayed its position as a 'Euro-Pacific' nation and is balancing its interests between Europe and Asia to avoid over-dependence on either region, leveraging its unique transcontinental position.

Rozman (2018), highlighted that economically, Asia offers substantial opportunities for Russia, particularly in energy exports. This region's dynamic economies, like China, India, Japan, and Korea, offer a beneficial market for Russian energy resources. Russia is focusing on converting its Far Eastern and Eastern Siberian regions into booming industrial centers and upgrading transport systems to increase economic ties with the Asian region, and further deeper integration with the regional market.

Russia's Phases of Foreign Policy

After the Soviet dissolution, Russia had profound significant changes in its foreign policies that were determined by insightful changes in the global world order, domestic politics and economics, and the diplomatic vision of the leadership. Liu (2022), argued in his study that this transformation of foreign policy can be outlined through six different phases.

1. **Pro-Western Diplomacy (1991–1995):** Russia's attempt to closely connect with Western nations, hence pursuing integration into Western political and economic systems.

2. **Multipolar Diplomacy (1996–2000):** Opposition to NATO's growth, which underlined the need for a multipolar world in which Russia might play a major independent power.
3. **The Great Power Pragmatism (2001–2004)** aimed at building a favorable international environment that promoted Russia's economic development, social improvement, and rebirth as a major world power, hence expanding its global influence and prestige.
4. **Neo-Slavism (2005–2008)** pushed back against the flood of 'color revolutions' spreading over the Commonwealth of Independent States (CIS) and responded to what Russia regarded as intervention by the U.S. and Europe in her domestic affairs.
5. **Stability and Cooperation Diplomacy (2009–2013):** Diplomacy concentrated on enhancing the CIS integration which, preserves pragmatic alliances and collaboration with the EU, restoring rapport with the United States and strengthening strategic coordination with China.
6. **Great Power Diplomacy (2014–present):** Great Power Diplomacy was marked by confronting the West because of its action in Ukraine, which was widely criticized by Western states.

These six different phases of Russia's foreign policy evolution since 1991 have been marked by a pivot away from the west. This evolution led Russia to increase its engagement with Asia, especially in deeper proximity with the South Asian countries, i.e., India, Pakistan.

Greater Eurasian Idea

According to Skriba and Drozdova, 2021 research shows that Russia's Eurasian vision was to become a central force in a multipolar international order, preserving its influence over the huge Eurasian territory. The idea of "Greater Eurasia" captures this goal since it exposes Russia's desire to boost political, economic, and security cooperation across the territory. By establishing Russia as a major actor in Eurasia and questioning the current international order, this alliance seeks to change the scene created following the ColdWar.

Lewis (2018) claims that the idea of Greater Eurasia first emerged in Moscow's think tanks and academic circles, most famously among the Valdai Discussion Club and the Faculty of World Economics and International Affairs of the Higher School of Economics. Renowned Russian Sinologist Lukin (2015) proposed extending Russia's Eurasian integration program to include China and other regional states in 2015. The Greater Eurasia idea thereafter became well-liked within Moscow's elite circles, according to Krickovic, and Pellicciari (2021), who also mentioned it as a regular topic of official speeches and foreign policy debates.

President Vladimir Putin has announced Russia's intention for wider Eurasian cooperation during the St. Petersburg Economic Forum was held in June 2016 in Russia. In his statement, he declared that more than 40 states and international organizations have expressed curiosity about creating a free trade zone with the EAEU. This will help merge the EAEU into China's Belt and Road Initiative (BRI), putting Russia at the heart of a much larger area of integration. In 2023, Alberque and Fraioli indicated that, in the 2023 updated Russian foreign policy conception, Russia represents "a large Eurasian and Euro-Pacific power" at the heart of a fresh global order characterized by being anti-west. The purpose is rather not to act-react against Western influence alone but to form an exclusive Russian-led cluster able to make decisions and participate in global politics without leaning over someone's shoulder.

"Greater Eurasia" is a grandiose geo-economic vision exceeding regional economic integration in a bid to refashion the global economic landscape. According to Glenn Diesen (2021), the aim is to change the epicenter of the global economy from the Western-dominated Atlantic and Pacific regions to the Eurasian "heartland" between Russia and China. Advocates of Greater Eurasia sometimes connect their vision to more general geopolitical developments, like the fall of US and Western hegemony, the creation of new regional blocs, and the rise of non-Western pole in the new Cold War, Karaganov (2015) noted.

Lewis (2018) said that the realization of Greater Eurasia would allow the international system to transcend American unipolar dominance, promoting a more fair, just, and representative global order anchored in principles of sovereignty, non-interference, and the right of each society to decide its own social

system and development path. Nonetheless, Walt et al., (2020) examined that the consolidation of Greater Eurasia presents major challenges and that it is still unclear whether Russia may effectively realize its ambition. Based on the work done by Krickovic and Pellicciari (2021), these conditions may either be detrimental to Russia's efforts to make Greater Eurasia a reality or present Russia with new opportunities to enhance its positioning. Furthermore, Javaid (2024), highlighted that these kinds of ideas of regional connectivity showed that Russia preserved its influence in the region, but realistically, due to geopolitical considerations and limited resources, they would not be implemented.

Russia's Regional Connectivity with South Asia

In 2022, Khan conducted a study that showed complex networks and reliance on smooth connections among different means of transportation, communication, finance, and information sharing, to be the features of contemporary international trade (Khan, 2022). Inefficiencies such as those related to logistics, transport systems, and trade infrastructural facilities, can severely affect how competitive countries are at the global scale (Khan, 2022). Landlocked developing countries face unique obstacles in accessing global markets and require specialized trade facilitation and connectivity initiatives to overcome their plight and enhance economic growth.

Russia has a strategy to promote its influence in South Asia through regional connections. Russia wants to bring South Asia closer to its greater Eurasian design by supporting transport, commercial, and energy connections with the region as well as encouraging economic growth and strengthening cooperation in the geopolitical sphere (Ryazantseva & Yakushova, 2024). According to Javaid (2024), its main aim is to manage regional integration between South Asia and Central Asia, which is also Pakistan's wish to develop a Southern Corridor for landlocked states due to its geostrategic location and could create connectivity between Central and South Asian and the Middle East.

Historical Context and Evolving Policies

During the Cold War, the Soviet Union, which Russia was part of had a strategic partnership with India, characterized by substantial military cooperation and arms sales (EFSAS, 2019). Such ties were meant to give a proper response to the US influence in the broader Asian region. In 1991, after the Soviet Union collapsed, Russia's foreign policy changed; despite a marked bias towards India, Moscow established friendlier contact with Islamabad as well.

There are clear economic implications in Malysheva (2022) study concerning Russia's involvement in the countries found in South Asia due to geopolitical policies, energy requirements, and commercial ties. It includes India, Pakistan, Uzbekistan, and Kazakhstan as its main targets, where reference is made by Malysheva concerning the nature of Russia's engagement in the region, underscoring intensified global integration alongside the establishment of some substantial alliances.

According to Naqvi and Abbas (2022), Russia's stance on South Asia has changed several times due to internal factors as well as external constraints:

1. **Estrangement (1947–1953):** Lack of participation in South Asia characterized Russia's strategy over the period. This was largely because the Cold War was still in its early stage and Europe as well as East Asia were more important.
2. **Engagement (1954–1971):** This era had more interaction with India, it was different from US power in the area.
3. **Indo-centrality (1971–1991):** The Indo-Soviet Treaty of Peace, Friendship, and Cooperation signified a period of close relations with India from 1971 to 1991 due to common strategic aims and ideological similarity.
4. **Pragmatism (1991–2022):** In this era, Russia had a special attachment with India, it maintained a cordial relationship between India and Pakistan through dealing with trade and defense cooperation rather than ideology.

Russia's Regional Connectivity Initiatives

Russia has begun significant projects and initiatives that aim to strengthen its economic linkages and influence in South Asia.

1. **International North-South Transport Corridor (INSTC):** This 7,200-km-long network, which is a combination of land and coastal routes, is made of rail, road and water systems which lower costs as well as travel time for freight carriage, thus facilitating trade between the Russian Federation, Iran, Central Asia, India, and Europe. Products are transported from Western India to Iran's Bandar Abbas, and they are shipped by land and rail via Baku to Moscow and St. Petersburg (Mallik & Singh, 2022). ("Watch Out, China: India Is Building A 'New Silk Road' Of Its Own - Forbes"). This pathway costs 30% less and is shorter by 40% than pathways already in place (Chatterjee & Sing, 2015). Pakistan has not joined the initiative so far. However, the country has received an invitation from Russian President Vladimir Putin to join the INSTC, upon which the membership process has been started, according to Ambassador to Russia Muhammad Khalid Jamali on June 19, 2024, during the International IT-Forum in Khanty-Mansiysk, Russia (Sharif, 2024).
2. **Shanghai Cooperation Organization (SCO):** It involves China, Russia, and countries from Central Asia, with a focus on advancing regional security, economic cooperation, and connectivity. South Asian nations such as Pakistan and India are also part of this. This also offers an opportunity for Russia to engage through the above-related platforms on the questions concerning economy and connectivity (Somerville, & Crawford, 2023). Akhtar and Javaid (2024) have examined that regional peace and stability are significant for the members of SCO to enhance regional connectivity. They shared interests in energy security and economic cooperation. China and Russia seek to. Nevertheless, the inclusion of India and China in SCO offers a strategic opportunity for Russia. The fault lines between the two can make Russia a balancer to play a neutral role. Russia can drive its interests on both sides by maintaining strong energy and defense ties with India and strong strategic alignment with the with China. Russia can act as stabilizer by preventing bilateral rivalries within the SCO framework. This act could allow Russia to preserve its relevance in the Eurasian region.
3. **BRICS+ (Brazil, Russia, India, China, and South Africa):** Acts as a further means of endorsing economic integration in addition to connectivity. In terms of managing China's strategic partnership with it and building relationships with India and Pakistan, Russia is expected to overcome tough geopolitical dynamics. Pakistan is not part of this forum; it has already given a signal to apply for full membership in November 2023.
4. **CPEC Expansion:** The Chinese and Pakistani Economic Corridor provides the most effective way to link Eurasia with South Asia, thereby increasing regional connectivity. They must understand this while considering it (Serenko, 2021). Russia is strategically interested in increasing its economic and geopolitical ties with China and Pakistan. Its attempt to integrate this commonality in terms of its economy would mean its Eurasian Economic Project aligns with CPEC. In so doing, CPEC itself could be used as leverage for closer economic and geostrategic relations between Russia, China, and Pakistan by creating partnerships that will help develop the area along the oceanic route up to the Indian Ocean and shape a strong trade triangle among Russia, Pakistan, and China. (Chaliha, 2021).
5. **Trans-Afghan Railway Line:** The region of Central Asia has a lot of promising opportunities for the development of Russia-Pakistan relations. There exists no other overland route to Pakistan which would be shorter than the one passing through this region because Afghanistan is situated here. An agreement on the Trans-Afghan railway line (573 km) connecting Uzbekistan with the seaports of Karachi and Gwadar in Pakistan, passing through Afghanistan, was signed by Uzbekistan, Afghanistan, and Pakistan. It would enable Islamabad to have rail transport access to both Central Asia and Russia (Vorobyov, 2020).

Geopolitical Dynamics and Strategic Hedging

According to research by EFSAS (2019), Russia's conduct towards South Asia is essentially hedging its bets strategically by promoting friendly ties with India as well as with Pakistan, even with all the odds stacked against one another. Hence, this stratagem steers through the intricate intricacies of South Asian geopolitics, where it plays the role of go-between and peace promulgator. Moreover, this is considered an opportunistic aim to occupy the gap of power left after the US vacated Afghanistan.

Menon and Rumer (2022) studied that Russia has revived its policies in South Asia. Witnessing its recent efforts to strengthen ties with Pakistan may be seen as an indication of their historical alliance during the 1960s or as a strategic response to the evolving geopolitical landscape and potentially signaling to New Delhi that Moscow is diversifying its partnerships in the region.

Pakistan became the most important after the U.S. departure from Afghanistan because of its historical involvement in Afghanistan and its strong relations with the Taliban. By cultivating a closer relationship with Islamabad, Moscow may be seeking to mitigate the potential spillover of instability from Afghanistan into Central Asia, thereby safeguarding its regional interests and maintaining a balance of power in the area. Javaid (2024), discussed in his research that no regional state or power can alone maintain peace in Afghanistan. So, cooperation between all regional powers such as China, Iran, Pakistan, Russia, and along with Central Asian states, is significant to maintaining peace and regional connectivity initiatives.

Korybko (2022) showed in December 2019, a 64-member delegation led by Russian Minister of Industry and Trade Denis Manturov visited Pakistan to explore investment opportunities worth several billion dollars. Foreign Minister Lavrov also expressed interest in Russian investments in Central Asia-South Asia connectivity. These developments demonstrated Russia's growing interest in Pakistan as a significant investment partner. Chia and Haiqi (2021), and Javed (2022) highlighted that Russia and Pakistan have signed a US\$ 2.5 billion agreement to build the Pakistan Stream gas pipeline project, which was part of a larger US\$ 14 billion Russian investment package in the energy sector of Pakistan. Although Russia has strong strategic interests in the South Asian region, it is also facing some challenges in cooperation with regional states, such as a balanced relationship with India and Pakistan, managing reliance on China, and navigating geopolitical changes following the U.S. withdrawal from Afghanistan.

Impact of China's Rise and U.S. Withdrawal from Afghanistan: Opportunities for Russia

The Eurasian geopolitical landscape has undergone significant change due to the rise of China and its influence, including the refraction of the U.S., particularly the withdrawal from Afghanistan. These imperative shifts have impacted the strategic aspirations of Russia in the region.

As stated by Korybko and Morozov (2020), India has been viewed as a vital strategic partner by Russia, due to its economic potential, regional influence, and a key role player as a counterbalancing element to China and U.S. domination in Asia. The Russia and India relationship had roots in the Soviet era. Both nations shared a strong defense partnership, similar economic ideologies centered around state-owned enterprises, and significant Soviet assistance to India. Malik and Jambhulkar (2018), found that their geopolitical alliance during the Cold War era was placed in opposition to the US, Pakistan, and China, establishing a solid bond between Moscow and New Delhi.

Menon and Rumer (2022) elaborated that the basis of Russo-Indo relations has gone through a substantial shift in recent years. Soon after the USSR's temptation, the rapid Indian growth, the U.S.-China's escalating tensions, the spontaneous strengthening of U.S.-India relations, and the estrangement from the West on Russia due to the conflict in Ukraine, all of these had an extreme impact. While India remained a key arms supplier from Russia, it now faces tough competition in the Indian market as India pursues to expand its defense suppliers and develop its domestic capabilities.

Yongquan (2018), reviewed that China's Belt and Road Initiative (BRI) present Russia with an opportunity to balance Western influence and align with China's expansion strategy. The Sino-Russian cooperation aims to promote deeper integration in Eurasia through the alignment of Russia's Greater Eurasian

Partnership (GEP) and BRI, reshaping the global order. Rolland (2019) narrates that the partnership equally divides the responsibilities between China and Russia. Russia focuses on security and political aspects, while China mostly on economic ones. Besides that, Mallik and Singh (2022) examined the future of the potential challenges due to the huge gap in power between Russia and China. Both GEP and BRI have recently resonated to promote the integration of Eurasia via transport and trade corridors due to economic restrictions. However, BRI's unwavering prominence might surpass the Russian-led initiatives in the region. The risk of becoming a junior partner in the region is looming on the horizon. Russia will be in the position to find ways for economic leverage and to defy the strategic alienation in the South Asian region.

The eastward expansion of America and NATO is viewed as a significant means by Russia for its national security, as carried out by its military interventions in Georgia (2008), Ukraine (2014), and then Syria (2015). As per the research of EFSAS (2019), these demonstration acts reveal the determination of Russia to secure its interest and influence in the region in contrast to the advancement of the U.S. and NATO as a prime threat to its sovereignty and security. The withdrawal of the U.S. from Afghanistan has left a power vacuum that Russia asserts to fill and wants to boost its influence in the region. In the post-withdrawal scenarios, Russia has the utmost opportunity to become a stabilizer in the century-old chaotic region of Afghanistan within the framework of the SCO. Nevertheless, without a sustainable and robust strategy, it will be a short-lived dream. Without concrete incentives and enduring commitment, other regional stakeholders with increasing assertiveness may limit Russia's potential.

Eslami and Papageorgiou, (2023) noted that China's rise has led to greater economic interdependence, particularly through the BRI, fostering more integrated regional economies connected to China's economic network. Many regions where the influence of the U.S. is restricted may relook to modify their partnerships, diversifying especially towards China for development and continued economic growth. This diversification may spur infrastructure development and new connectivity projects. Additionally, it is highlighted by Grosse, Gamso, and Nelson (2021) that the U.S. retraction and the rise of China may lead to disruption in conflicts regarding regional connectivity. They spur various forms of cooperation because of the new international order as the global communities may tilt their interests. On the contrary, Russia can position itself as an alternative partner in the region through energy cooperation and counterterrorism initiatives. While the success of its positioning as an alternative partner entirely depends upon its reliability and stability.

Krickovic, and Pellicciari (2021) viewed in their research that (the EAEU) Eurasian Economic Union would not boost the global standing of Russia. On the other hand, Moscow seeks to enhance its integration efforts in the EAEU, by drawing in China along with other rising powers like Turkey, India, and Iran. Russia's status has been significantly bolstered by this strategic move as the partnership between both countries one way and another has catered their vulnerabilities. Besides that, the dependence of the Russian projects' success solely relies upon the participation of the reputed States of the International Community. Due to the Western disregard for the EAEU filing, the initial signatories from Greater Eurasia are not that promising, on the side. Besides that, the major non-western players like India, Iran, China, and Turkey have revealed limited stakes and interest in this project.

Conclusion

To conclude, Russia's strategic aspirations for reaching South Asia depict its ongoing quest for influence in the Eurasian landscape. Russia's geopolitical maneuvering along with complexities Post Ukraine crisis realities have made Russia to reconsider its strategies and foster deeper ties with contemporary regional players and renewed focus on access to warm water ports. By analyzing the Regional Security theory, the study has carried out a comprehensive evaluation to elaborate on how, in the complex interplay of geopolitics, Russia is seeking a balanced relationship for regional stability amidst the plethora of challenges posed by the China-US fluctuating rift. Russia's commitment to a multipolar world is vigorously reflected by its key initiatives for regional connectivity, i.e., the International North-South Transport Corridor and cooperation within frameworks like the SCO and BRICS, etc. Moreover, Russia has also staged a calculated approach in its defense collaboration with India and, simultaneously, its engagement with Pakistan. Despite the ongoing hostility between India and Pakistan, Russia's evolving policies aim to create a consolidated Eurasian connectivity.

Recommendations

Russia should use Eurasian spirit to improve regional connections across South Asia by:

1. The regional trade and economic development cooperation among (ECO) **Economic Cooperation Organization** Member States should be enhanced. Russia needs to work more effectively with the **Central Asia Regional Economic Cooperation** (CAREC). This forum should be utilized to advance regional trade, transportation, and economic growth.
2. To improve Eurasian connectivity, lowering transit time and regional trade (TIR) **Transports Internationaux Routiers** Network ought to be channelized. This platform offers a perfect chance to implement the aim of regional connectedness. The first Pakistani truck landed in Moscow via Iran and Azerbaijan under this project in just seven days, therefore lowering transportation time by almost 76% in 2021 (IRU, 2021).
3. **The Quadrilateral Traffic in Transit Agreement** (QTTA) has signatories including Kazakhstan, Pakistan, Kyrgyzstan, and China. Russian relations are already fostered with all three countries except Pakistan, which can further be enhanced by utilizing this agreement to boost the influence and regional connectivity by accessing its ports to expand economic and trade horizons. To connect and enhance regional connectivity and trade of Central Asia with South Asia investment should be done for a **Trans-Afghan Railway line**
4. Initiatives should be supported to connect and create an electricity market, of Central Asia's energy surplus with South Asia's energy deficit via the (CASAREM) **Central Asia-South Asia Regional Electricity Market**.

Hence, by investing in the projects of regional connectivity and initiatives, Russia can foster and strengthen the Eurasian Project, which can enhance geopolitical stability and can enhance regional economic integration in South Asia. Russian can pragmatically contribute to Eurasian integration by consolidating its presence in the South and Central Asian region.

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Contours of connectivity: Socioeconomic Transformation and Local Perception of China-Pakistan Economic Corridor (CPEC) in upper Hunza, Pakistan

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The study focuses specifically on understanding how residents perceive both their changed livelihood situations and their ability to access development advantages while expressing worries about cultural and environmental sustainability factors. The study employed a quantitative survey design with a cross-sectional approach. The researcher obtained data through multistage cluster sampling from residents located in Sost and Passu settlements. Research data was collected through both digital and face-to-face distribution of a structured questionnaire, which used a five-point Likert scale. The data collected from 220 respondents yielded 200 valid results that underwent statistical description. The survey respondents showed both positive and negative feelings. The widespread view that CPEC drives economic growth and better connectivity also reveals several negative implications, including environmental damage and cultural loss, and a lack of participation in decision-making processes. Both positive and negative aspects of CPEC receive widespread acknowledgment from respondents with scores higher than 3.00 on important scales. Numerous analysts view the CPEC project as having two major effects: it drives regional development, but concurrently threatens local cultural practices and puts residents at risk of non-inclusion. The analysis demonstrates how development plans must integrate native valuations with impartial community involvement. Through this study, critical development sociology gains new insights by including the mountain population perspective, which is typically absent in large-scale infrastructure development planning processes. The research promotes culturally sensitive strategies for megaprojects through future development.

Keywords: CPEC, socioeconomic impacts, economic transformation, local perception, Hunza.

Development is crucial for societal advancement to meet the evolving demands of individuals and communities. Sustainable development goals (SDGs) have become the main objective of the development procedure (Bachmann et al., 2022). To support the development and well-being of individuals, the ninth SDG places a strong emphasis on resilient, sustainable, and dependable infrastructure, including regional and transnational infrastructure, with a focus on fair and affordable access for everyone (UN, 2017). Infrastructure is key for development because enhancements in the establishment, accessibility, and quality of infrastructure and services offered central to reflective changes in people's socioeconomic conditions. Further infrastructure links urban and rural areas and connects developing nations to developed nations, fueling the development process (Ramos-Suárez & Pérez, 2018). Working together to achieve common development goals demonstrates the stability and strength of the region as all nations advance toward these goals. When nations work together to achieve shared developmental goals, they demonstrate real progress and togetherness, which promotes stability and strengthens the region. Doors of shared development opened among different countries

in September 2013 when Chinese President Xi Jinping introduced the “Silk Road Economic Belt and the 21st Century Maritime Silk Road” initiative during his visit to Central and Southeast Asian countries. This developmental initiative is known as the “Belt and Road Initiative” or BRI (Hui et al., 2021). The multibillion-dollar Belt and Road Initiative is the largest development initiative in human history undertaken by one nation, i.e., China. The main aims of the BRI are to advance social and economic connectivity, security cooperation, political and economic awareness, technological and economic advancements in the region, and to get closer to new infrastructure and a trade free zone (Devonshire-Ellis, 2015; Azizi, 2024) between China and countries in Asia, Africa, the Middle East, and Europe through a patchwork of new economic infrastructure, political diplomacy, and new trade zones (Yii et al., 2018). The CPEC is a leading project of the Chinese super investment BRI across the world (Abbas, 2019). Zheng Shanjie, Chairman of China’s National Development and Reform Commission, noted that CPEC is:

“A significant loop in the larger chain of the Belt and Road Initiative and would allow the opportunity of a 21st Century Maritime Road.” (CPT, October 11, 2024)

Premier Li Keqiang visited Pakistan in May 2013 and launched the massive project of CPEC. The project acts as a collective developmental gate between South Asia and Southeast Asia. On April 20, 2015, China and Pakistan signed 51 Memorandums of Understanding to demonstrate their increased commitment to mutual development, and this picture took the form of operational terms, strategies, and treaties thereafter (Kanwal et al., 2019). CPEC is not only a road track; relatively, it is a combination of various dimensional projects extending from roads and railways, Gwadar Port, energy projects, Special Economic Zones (SEZs), fiber optic cables across borders, airports, and many more (Khalid et al., 2022). The four main pillars of the CPEC are: Gwadar port, Communication infrastructure, Energy setup, and Industrial sectors.

The CPEC route connects Xinjiang province of China and Gwadar Port in Baluchistan province of Pakistan, via Kashgar, and Khunjerab (Kanwal et al., 2019; Ahmad et al., 2017). Gilgit Baltistan (GB) is the early point of CPEC in Pakistan. The CPEC goes through Xinjiang and passes through GB through the Hunza district for around 300 Km before entering Khyber Pakhtunkhwa (KP) from the Kohistan district. It is expected that the CPEC will alter the entire society of Pakistan, with a specific emphasis on GB. Under CPEC different projects are launched in this area, the most important project is the development of the Karakoram Highway 213 km long (worth \$46 billion spent on Transportation Infrastructure) that connects Rawalpindi and Kashgar via GB; one of nine Special Economic Zones (SEZs) premeditated under CPEC, one will be established at Moqpondass, Gilgit, 820-kilometre Pak-China Fiber Optic between Khunjerab Pass and Rawalpindi, energy projects such as 100 MW KIU at Hunza River and 80 MW Phander—both will be constructed under the CPEC and many more projects are underway in this region. Further, all road networks, communication systems, and gas and oil pipelines must pass through this region. Therefore, GB will benefit more than the rest of the country (Ali et al., 2024). A successful CPEC is also likely to open new corridors of prospects for GB, as GB is one of Pakistan's least developed regions in Pakistan (Ali et al., 2024). Pakistan's strategic location has been pivotal in making it a preferred choice for establishing CPEC through Pakistan. Both countries benefit from CPEC in multiple ways, as shown in Table 1.

Table 1
Summary of CPEC benefits to China and Pakistan

For China	For Pakistan
➤ Shortest route for transporting oil	➤ Overcome the energy crisis
➤ Avoid the Malacca Strait route	➤ Improvement in Infrastructure
➤ Easy access to international markets	➤ Development of Gawadar Port
➤ Targeting the less developed regions	➤ Establishment of Special Economic Zones
➤ Bring political security to Xinjiang Province	➤ Development of Gawadar International Airport

The empirical significance of this study is in its potential to make available evidence-based insights into the real-world effects of Mega Construction Projects (MCPs) on the local community. By systematically analyzing socioeconomic changes in infrastructure development, e-commerce, business opportunities, and social dynamics, this research aims to generate valuable data that can inform stakeholders and policymakers. The empirical approach not only boosts the comprehension of the effects of CPEC on GB but also contributes to understanding community welfare and sustainable development in regions undergoing economic transformation. The outcomes can serve as a critical resource for future projects; make certain that they are understood by the needs and conditions of the local people.

The empirical significance of this study lies not only in highlighting the perceived benefits of CPEC but also in critically examining its unintended consequences, including environmental degradation, cultural erosion, and social exclusion. While infrastructure development often promises regional uplift, it can simultaneously reinforce inequalities, displace traditional livelihoods, and marginalize local voices in planning and implementation. By capturing both aspirations and anxieties, this study foregrounds the dual nature of development as a driver of opportunity and a source of tension. Local forms of resistance, whether through critique, skepticism, or limited cooperation, reflect the lived complexities of communities negotiating top-down megaprojects. This framing aligns with critical development sociology, which urges scholars to go beyond technocratic evaluations and engage with the conflicting realities of large-scale interventions. Through a grounded analysis of local perceptions in Upper Hunza, the study aims to contribute to more inclusive, responsive, and culturally sensitive development paradigms.

Theoretical framework

To provide a deeper analytical lens for examining the localized impacts of CPEC, this study draws upon key perspectives from critical development theory. First, James Ferguson's (1994) concept of "anti-politics machine" provides a compelling critique of how development interventions often depoliticize structural inequalities by framing them as technical issues. This lens helps to analyze how large-scale infrastructure projects like CPEC can obscure power relations and reinforce state authority in peripheral regions like GB. Second, Arturo Escobar's (2011) post-development theory challenges the assumption that Western-defined development models are universally applicable. Escobar argues that megaprojects often impose external economic logics that marginalize indigenous cultural and ecological knowledge. In the context of Upper Hunza, this perspective is useful for interpreting community concerns about cultural erosion and environmental degradation resulting from CPEC-led modernization. These theoretical insights help frame the empirical analysis within a broader discourse on uneven development, power asymmetries, and local agency. By engaging with these frameworks, the study moves beyond surface-level socioeconomic indicators to critically interrogate the discursive and structural dimensions of development in a geopolitically sensitive and environmentally fragile region.

Literature review

CPEC has been addressed as a game-changer for the economy of Pakistan, and GB, a tactically significant yet less developed region, is composed to be one of its main beneficiaries. The CPEC project is supposed to be economically advantageous for the residents. Economic influence refers to economic profits, such as getting opportunities, employment, trade, and other related financial assistance that the project provides to local inhabitants (Khalid, et al., 2022). As Ramay (2020) noted, Pakistan has fewer sustainable opportunities to eliminate poverty; therefore, this multi-billion-dollar project can vary the intention of the people and the country. The local communities could be eased out through these initiatives if they bring some positive changes to their personal and social, and economic well-being (Hassan, 2020). A study conducted by Aman et al., (2022) stated that CPEC has the potential to change the quality of life, increase employment opportunities, and reduce poverty in Pakistan. According to their findings, the CPEC project led to the

creation of jobs, enterprises, trade, services, and other commercial activities that will improve the economic situation of the nation. The local economy has undergone restructuring, which has affected the locals' perception of normalcy, employment opportunities, and a low level of poverty because of CPEC expansion. Residents believe that the nation's general quality of life may have numerous advantages. Similarly, a study conducted by Ali et al., (2017) stated that the energy sector is expected to create millions of jobs, resulting in lower poverty rates in the whole country. Specifically, power generation is beneficial for small and medium enterprises. Energy projects will overcome the energy crisis and blackout problems of the country, increase economic activities, and attract foreign investment. Raza et al., (2018) highlighted the economic benefits of Pakistan with the expansion of the CPEC projects. For example, it is anticipated that the project will support advance 1.1 million people from poverty, due to its cross-country communication infrastructure and increasing financial activities. It will also generate seven million jobs, with a 2.5% annual growth rate (Dawn, 2020). However, jobs like maintenance, security, or low-paying jobs are offered to Pakistanis (Rana, 2022). Kanwal et al., (2020) examined the local community provision towards the development of the CPEC project and stated that local community support is associated with the profits. The entire country of Pakistan benefits from the CPEC plan, but the less developed areas like GB, which lack industries, notably benefit. Literature indicated that CPEC has the potential to raise the standard of living of residents of GB. A study conducted by Muhammad et al., (2023) on the role of CPEC infrastructure projects on inhabitants' quality of life and exploring the mediating role of tourism growth in GB. Their findings showed that CPEC has a positive effect on the quality of life and tourism development in the area. According to Haq and Farooq's (2016) results, CPEC will have a positive impact on several dimensions, including increased household income and employment opportunities. Additionally, districts with higher rates of poverty and lower levels of well-being will see improvements in their quality of life and general well-being. The development of KKH is effective in terms of transportation, through which goods are easily transported, reducing the time and cost is expected to enhance regional connectivity. Further, KKH provides service opportunities and increases business competitiveness, thus leading to economic escalation (Alam et al., 2023). However, the socioeconomic benefits are not consistently distributed. The influx of funds and developmental activities might worsen existing inequalities within the local community. Nonetheless, locals supply the lowest labor, with Chinese people holding the highest official posts. The shortage of vocational schools in the GB region limits the local population's ability to fully benefit from CPEC due to their lack of relevant skills and knowledge. So, we cannot rely on CPEC to improve the locals' economic circumstances because it only generates temporary jobs. The most significant benefit expected to be received by the Gilgit Baltistan, KPK, and Northern areas of Pakistan is the revitalization of tourism (Zulfiqar et al., 2019). For example, the randomness of the weather impacts the agrarian products of GB every year, and the local people are left with limited livelihood prospects. Therefore, these local people are additionally reliant upon the tourism sector. The CPEC project would bring a new era to the tourist industry in GB. The KKH passes through the Northern and Southern parts of GB via the famous Hunza Valley. The CPEC Project improves the hotel industry, generating jobs for thousands of literate and illiterate residents of GB. Furthermore, it would advance, extend, and upgrade the KKH and embellish other industries like cottage, handicrafts, and cultural activities, including mountain festivals, and attract adventure tourism from all over the world. In this way, poverty-threatened people would have improved maintainable income opportunities for livelihood (Nazneen et al., 2022). The speedy increase in tourist arrivals in Gilgit-Baltistan has been eased by the infrastructural development of the CPEC (Baig & Zehra 2020). The whole region of GB is well-known for its dry fruits, cherries, apples, apricots, peaches, pears, and potatoes. Thousands of tons of dry fruits are being ecstatic to Pakistani cities from GB yearly, and if the infrastructures get better under CPEC projects, then the GB goods will get access to national as well as international markets and produce huge income for the marginalized community of this zone. Similarly, infrastructure helps in rural-urban connectivity. Small villages along the CPEC route will be connected to large cities, where local farmers will be able to sell their goods at reasonable prices and quickly increase their household income. In addition to the project-based jobs, the local communities can capitalize on the asset opportunities, and the entrepreneurial undertakings would further augment the project opportunities created.

For example, starting your own business in the shape of a workshop, food stall, real estate, hotels, etc., with a low budget, easily. This will lead to a reduction in poverty and increase the income of locals in Pakistan (Khan et al., 2023; John et al., 2020). So, we can say that CPEC has a direct or indirect impact on the socio-economic dimension of residents of GB. As found by Haq and Farooq (2016), in the comparatively backward and less developed zones, one of the main reasons for a low literacy level is the long traveling time between their residences to the educational institutions. Despite the deep links that happen between the two countries, China and Pakistan have fairly diverse cultures, norms, and ways of life. Student exchange programs and increased tourism are two of the ways that the CPEC will help the two countries engage with one another and better understand one another (Khan et al., 2023). In addition to facilitating physical connectivity, CPEC establishes a technology link with the internet under the umbrella of 3G and 4G networks. A study conducted by Khan et al., (2020) stated that e-commerce in GB has flourished under the optic fiber project of CPEC. They stated that now the residents of GB can buy and sell products online. This initiative will reduce unemployment among youth in GB. However, they need to be trained and technologically developed to take advantage of e-commerce. The mega project not only influences the QoL, employment, education, and health, but also influences indigenous culture. A study conducted by Ali et al., (2024) examines the influence of CPEC on the cultural uniqueness of local communities in GB. The study concludes that the local community is optimistic about social cohesion and integration of people from various parts of Gilgit-Baltistan due to the CPEC project. The locals think that GB would change linguistically and in terms of lifestyle because of the CPEC, and that its effects on culture are being overlooked. According to the local community, the socioeconomic impacts of the CPEC would cause cities to develop more quickly than rural regions, which will drive people from rural areas into Gilgit-Baltistan's urban centers (CH & Mushtaq, 2025).

After a review of the literature, it is evident that the majority of studies on the socioeconomic effects of CPEC have focused on the initial phases of this massive project. There is a noticeable gap in the literature with regard to the second and Third phases of CPEC, which are anticipated to be completed by 2025 and 2030, respectively. Furthermore, previous studies have mostly concentrated on specific segments or regions

On the CPEC route, hence, a comprehensive analysis of the Hunza district that comprises the study area, GB, has not been conducted. In addition, the optical fiber network provides internet services all over GB. This will provide educated youth with an alternative means of income. E-commerce would allow inhabitants of GB to buy and sell goods and services conventional transversely the border. E-commerce will benefit hugely from the ease with which CPEC's fiber project would get items or services to market. The purpose of this study is to fill the knowledge gap on e-commerce and CPEC that exists in the literature. The CPEC project involves the construction of power plants, transportation networks, road networks, optical fiber installations, and special economic zones. These initiatives are essential to increasing accessibility within cities and boosting regional transportation networks. Consequently, entrepreneurs are likely to take on novel ideas and look for creative methods for generating income.

Method

Study Design

A quantitative approach through cross-sectional survey assessment methods measures the socioeconomic changes within GB communities from the CPEC implementation. The quantitative method proved appropriate because it enables systematic collection and analysis of data about public sentiment along with economic transformations and development results in CPEC projects. Community members participate in the survey through a cross-sectional design that captures their current opinions about aspects of life in strategically major areas located along the Karakoram Highway, such as Sost, Passu, and adjacent settlements. The locations experience direct CPEC impacts because they lie nearest to border infrastructure and transit routes. The design follows questionnaires that produce consistent results while enabling statistical assessment. The design system enables extensive data collection across physically separated and distant

communities that reside in Upper Hunza. This quantitative study generates quantitative assessments at the community level to offer empirical data about local development under CPEC.

Study Area and Population Sampling

This study employed a quantitative research methodology to assess the socioeconomic ramifications of CPEC on the residents of upper Hunza, located in northern Pakistan and bordering China. This region has been purposely selected for research purposes as it functions as a crucial conduit between China and Pakistan. A significant portion of the residents in this area are engaged in agricultural activities, thereby making CPEC an alternative source of income for the local populace. Additionally, all CPEC projects necessitate passage through the study area, rendering it imperative to ascertain whether local inhabitants are benefiting from CPEC initiatives. Consequently, this research aims to ascertain whether these projects effectively contribute to the socioeconomic upliftment of the residents by providing an alternative income source alongside agriculture, which renders upper Hunza a pertinent area for examination following the study's aims and objectives.

Data collection procedures

The data collection involved the creation of a questionnaire. A questionnaire was established that asked a variety of questions intended to measure the specific aims of the study. Likert scales measure attitudes by asking people to indicate how strongly they agree or disagree with a series of statements about a topic (Tanujaya et al., 2022). For this purpose, a five-point Likert scale with the response ranging from strongly agree “5” to strongly disagree “1”. Each question was presented based on a 5-point scale from (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, and (5) strongly agree. The questionnaires were distributed through various means, including online survey platforms, due to participants residing in various remote regions of Gilgit. In addition, face-to-face questionnaires were also filled in by participants. After we sent out the questionnaires, we followed up with calls, used social media sites like Facebook and WhatsApp, and sent follow-up emails to encourage responses. Over 12 weeks, we got 220 respondents. Some questionnaires were discarded because of missing data. Finally, we got 200 complete forms. Upon the compilation of opinions, attitudinal scores were subsequently computed for each response item, and threshold points were established. The derived cutoff score was calculated following the methodology proposed by Akpabio (2007), which involved summing five Likert scale responses (1+2+3+4+5) and subsequently dividing the total by 5. This process yielded an average of five Likert scores, which was determined to serve as the cutoff score. A mean score for a question exceeding 3.00 (the designated cutoff score) was deemed to signify a substantial contribution and thus warranted further consideration. Following the comprehensive collection of data, it underwent additional scrutiny through the application of descriptive statistics, encompassing frequencies, percentages, and means.

Ethical consideration

This study adhered to recognized ethical standards for research involving human participants. All respondents were informed about the nature, purpose, and voluntary nature of the survey before participation. Informed consent was obtained verbally and/or digitally, and participants were assured of full confidentiality and anonymity in the handling of their responses. The data were collected solely for academic determinations and kept securely to prevent unofficial access. This research was conducted under the ethical guidelines of the Department of Sociology, School of Public Administration, Hohai University, and formal ethical approval was granted by the university. Participants were given the right to withdraw at any stage without any consequences.

Data analysis

Descriptive statistical methods analyze the data to understand local residents' opinions about CPEC's social and economic changes. The data entry process, along with cleaning, resulted in 200 usable responses suitable for analysis. The survey relied on items rated on a five-point Likert scale from “5” Strongly Agree to

“1” Strongly Disagree to enable calculation of mean scores and frequency counts for different variables under research. The research method produced measurable main characteristics together with base patterns of public opinion within the sample group studied. The interpretation of Likert-scale data included a cutoff point selection based on Akpabio’s (2007) evaluation method. A score of 3.00 created the evaluation standard, which provided a positive or significant impact assessment above 3.00, yet demonstrated a limited or negative impact evaluation below that level. The chosen analytical method delivered an unbiased method to evaluate the shifts in opinions about infrastructure development and employment, as well as livelihood transformations and inclusion in the CPEC advantages. Such analyses delivered essential information needed to establish conclusions about CPEC's socioeconomic impact on the study region and functioned as a basis for developing policy recommendations. To enhance the analytical depth of the findings, inferential statistical tests were also employed. Specifically, Pearson correlation analysis was used to assess the strength and direction of relationships between key variables such as income improvement, infrastructure development, employment generation, and quality of life. This allowed the study to go beyond surface-level patterns and statistically verify whether perceived benefits of CPEC (e.g., job creation or e-commerce growth) were significantly associated with respondents' reported socioeconomic conditions. The inclusion of inferential statistics supports more robust conclusions and provides a clearer understanding of the dynamics between infrastructure investment and local livelihoods in the region.

Results and Discussion

Socioeconomic characteristics of respondents

The sample required for this research included the residents of Upper Hunza. The socioeconomic information of the respondents is presented in Table 2. Males’ respondents consisted of 55% of the data, and females consisted of 45% while the majority of respondents were married, i.e., 60%. The participants were divided into three age categories: young, middle-aged, and old (Iqbal et al., 2024). The majority, 69 (45%) of the respondents, fall into the category of 26 to 40 years. The major source of income was business 57 (28.5%), followed by farming 55 (27.5%).

Table 2
Socioeconomic characteristics of respondents

Category	Variable	Frequency	Percentage
Gender	Females	90	45%
	Males	110	55%
Age	15-25 young	50	25%
	26-40 middle	90	45%
	Above 41 old	60	30%
Marital Status	Married	120	60%
	Unmarried	80	40%
Education	Illiterate	30	15%
	Primary	35	17.5%
	Secondary	45	22.5%
	Higher	90	45%
Family Type	Joint family	130	65%
	Nuclear family	40	20%
	Extended family	30	15%
Total		200	100%

Reliability and correlation analysis

We conducted a reliability analysis for the questionnaire, and it is highly reliable. The Cronbach's Alpha Test of Consistency was employed to demonstrate the internal reliability of the model (Maharaj & Munyoka, 2019). Cronbach's alpha needs to be 0.700 or beyond (Nunnally & Ira 1994; Iqbal & Liang, 2025). The self-developed questionnaire's alpha value is .731, which is shown in Table 3.

Table 3
Reliability statistics

Cronbach Alpha Value	.731
No of items	17

Table 4
Person correlation matrix for key socioeconomic indicators

	R1	R2	R9	R4	R12	R13	R5	R3
R1	1	.36	-.25	.005	.091	-.34	-.188	-.134
R2	.036	1	.39	.175*	.715**	.089	.112	0.14
R9	-.025	.39	1	-.029	.036	.075	.027	-.084
R4	.005	.175*	-.029	1	.068	.118	.059	-.038
R12	.091	.715**	.036	.068	1	.054	.075	-.062
R13	-.34	.089	.075	.118	.054	1	.530**	.020
R5	-.188	.112	.027	.059	.075	.530**	1	.087
R3	-.134	0.14	-.084	-.038	-.062	.020	.087	1

***P<.05, **P<.01**

To explore the relationships between various perceived benefits of CPEC, a Pearson correlation analysis was conducted, presented in Table 4. Notably, there is a strong positive correlation between income change (R2) and quality of life (R12), $r = 0.715$, $p < .01$, suggesting that perceived income improvements are significantly associated with better self-reported quality of life among respondents. Additionally, entrepreneurial opportunity (R5) shows a moderate positive correlation with cultural exchange (R13), $r = 0.530$, $p < .01$, indicating that increased economic activity may also foster cross-cultural interactions. Although some variables show weak or no significant relationships (e.g., infrastructure access and tourism impact), the observed correlations provide valuable insight into how respondents connect economic benefits with broader social improvements. These findings add analytical depth to the survey by confirming that income generation is a key driver of perceived socioeconomic transformation under CPEC, supporting earlier descriptive results.

Residents' perception of the benefits of CPEC

Table 5 delineates the frequency of responses of residents concerning the direct benefits accrued from the CPEC. For this purpose, participants were asked the question "Do you think which category gets the most benefits from CPEC?" Among the 200 participants surveyed in upper Hunza, the majority ($n=90$) stated that entrepreneurs derive the most substantial advantages from CPEC. This phenomenon is attributed to CPEC's facilitation of entrepreneurial opportunities for both male and female individuals. Presently, women in Hunza are engaged in operating small businesses that specialize in traditional foods, hats, handmade crafts, and similar products. Moreover, the respondents ($n=60$) indicated that CPEC has generated employment opportunities for individuals of varying educational backgrounds. Additionally, agricultural practitioners are also reaping benefits from CPEC initiatives. The populace of Hunza engages in agricultural activities. Farmers can now sell their produce directly in markets, thanks to the enhanced infrastructure developed under CPEC. Furthermore, respondents ($n=50$) reported that daily laborers are also experiencing advantages due to CPEC initiatives. These daily laborers are primarily individuals involved in the transportation sector, mining industry, vendor operations, driving, and retailing activities.

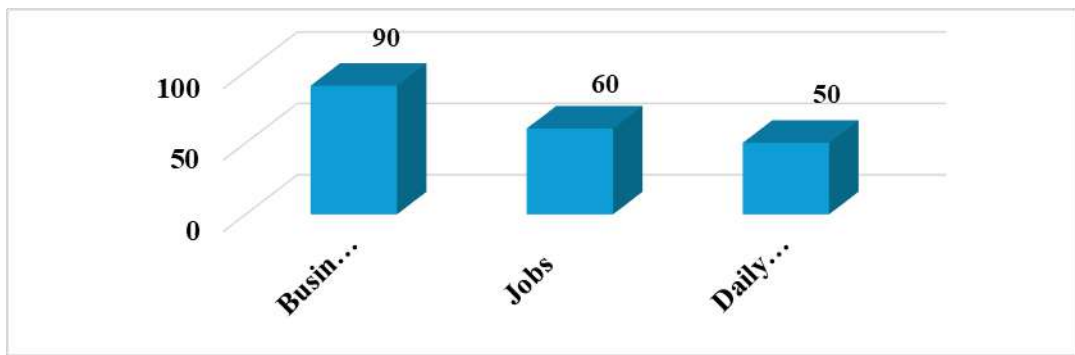


Figure 1: Benefits derived from CPEC to different sectors

Table 5*Socioeconomic Development*

Questions	Response Categories					R	Mean (SD)
	SDA	DA	N	A	SA		
1. Expansion of existing business opportunities due to CPEC	5(2.5)	12(6.0)	45(22.5)	94(47.0)	44(22.0)	2	3.8000 (.93508)
2. Infrastructure (road, internet) improved under CPEC	3(1.5)	12(6.0)	45(22.5)	94(47.0)	46(23.0)	5	3.4800 (.86797)
3. CPEC has resulted in increased income	1(0.5)	29(14.5)	45(22.5)	77(38.5)	48(24.0)	3	3.7100 (1.005)
4. CPEC projects created jobs for natives	4(2.0)	10(5.0)	84(42.0)	77(38.5)	25(12.5)	4	3.5450 (.84946)
5. Tourism growth due to CPEC resulted in income-generating opportunities	3(1.5)	12(6.0)	45(22.5)	94(47.0)	46(23.0)	1	3.8400 (.89913)
6. CPEC resulted in an exchange of cultural values with China	5(2.5)	33(16.5)	76(38.0)	61(30.5)	25(12.5)	8	3.3400 (.97939)
7. New entrepreneurial opportunities for locals get benefits from CPEC	14(7.0)	50(25.0)	45(22.5)	54(27.0)	37(18.0)	9	3.2500 (1.21857)
8. CPEC has enhanced educational opportunities	2(1.0)	57(28.5)	63(31.5)	45(22.5)	33(16.5)	9	3.2500 (1.07390)
9. CPEC enhances the quality of life?	2(1.0)	49(24.5)	52(26.0)	54(27.0)	43(21.5)	6	3.4350 (1.10993)
10. CPEC impacted on language	10(5.0)	51(25.5)	58(29.0)	69(34.5)	12(6.0)	15	3.1100 (1.01640)
11. CPEC increases the availability of healthcare	10(5.0)	55(27.5)	57(28.5)	45(22.5)	33(16.5)	11	3.1800 (1.15511)
12. CPEC increased e-commerce	4(2.0)	39(19.5)	77(38.5)	66(33.0)	14(7.0)	10	3.2350 (.91321)
13. CPEC brought environmental concerns (pollution, deforestation)	5(2.5)	73(36.5)	52(26.0)	31(15.5)	39(19.5)	14	3.1300 (1.17900)
14. CPEC projects affected local agriculture and land use	22(11.0)	48(24.0)	57(28.5)	52(26)	21(10.5)	16	3.0100 (1.07034)
15. Bring entrepreneurial opportunities for females	10(5.0)	47(23.5)	65(32.5)	58(29)	20(10.0)	12	3.1550 (1.05191)
16. Local artisans and small vendors are benefiting from increased tourism due to CPEC	24(12.0)	48(24.0)	44(22.0)	45(22.5)	39(19.5)	13	3.1350 (1.30971)
17. Low-skilled workers benefit from CPEC	4(2.0)	42(21.0)	55(27.5)	77(38.5)	22(11.0)	7	3.3550 (.99697)

R=rank, SDA= Strongly Disagree DA= Disagree N= Neutral A= Agree SA= Strongly Agree SD= Standard Deviation

Respondents perceived that CPEC had made great contributions to the economic standing of locals, as evidenced by Table 5. Every indicator on the survey was assumed to be a ranking system where respondents were able to rank what they perceived as the most important aspect associated with CPEC. Respondents acknowledged all 17 items in the survey as important and contributed to their socioeconomic status, with a cutoff mean score of 3.00, used to distinguish between effective ($\alpha > 3.00$) and non-effective ($\alpha < 3.00$) factors. The maximum ranking was given to the simple circumstance that tourism growth due to CPEC increased income-generating opportunities (rank 1, $\alpha = 3.84$) complementing with the expansion of existing business opportunities (rank 2, $\alpha = 3.80$), new entrepreneurial opportunities for locals get benefits from CPEC (rank 9, $\alpha = 3.25$) resulted in creating jobs for locals (rank 4, $\alpha = 3.54$). The respondents believed that CPEC also created entrepreneurial opportunities for females (rank 12, $\alpha = 3.155$), local artisans and small vendors

benefiting from increased tourism due to CPEC (rank 13, $\alpha = 3.135$). This contributed to the income of the residents (rank 3, $\alpha = 3.71$). The respondents assessed the advancement of infrastructure associated with CPEC as 5 rank ($\alpha = 3.48$). The participants believed that e-commerce flourished under CPEC, with the rank provided by (rank 10, $\alpha = 3.235$). A study conducted by Khan et al. (2020) stated that e-commerce in GB has flourished under the optic fiber project of CPEC. They stated that now the residents of GB can buy and sell products online, and this initiative will reduce unemployment among youth in GB. Moreover, CPEC has not only fostered job creation for educated individuals but also provided employment opportunities for low-skilled laborers (rank 7, $\alpha = 3.335$). This development has improved the quality of life overall for residents of upper Hunza (rank 6, $\alpha = 3.43$). These findings align with several studies that praise CPEC for improving connectivity, expanding economic opportunities, and fostering tourism-led development in GB (Aman et al., 2022), and also provide entrepreneurial opportunities for females (Ali, 2023). Earlier literature also emphasized the projected gains in regional governance, employment, and economic stability through enhanced connectivity and trade (Hussain & Khan, 2017). However, a deeper analysis reveals some critical nuances. For instance, while Aman et al., (2022) report general improvements in residents' quality of life, our data suggest that these benefits are not evenly distributed; entrepreneurs and highly educated individuals tend to gain more, while low-skilled workers and farmers benefit less directly. This disparity echoes Ferguson's (1994) critique of development as an "anti-politics machine," which depoliticizes inequality under the guise of technical progress.

Furthermore, our respondents' environmental concerns (ranked 14th) contrast with the more optimistic framing in development literature that often assumes infrastructure automatically fosters sustainability. Nazneen et al., (2019a) and Ch and Mushtaq (2025) also flagged ecological trade-offs, but our study demonstrates that such concerns are widely recognized at the grassroots level, not merely speculative or policy-driven. This contradiction challenges linear models of development and supports Escobar's (2011) post-development argument that modernization projects often displace local priorities and environmental ethics. Moreover, while literature often celebrates infrastructure as a gateway to social inclusion (Khalid et al., 2022), our findings indicate a perception of marginalization, particularly regarding decision-making and cultural identity. Resident fear of becoming passive recipients rather than active participants — a concern that aligns with Bourdieu's concept of symbolic capital exclusion, where access to resources is mediated by cultural and institutional power dynamics. Thus, while CPEC delivers material benefits, it also reinforces new forms of exclusion, particularly in terms of participation and cultural preservation. These contradictions reveal the complexity of developmental outcomes. Rather than treating CPEC as a universally beneficial project, our study contributes to a more grounded understanding that acknowledges uneven development, context-specific agency, and socio-ecological trade-offs — themes that remain underexplored in mainstream development literature.

Strong gains were reported in the enhancement of educational opportunities due to the onset of CPEC (rank 9, $\alpha = 3.25$). This statement is in line with the study conducted by John et al., (2020). The Chinese government has broadcast numerous scholarships associated with CPEC, and a growing ratio of Pakistani students availing these scholarship opportunities is the indirect impact of CPEC. Additionally, relevant infrastructure to enable transportation to the educational institutes provided by CPEC also contributed to increasing the literacy levels of local communities (Saad et al., 2019). When exploring the impact of CPEC on language, the participants believed that it had also impacted language (rank 15, $\alpha = 3.11$). It is evident from the results of Shaikh and Chen (2021) that a recent upsurge of Chinese language programmes has been observed, mainly because of the CPEC projects. Further, Khan et al., (2022) stated that Higher Education Institutions in Pakistan make it mandatory to teach Chinese as a foreign language. Also, Pakistani students studying in China are required to pass Hànyǔ Shuǐpíng Kǎoshì (HSK) as a degree requirement. Respondents showed the health sector is impacted by CPEC (rank 11, $\alpha = 3.18$). These results are in line with the research conducted in Gilgit by Naz et al., (2022); their findings showed that CPEC brings international trade, healthcare, and self-efficacy to Gilgit. In addition, she argued that the Silk Road increases health

opportunities in Gilgit. Similarly, Rashid and Farooq (2021) found that several mobile health units have also been introduced to several remote areas where healthcare services were previously inadequate.

Cultural values are also exchanged under CPEC, where respondents ranked it as (rank 8, $\alpha = 3.34$). This was studied by Rana (2022), the results showed that CPEC has a bigger impact on both countries concerning cultural exchange, which is achieved by Chinese employees who are involved in CPEC projects marrying Pakistani women and living in Pakistan. The respondents showed that environmental concerns (pollution, deforestation) arise due to CPEC activities.

The study findings demonstrated that CPEC activities brought environmental concerns such as pollution and deforestation (rank 14, $\alpha = 3.13$). These findings are in line with the study conducted by Ali and Mushtaq (2025), who stated that CPEC brings economic development at the expense of environmental degradation. Similarly, Nazneen et al., (2019a) found that infrastructural development and tourism mandates are a caution to environmental and socio-cultural sustainability. This has happened because of the CPEC project. It resulted in an influx of tourists to the terminus, increasing economic benefits alongside, causing air and water pollution, disrupting local culture, increasing crime rate, traffic congestion, waste, and litter, destroying ecosystems, biodiversity, and wildlife. The respondents believe that CPEC has affected local agriculture and land use, ranking it as 16 ($\alpha = 3.01$). The inhabitants of the study area were mostly related to agricultural activities. CPEC has brought a novel means of income. These results are reinforced by Zulfiqar et al., (2019), who found that CPEC opened new prospects for local individuals to increase their fruit production and uplift their livelihoods.

Conclusion

The development dynamics of CPEC show multiple layers while operating in the Upper Hunza territory. As a fundamental infrastructure, the corridor functions beyond its status as a highway since it transforms geography along with societal identity systems and organizational power structures. It evaluated the social and economic effects of the CPEC upon the communities situated within the strategic northern route of the Upper Hunza region. The current development initiatives receive diverse and intricate reactions from the community members. People view CPEC as both a path toward development and greater prospects because it enables better trading connections and diverse income options. Residents show concerns regarding environmental damage, as well as cultural disturbances, and a fear of becoming powerless stakeholders in global transformation projects. The twin perspectives people have about CPEC reveal an important contradiction between enormous infrastructure expansion and the actual circumstances faced by indigenous mountain residents. Quantitative findings confirm people perceive economic gain from the project, but existing data show powerful concerns related to the protection of traditions and fair distribution of authority. This research demands a participatory development approach based on local needs to enhance regional progress. Local communities need to be involved by implementing bodies and policymakers, not as recipients of benefits but as active participants who bring their agency along with their historical backgrounds and indigenous knowledge systems that demand respect for integration. The study places marginalized voices at its core to advance academic discourse about development sociology. The study supports the idea that meaningful, sustainable development necessitates infrastructure alongside inclusive practices and cultural sensitivity, and different approaches to defining progress that benefit all groups.

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Entrepreneurial Resilience in Turbulent Times: Navigating Crisis and Disruption

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Pakistan has been grappling with violent disruptions for nearly three decades. Alongside the Afghan war, incidents rooted in religious, linguistic, and ethnic conflicts have severely damaged the country's social, economic, institutional, and political infrastructure. These acts of organized violence manifest in multiple forms and carry wide-ranging economic, social, and psychological consequences. They reduce economic activity by destroying infrastructure, generating uncertainty, discouraging investment, and stalling overall business growth. This paper examines the impact of such violence on entrepreneurship, using Peshawar, Khyber Pakhtunkhwa (KPK), as a case study. Data were collected through in-depth interviews with 10 entrepreneurs who were direct victims of the bomb blast at Meena Bazaar which is one of the deadliest attacks in Peshawar's history, claiming 100+ lives, injuring over 200 individuals, and destroying the entire marketplace. Thematic analysis of the data reveals that such violent events significantly hamper entrepreneurial activity by reducing sales and customer engagement. Some entrepreneurs closed their businesses, while others continued operations without pursuing growth. Additionally, entrepreneurs and their families experienced both financial and psychological distress. Interestingly, this study also emphasizes that entrepreneurs in the violence-affected marketplace rely on multipronged coping strategies that are based on personal resilience as well as collective adaptation. Spiritually grounded explanations helped individuals endure trauma. Together, these patterns depict that resilience among the entrepreneurs in such contexts is both relational and reflective. It is also deeply embedded in social networks and rooted in personal belief systems. This shifts the focus beyond entrepreneurial failure or success, toward a more processual and contextual understanding of resilience under crisis conditions. This research offers a novel contribution by exploring the relationship between violent conflict and entrepreneurship in the context of Peshawar.

Keywords: *Act of Violence, Socio-psychological trauma, Entrepreneurial resilience; Entrepreneurial responses, Adaptive strategies, case study approach, thematic analysis*

Urban marketplaces are often the beating heart of a city's informal economy, serving as hubs of entrepreneurial activity, cultural exchange, and community life (Welter *et al.*, 2015). These places are often built up of individuals whose (marginal) productivity contributes to the GDP, GNP, economic growth and development of cities as well as country (Urbano *et al.*, 2019; Audretsch *et al.*, 2015). More productive the human resource of a country is, higher the economic prosperity there is (Aparicio *et al.*, 2020). Same goes for the developing countries too. A better human development context has a positive influence on entrepreneurial activity in developing countries (Urbano, *et al.*, 2020). A vibrant entrepreneurial ecosystem contributes to human development by generating employment, enhancing purchasing power and income of

individuals and families, and fostering innovation in underserved communities (Stam, & Spigel, 2016). This relationship creates a virtuous cycle: as human development progresses, entrepreneurship prospers too, and as entrepreneurial activities expand, it accelerates inclusive socio-economic progress. However, any act of violence can severely disrupt this cycle, deflating human development by inculcating fear, displacing communities, limiting access to education and healthcare, and damaging the informal networks and infrastructure on which micro-entrepreneurs depend for survival and growth (Daiute, 2010; Berebon, 2025).

In developing countries like Pakistan, much of this entrepreneurial activity takes place in informal sectors and urban marketplaces, where micro-entrepreneurs operate small stalls, kiosks, or retail setups with limited capital (Patil *et al.*, 2025). These marketplace entrepreneurs play a vital role in sustaining local economies by providing goods, services, and livelihoods within dense commercial zones (Rumanyika, 2023). However, such entrepreneurs are particularly vulnerable to external shocks, especially those stemming from organized violence or political instability. In cities like Peshawar, these marketplaces are critical economic zones as well as also deeply embedded in the social fabric of the region. However, the economic productivity and prosperity in such densely populated and economically vital areas are also particularly vulnerable to disruptive events, including acts of violence. Most of the Peshawar's prominent marketplaces have experienced at least once a catastrophic bomb explosion that resulted in significant destruction of property, loss of life, and extensive halt of economic activity. While mostly such events are believed to be politically motivated, this paper focuses on it only as an act of violence and disruption which brings about a sudden, externally imposed shock that deeply affects entrepreneurial life in the city.

While peace is assumed to be the source of boosting marginal productivity, the act of violence is believed to be depleting it (Shirlow 2019). Hence, the entire nation suffers in the prevalence of such violence and conflict. Our paper focuses on the influence of these acts of violence's (on the entrepreneurs) using the case of conflict in Peshawar City (Pakistan). The city has suffered the violence attacks the most of all in Pakistan. Moreover, most of the terrorist attacks took place on busy and crowded areas such as marketplaces during peak business hours. In the aftermath of such disruptive events, entrepreneurs, particularly those who are new entrants or operating in informal and micro-enterprise settings, must navigate complex emotional, financial, and structural challenges (Zehra *et al.*, 2022). In KP and Peshawar particularly new entrepreneurial opportunities are emerging (Gohar *et al.*, 2018). The city is in the phase of witnessing young entrepreneurs as new entrants to the market. In such scenarios, the violence and conflicts may act like "nipping the business in the bud". By taking this case of Peshawar City, we intend to argue that the act of violence and conflicts are particularly hazardous to business activities; however, despite the ongoing conflict, the activities never stop. Understanding how local entrepreneurs respond to, adapt, and rebuild after such an incident provides valuable insight into the dynamics of resilience and continuity in fragile urban economies.

This paper focuses on the experiences of entrepreneurs operating in the violence-affected marketplaces, their immediate responses and recovery efforts. By exploring how business owners adapted, coped, and rebuilt in the aftermath, this study contributes to the literature on entrepreneurship in crisis-affected settings. Rather than highlighting narratives of violence and security, we focus on **entrepreneurial resilience, coping strategies**, and the **reconstruction of local economies** in the face of sudden, high-impact disruption. We explore three main research questions, as

- *How did entrepreneurs perceive and experience the immediate impact of the crisis?*
- *What coping strategies and adaptive behaviors emerged?*
- *How did recovery processes unfold at the individual and collective level?*

The paper is structured as follows: the next section reviews existing literature on entrepreneurship in conflict-affected and crisis-prone environment and discusses the contextual and historical dynamic. This is followed by the details of methodological approach, followed by an analysis of the key findings and discussion in relation to existing theory, and final part concludes with implications for policy and future research.

Deliberate Act of Violence in a civilian space

It is imperative to emphasize that our focus is not to extend an extensive debate on what is categorized as act of violence. While it is a pertinent question to ask, however, what the violence activities bring about with them is far more crucial and how the individuals affected respond to it. This is what we intend to focus on with respect to the business activity in Peshawar. For current research the deliberate act of violence in a civilian space is understood as the intentional and pre-planned deployment of explosive violence by individuals or sub-national actors usually motivated by political or social interests with the intent to inflict extensive harm in public or commercial settings and to send a broader message impacting a wider civilian audience (Berube & Cullen., 2012; Sandler 2010). This is in view, we can argue that it is planned and calculated, and it is purposeful. Civilian space here means the public or semi-public urban areas, such as marketplaces, streets, educational institutes hospitals etc. that are accessible to the general population for everyday social, cultural, or economic activities, and are typically free from direct military or political involvement (Qi *et al.*, 2024)

Backed by various motives (including political, economic and/or institutional) the deliberate use of violence has emerged as a global phenomenon, transcending regional, national, and individual boundaries (Gupta 2020). Although the influence of such violence may extend to social, psychological and economic spheres of life, the economic sphere remains the adversely influenced which in turn may extend to the social and psychological frontiers (Ali *et al.*, 2024).

The economic impacts of terrorism can be analyzed from various perspectives, i-e the growth of the economy in terms of GDP, GNP, Human Development Index and Poverty Index, Foreign Direct Investment (FDI) (Abadie & Gardeazabal, 2003; Irshad, 2011) and the worth of the property that gets destroyed due to any act of violence etc. For developing countries, the creation as well as sustenance of new ventures is as crucial as oxygen. There is a need that research should now be diverted towards how the act of violence affects the economic lives of 'the individuals. In other words, a deeper understanding is needed regarding how the micro variables get influenced by terrorist activities in-turn affecting macro and meso level variables (economy). Given that usually such explosions/attacks normally are concentrated in small units, for example cities or communities.

The Impact of Deliberate Violence on Entrepreneurial Systems: Micro, Meso, and Macro Perspectives

The incidents involving deliberate violence have economic consequences for economic variables at all levels i.e. macro-, meso- and micro- level variables. The macroeconomic variables e.g. GDP, GNP, and FDI are adversely affected due to violent disruptions (Brazfield, 2022). These incidents can deter FDI, damage infrastructure, redirect public and developmental funds toward security spending, and suppress trade-activities, collectively impeding economic growth and development (Hussain, Asad, & Almansour, 2015). Repeated and intense acts of organized violence can consequently diminish capital inflows and erode a nation's economic capital, similar to the detrimental effects of civil wars (Frey, Luechinger, & Stutzer, 2007).

Terrorism may have stronger influence on the operations of specific large industries such as airlines and tourism (Ismail & Amjad, 2014). Following any terrorist attack, the place carry impression of an insecure place and the people are least likely to travel to such areas. The aftermath of large-scale violent disruptions often requires heightened security measures, imposing substantial financial strain on the state through increased homeland security deployment and spending (Lewis, 2019). The major infrastructures are destroyed in the large terrorist attacks (such as attack on Peshawar airport, attack on Mehran Base Karachi and the Minna Bazaar attack in Pakistan). These attacks resulted in heavy damage to the infrastructure. Thus, the government must incur the cost to restore the infrastructure, and the planned budgetary allocations might get disturbed.

Behind the macro-level variables works the meso-level variables i.e. the general change in the societal and communal structures and the underlying choices and attitudes towards economic and social behavior. The loss of property and lives due to terrorist conflicts may lead to altering the structure of the society by impelling people to migrate from the place of insecurity towards places perceived as more secure (Naradda *et al.*, 2020; Helbling & Meierrieks, 2022). One of the major examples is that of Waziristan and Swat in Pakistan where the military operations (followed by the deliberate acts of organized violence) lead to, either by choice or by force, migrations towards urban areas perceived as more secure, resulting in large-scale internal displacement (Javed *et al.*, 2025; Salim & Khan, 2019). This reshapes the social and communal structure of both origin and host communities. It also triggers significant psychological rehabilitation costs for those who lost relationships, health, property, and employment. This further evokes a climate of fear and uncertainty. In addition, the other micro level economic variables like demand and supply for goods and services also change. For instance, during peak times of terrorist conflicts, demand for security increases and that puts a heavy cost on the supplier (the State in this case).

To summarize, at the micro-level, individuals bear the immediate brunt of violence, and this is further reflected in the meso and macro level economic variables. At the micro-level, the individual suffers immediate losses in form of finances, property, family members, friends, physical disability and above all loss of own life. Thus, there are huge restoration costs involved even at the individual level. This raises fear and uncertainty among all the members of the community and affects economic activities. The quest for secure life gives rise to migrations from one place to another place perceived as more secure, leading to change the composition of social network and structure.

The Facet of Entrepreneurship in Terrorism Stricken Areas

Entrepreneurial activity is widely documented as driver of economic development. The higher the entrepreneurial activity, higher will be potential for economic growth and innovation and vice versa. However, violent disruptions can significantly increase the cost of doing business by raising security expenses, delaying logistics, and creating an environment of uncertainty (Shrivastava, 2009) leading to decline in entrepreneurial activity. While the macroeconomic implications of violence on business ecosystems have received considerable scholarly attention, there remains a gap in understanding how entrepreneurs themselves experience and respond to such crises.

Entrepreneurship plays a central role in shaping a country's competitive advantage (Potter, 1990). It drives economic growth across different scales whether through the large-scale production of established firms or the flexible and adaptive output of small or micro enterprises (Pakka *et al.*, 2014). However, the type and level of entrepreneurial activities differ across the cultures. The spirit of venture creation is that entrepreneurship does not take place in isolation, rather the entrepreneur and the enterprise draw from the context and in turn adds to it (Welter, 2011). To understand the dissimilarities in the type and level of entrepreneurial activities, it is essential to consider the broader context, as it shapes when, why, and how entrepreneurship emerges and who chooses to participate in it (Baker & Welter, 2020).

Extant research on entrepreneurship under apparently unfavorable or adverse conditions emphasize that entrepreneurs often tend to adopt diverse strategic responses to navigate crises. These include (but not confined to) active risk mitigation measures such as reducing operational costs, diversifying income streams, and temporarily downsizing ventures (Ahmed *et al.*, 2022). Others may opt to engage in community-based strategies, leveraging collective resources and networks to sustain operations (Osunmakinde *et al.*, 2025). We argue that along with these, spiritual coping mechanisms and reliance on informal support systems may help entrepreneurs to maintain psychological resilience while reorienting business strategies. Particularly in situations where their venture needs a fresh restart from scratch due damage caused by act of violence, these adaptive responses not only safeguard individual ventures but also contribute to shaping the broader entrepreneurial landscape during prolonged periods of violence and instability.

Entrepreneurial activity is shaped by the unique socio-institutional context and framework of each economy, which explains the differences observed both within and across countries. Institutional differences

influence how individuals perceive and engage with entrepreneurial opportunities, with entrepreneurial-social networks and embedded-ness. This plays a crucial role in shaping entrepreneurial behavior. Among the broader contextual forces, external disruptions in various forms particularly terrorism remains an underexplored yet significant factor affecting entrepreneurship. While prior research has examined the effects of political instability and other external conditions on economic activity (Doggar & Khalid, 2024), there exist a void in the literature regarding how violent disruptions impact entrepreneurs, their ventures, and their strategic responses, which in turn may shape the broader entrepreneurial landscape. This paper seeks to address that gap by examining the extent to which deliberate violent acts influence entrepreneurial activity and decision-making.

Terrorist Conflicts in Pakistan and the entrepreneurial activity

Pakistan and particularly KP has faced persistent terrorist violence for nearly three decades, coupled with regional conflict and internal tensions including religious, ethnic, and linguistic rupturing its socio-economic and political base. These disruptions deteriorate investment, employment, and economic productivity. According to the South Asia Terrorism Portal, annual suicide attacks peaked at 85 in 2009 and, after declines post-military operations, have resurged, underscoring continued instability (Malik & Zaman 2013; Baloch & Bashir, 2020). The financial toll has exceeded US \$100 billion since 2001 and the human cost is staggering (Akbar 2023; Ali *et al.*, 2014).

The province of Khyber Pakhtunkhwa (KP), sharing a border with Afghanistan and hosting the insurgency, remains particularly impacted. As of January 2025, 229 industrial units within the province have shut down due to insecurity and lack of support, even as over 2,000 others struggle to remain operational (Pakistan Today, 2025)

Despite its creative people, resource-rich terrain and strategic location, KPK's industrial and entrepreneurial growth has been severely constrained due to the above-mentioned scenarios. The dramatic decline in active manufacturing units and the lack of business activities for days and weeks illustrates how violent disruptions stifle local enterprise and erode economic resilience (Mirza & Lodhi, 2024). While the macroeconomic costs of terrorism are well-documented through broad indicators like GDP growth, employment rates, and provincial investment, less is known about the micro-level impacts on entrepreneurs themselves (Umair, 2024; Mirza 2024). This study narrows the focus to Peshawar—a city central to KP's entrepreneurial ecosystem—to investigate how terrorism and associated insecurity affect individual venture creation and how do the survivors respond to it.

Conceptual Framework

Based on the extant literature exploring crisis entrepreneurship and resilience to develop a conceptual framework, this study focused on the cascading influence that the acts of violence may have on entrepreneurial activity. As shown in Figure 1 below, violence (e.g. bombings or targeted attacks) gravely disrupts the physical infrastructure but also has long lasting effects on the psychological well-being of business owners, community dynamics, and local economies. These disruptions compel entrepreneurs to respond and resultantly, it leads to a range of entrepreneurial responses, including short-term risk aversion, business withdrawal, coping strategies, spiritual or communal resilience, and in some cases, new opportunity recognition. The framework reflects the multi-level impact of violence (individual, business, community) and situates entrepreneurial responses as both adaptive and constrained within this volatile environment.

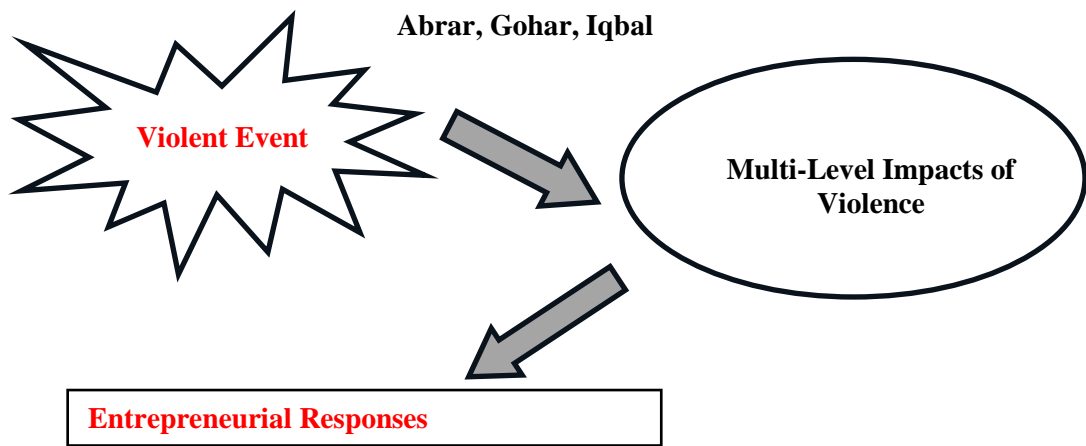


Figure 01: Conceptual Framework (source: Authors)

Method

This research is rooted in the philosophical assumptions of interpretivism believing in the existence of multiple realities shaped by socio-contextual interactions. This philosophy highlights the exploration of human behavior and social phenomena through subjective interpretation (Pulla & Carter, 2018; Van der Walt, 2020) using qualitative methods like interviews, focus groups, ethnography etc. For this research we adopted a qualitative case study approach to understand the situation and their uniqueness as a part of context and interactions. Qualitative research helps to unveil and make sense of complex, multifaceted social phenomena (Lim, 2024). Several research questions are embedded and arise from within the social contexts and are too complicated to be condensed to mere numbers or statistical analyses. Qualitative research helps in generating rich and contextualized insights with a humanistic approach.

The Case of Mina Bazare, Peshawar City

To understand the act of violence and its influence on business activity, a single case of explosive attack in one of the famous marketplaces in Peshawar KP has been taken, known to the locals as Mina Bazare. It is one of the most busy and famous marketplaces of Peshawar, comprising shops of all varieties e.g clothes, toys, jewelry, home appliances and crockery etc. The unique feature of this market is that it is by and large crowded with female customers. On one such busiest days it was around 1:00pm., the time when business is at its peak and the marketplace is crowded with both entrepreneurs and customers, a heavy explosion took place, leaving more than 100 dead and over 200 people severely injured. This is one of the deadliest attacks in the history of Peshawar commercial areas. The number of women and children were high among the victims with the business owners in the market. It took more than 2 months to reconstruct the major infrastructure with victims being offered some pecuniary compensation. In this research we tried to explore the lived experience of the entrepreneurs who survived this deliberate act of violence.

Sample Size and Selection:

Purposive sampling was done by only selecting those entrepreneurs who owned business in this marketplace and survived the attack. We contacted about 25 entrepreneurs, all of whom were directly affected by the Meena Bazaar bombing and luckily survived the attack however, we were only able to collect data from 10 (as majority could not survive the attack while others were not willing to participate). Prior consent was sought from each respondent for conducting and recording the interview. Data were collected over a three-month period, through semi-structured in-depth interviews using an open-ended guide designed to explore the entrepreneurs' experiences before, during, and after the incident. Key themes included business background, immediate impact, coping mechanisms, recovery strategies, and future prospects. A sample of the interview questions is included in the appendix. Interviews were conducted in the local language, audio-recorded with consent, and later transcribed and translated for analysis. Interview data was translated and transcribed to be analyzed using Barun and Clark's (2006) **six-phase thematic analysis** approach. In the first step, we read the transcript several times to familiarize ourselves with the data. In second step, we generated initial codes inductively from the raw data followed by the 3rd step of searching

for themes across interviews. In 4th step, we reviewed and refined themes for coherence and distinctiveness while writing notes about interpretations. In 5th step, we defined the final themes and labels; and in the last step, we produced the report with thematic narratives supported by direct quotes from participants. The full coding scheme is provided at annexure 2.

For ensuring trustworthiness, we employed peer debriefing technique, whereby 3rd author completed the initial round of coding while 1st and 2nd authors independently reviewed the codes, merging and theme development for consistency and credibility. Themes were finalized after several deliberations among the authors. In addition, member checking was conducted by sharing summary interpretations with a subset of participants to confirm accuracy and resonance with their lived experiences.

Results

Thematic analysis of the data resulted in the following themes

- Economic Disruptions and Market Shifts: Monetary and Structural Impacts of Violence on Local Entrepreneurship
- The trauma: Permanent Stains on The Socio-Psychological Fabric of Life
- Entrepreneurial Adaptation Amid Institutional Voids and Community Resilience

Economic Disruptions and Market Shifts: Monetary and Structural Impacts of Violence on Local Entrepreneurship

In line with the research focus, this theme captures how acts of violence severely influence the business process, operations, and entrepreneurial activity in the affected locality. Findings highlight consequences such as property damage, loss of valuable materials, declining profits, physical injuries, and shrinking customer bases. As one of the respondents mentioned

“The blast caused a fire that destroyed all our most valuable materials. We had sourced those supplies from Karachi, and now we lack the financial resources to buy them again. The explosion was the main reason for our loss, as it wiped out the expensive inventory we had invested in” (R-8).

The quotation above suggests that it was not only the loss of money or the material in the shops but after the explosion, the market remained closed for a month to enable reconstruction and provide psychological support to the victims. The adverse effect of the explosion was experienced in the post blast earnings/profits of the entrepreneurs which have substantially declined. The respondents suffered loss of life, and the resulting disabilities (in some cases) made it difficult for them to continue earning the previous profits, leading to them not being able to meet family expenses. Thus, not only did the destruction come to the entrepreneurs in the form of financial loss but also the physical losses (injuries) were claimed by the entrepreneurs. R-5 narrates his story as,

“I got injured during the blast, and afterward, my profit margin dropped drastically. The shop was left completely empty. My brother passed away in the same incident, supporting his family and managing their expenses became extremely difficult for me. It was an incredibly challenging period for me and my family.”

For producers/sellers, the customer footfall is a ‘sign’ of profitability. The market with low footfall reflects the impression of low sales records. The act of violence resulted in low clientele for the entrepreneurs, particularly in the initial few months after the incident. People were traumatized and they would not feel secure to visit the same place again. New customers also developed some fear of visiting a place that has experienced a heavy explosion. Thus, due to a fall in the cliental base, the sales substantially went down leading to financial instability.

“There has been a noticeable shift in customer turnout, with only 40% of clients continuing to visit, while the remaining 60% have stopped coming altogether (interview 3 code 143). Clients are now reluctant to visit this location” (R-4).

Mina Bazare serves predominantly women cliental who are emotionally not very strong, and the anxiety and the fear of death kept them away from the market for a long time. Further, the males of the family were also less comfortable with the idea that their women visit the same place, with the fear that similar incident might re-occur.

Lower income and inability to fulfill the needs of the family had a direct impact on the family life of the entrepreneurs. Almost all of the entrepreneurs were the key earners, and the business was the main living source, the destruction of which led to the deprivation of basic needs.

“Honestly, I often find myself overwhelmed by despair—even to the point of contemplating suicide. Just consider how much prices have risen: a sack of flour that once cost 400 rupees now sells for 750. We can’t afford basic foods like rice, beef, mutton, or chicken. What options are we left with? Should we resort to stealing just to meet our basic needs? Is that really a justifiable solution?” (R-8).

Our data reveals that the scale of business plays an important role in recovering from a critical incident. Entrepreneurs with huge investments and diversified portfolio had better chances to rebuild their ventures as they did not juggle for their livelihood.

“To be honest I haven’t felt any impact from the incident. By God’s grace, everything has been restored to me, and I haven’t noticed any significant change in my expenses since the incident” (R-1).

An important insight shared by the entrepreneurs was the lasting reputational damage to the marketplace. They observed that once a market is linked to violent events, its original value and standing are difficult to restore. People avoid visiting those areas, and the value of the property also goes down. Once the market value falls, this creates opportunities for the new entrants into the market, often compelling the local traders to leave the bazare, provoking the new competitors to “come and try out your luck.”

“Following the blast, many shop owners who couldn’t recover from their losses ended up selling their properties. In their place, people from Bajaur and Afghanistan moved in—most of whom were not present here before the incident. The destruction created space for this shift and most of the entrepreneurs were unable to recover. They (outsiders) came in and occupied the area (they have bought or rented the shops but as they do not belong to that locality, local people see them as outsiders) and have a great market share now” (R-8).

Following episodes of violence, affected entrepreneurs often experience reduced motivation and energy, prompting them to seek resources and moral support to restore their businesses. During this recovery period, new market entrants with substantial financial resources may enter the sector. These entrants can acquire market share, thereby diminishing the share available to established entrepreneurs.

This theme discussed in detail how the act of violence deteriorates the social and economic fabric of society by resulting in human, physical, and economic loss. It is evident that economic loss to enterprises has a ripple-down effect on the households of entrepreneurs. Further, the results highlighted the reduction in the value of land due to any such incident, making pathways for the new entrants, hence changing the competitive landscape. Competitors tapped the niche ‘zari’ market, however, due to losses incurred because of rebuilding and the changing shape of the market, the old businessmen were unable to compete. Most of them decided to sale their properties and look for something else. One of the interesting findings is the

relevance of the scale of business, businesses with huge investments and diversified portfolios were able to recover soon without feeling much heavy of the incident on their lives and enterprises.

The Trauma: Lasting Imprints on the Socio-Psychological Fabric of Life

This theme explicates the deep and enduring psychological and emotional impact of violent disruptions on individuals, their families, and communities. Beyond immediate economic losses, participants revealed how fear, uncertainty, and a persistent sense of insecurity reshape daily life and future aspirations. Relations are of the utmost importance to social beings; the loss of lives or the loss of limbs have severe emotional and physical consequences. The explosion at Mina Bazare is among the deadliest, not only the entrepreneurs but many shoppers have lost their lives. Several of the households lost more than family members. Among those who died or got handicapped several were the sole bread-earners, some others have lost their close associations within the same market. Now working without having them around was a trauma. The network of entrepreneurs got changed and damaged. R-2 describes trauma, intensity and the pain of the incidence as,

“The very market where you’re standing was once covered with the bodies of the deceased. We were the ones who collected them from the road and brought them here, covering them with whatever we could, as many remained exposed. In total, we filled around 14 sacks with human remains and handed them over to the hospital. Approximately 38 to 40 shopkeepers lost their lives in the blast.” (R-2).

Peshawar is a collectivist society; family is the center of life and head of the household is the center of family life. His presence and sanity play a key role in functioning of this basic social institution. As a result of this incident, households that lost their heads encountered multiple social problems, with the most significant being the struggle to maintain family unity. One of the major problems was keeping the unity of the family intact. In the absence of the head, other members became independent and started taking their own decisions. Several refused to live in the joint family as they found it difficult to take responsibility for the family, whose earner was no more. The incident has negatively affected the social fabric of this collectivist society, by affecting the household composition, the familial structure and the social configuration of that locality.

“Most of the people if they were in joint family prior to the blast got isolated from each other especially after the death of the main source of earning, whether for the sake of property or for any other they refused to take care of the family of the deceased person” (R-2).

The data also revealed the incident not only changed the household composition and social behaviour but also the families of the affected, altered their spending habits. After the loss of their main bread winner and not being sure if the rest of the family will take responsibility, they reduced their expenditures and started saving whatever they could. Hence, overall consumption reduced.

“Some individuals exploited the chaos for personal gain, while some people arrived with sympathy to collect the bodies and body parts from the road, others came because of their greed. These greedy people looted money, searched for mobile phones, and took jewelry from the dead bodies and unconscious injured people, knowing that no one would question them at this time.” (Interview 7 code 27-28).

This stark contrast highlights both the compassionate and the exploitative responses witnessed during the incident. At that dark time, they witnessed the moral contrast i.e. people coming with sympathy to help vs. those coming to take advantage and exploit others due to their greed for material things. This further contributed to the existing trauma while they were already experiencing dark facet of society

The sense of insecurity added more to the trauma, which lead them to believe that there is no future, and there was no motivation to work and grow.

“Anything can happen here. After the blast we experienced, there was another one in Qissa Khuwani. Who can control such acts of terrorism? We hear about explosions almost every day in this country. How can anyone manage that? I’m telling you, this country doesn’t feel safe. We constantly worry about the safety of our children” (R-8).

Due to such factors entrepreneurs were least interested in business expansion and growth. In other words, the growth aspirations of the entrepreneurs are suppressed.

“At this point, we’re unable to make long-term plans for our businesses or invest in expansion, because there’s a constant uncertainty about our safety—even about whether we’ll live long enough to see those plans materialized, so it should be just on the scale that is sufficient enough to provide us a decent living” (R-3).

Not only businesses but entrepreneurs were concerned about their families. The prevailing social economic conditions have made them think about migration as R-1 states.

“There’s a plaza right across from my shop that had security guards-but even they lost their lives in the blast. So, what’s the point of hiring guards? Their presence doesn’t guarantee safety. We don’t even feel secure in our own homes. Honestly, I just want to leave this country and move somewhere else-I no longer wish to live here”.

This theme discussed the traumatic socio-emotional state of the entrepreneurs who witnessed this act of violence. They have been through the undesirable experiences and attitudes of their family members. Their household’s composition and structure were changed which led to a change in their economic behavior. Thus, apart from the financial loss, the social, emotional and psychological stability of the entrepreneurs were also disturbed.

Entrepreneurial Adaptation Amid Institutional Voids and Community Resilience

This category examines how institutions respond to traumatizing and disruptive acts of violence. It explores the actions taken by law enforcement agencies and government authorities of the time, focusing on their responses to such incidents and the impact on affected communities.

The majority of the respondents shared that the institutional support extended to them was very basic and insufficient to help them stand back on their feet after undergoing a huge loss.

“Although the government did provide some assistance, it was far from sufficient. The president of the bazaar offered me Rs. 100,000, but I refused to accept it because it did not reflect the extent of my loss. I had claimed an amount between Rs. 900,000 and Rs. 1,000,000. At the time, I was extremely frustrated and felt the compensation offered was inadequate, so I declined it” (R-9).

Like any other developing country in this case, weak formal institutional structures and limited resources were inhibiting the governmental institutions to come up with the correct estimates of the loss incurred. Their inability to have accurate data acted as a hindrance in compensating the locals. Thus, there was a rage and feeling of dissatisfaction among the sufferers. The entrepreneurs claimed the officials to be less accommodative, disappointing and demotivating in the process of rehabilitation and rebuilding their ventures.

“Compensation varied-Rs. 300,000 for the deceased and Rs. 100,000 for the injured. We faced losses of around Rs. 3.2 million but received only a quarter of that. Due to the flammable nature of cotton, the total loss, including property damage, reached Rs. 3.8 million. President X provided Rs. 700,000, which was far from sufficient” (R-2).

Other than financial compensation, the entrepreneurs believed that security of the citizens is the responsibility of the state, instead of compensating after such loss the government shall take measures that no such incident takes place in future.

The victims of the incident also shared their experiences of the health infrastructure of the country; they highlighted that the health facilities are not sufficient and well equipped to deal with such a crisis. The entrepreneurs see themselves as engine of growth and they want to play a key role in the growth and development of this country, however, for this they need a secure and business friendly environment. While comparing the business friendliness of KP to other areas of Pakistan R-4 mentioned

“Businessmen in Punjab have better facilities, more opportunities, and government support. Here, losses are higher, support is minimal, and the main issue remains lack of peace” (R-4)

It is not only the government support that matters but the attitude of the local people towards entrepreneur(ship) is also important in shaping the work environment. The entrepreneurs formed strategies to respond to the void left by the institutions. The most common coping strategy was the formation of informal credit systems and shared-risk strategies to recover lost business.

“The government gave 7, 00000 and then our market gave loans to different shopkeepers who were intended to restart their businesses, and every shopkeeper has to repay that amount according to their capability, either monthly weekly, or yearly. All those who could repay money to bazaar they rejoined and restarted and all those who could not, they left their shops for others. Or they preferred partnerships in their businesses.” (R-2)

To handle the financial aftermath, entrepreneurs relied on local resource pooling and partnerships. These mechanisms fill the void left by the state—providing emotional support, shared resources, and even informal financial aid.

“It’s good (profit margin) my expenditures are manageable. It’s all faith in God, we are nothing.” (R-1)

Another active response we observed to this calamity was faith-based acceptance and pragmatic optimism. Entrepreneurship took solace in spiritual resilience and acceptance of lower profitability as a way to continue operating despite a serious setback.

“Before blast, we had half of this shop; after blast we purchased the other half to expand (by pooling in resources) (R-9)

Despite challenges, several entrepreneurs took small steps to resume or restart their business and economic activities mainly with limited capital and informal support. This also demonstrates attempts to reinvest and rebuild despite setbacks and even when outcomes are uncertain.

This category captures the deep disappointment respondents felt following the traumatic event, as they faced both financial and emotional losses. It also reflects how entrepreneurial resilience and response in conflict zones is not only a matter of tenacity but is embedded in how supportive the social structures and moral economies are. It also depicts how adaptive behaviors are often shaped by cultural values (like faith) and as a response to the structural voids (like the absence of state support).

Discussion and Conclusion

Type and nature of entrepreneurial activities are strongly affected by the socio-political context of the country (Gupta, 2020). Countries with higher socio-economic and political instability experience less entrepreneurial activities. Pakistan is one of the countries that are at forefront of terrorism from last few decades. As per South Asian Terrorism Portal in 2025, 814 people have been killed in the terrorist activities in Pakistan. So, it is not only the social fabric but also the economic activity, like the performance of SMMEs is also affected by the political landscape of the country (Bardwell & Iqbal, 2021). This research adds to the current discussion by arguing that terrorism has acted as a transgressor of entrepreneurial activities. It is clear from the figurative presentation of findings that act of violence has negatively affected the social and economic fabric of life in Peshawar.

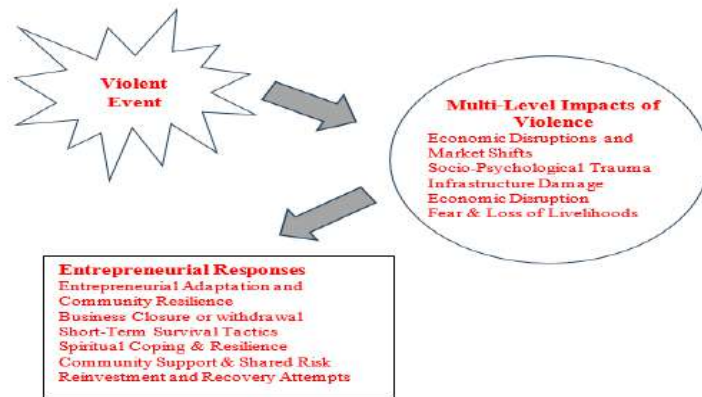


Figure 02: From Disruption to Adaptation: A Framework of Entrepreneurial Response (source: Authors)

In addition, the psychological trauma that the people who witnessed the act of violence underwent has created a sense of insecurity and reduced motivation towards their ventures (Islam, Anwar & Rauf, 2023). The act of violence has resulted in long-lasting socio-psychological trauma, catastrophic damages to property and human lives, lower motivation to invest, and lower growth aspirations due to the uncertainty, feeling of insecurity, and the fear that something similar might happen again. This is illustrated in figure 02 above.

The social unrest and the insurgent activities in any economy influence the economy as a whole by affecting the GDP, and investment opportunities mainly the FDI (Biglaiser, Hunter & McGauvran, 2023). Terrorism negatively affects the tourism industry of any country which is among major contributors to the GDP (Seabra, 2023). The results are very much similar (though not a focus of this research) for Pakistan, as due to terrorism Swat Valley has lost its attraction for the tourists. Countries like Pakistan has recently started to bank on their tourist's attraction for generating some revenue. This sector has lots of investment opportunities and the capacity to add to the GDP. Previous research has explored the impact of terrorism on the overall economy, while present research has narrowed down the scope by targeting the ripping effects of terrorism on entrepreneur (ship) only that too in a narrow locality. Present research can be seen as a detailed illustration at micro level i-e the individual entrepreneur in the economy of Khyber Pakhtoonkhuwa.

This study also emphasizes that entrepreneurs in the violence-affected marketplace rely on multipronged coping strategies that are based on personal resilience as well as collective adaptation (Ahmed *et al.*, 2022). Spiritually grounded explanations helped individuals endure trauma (Osunmakinde *et al.*, 2025), while shared-risk mechanisms and informal community support replaced absent institutional aid. Many adopted cautious, short-term business strategies to mitigate uncertainty which is one of the unique findings of this study. Despite hardships, some showed efforts to rebuild and reinvest, demonstrating adaptive entrepreneurial behavior. These findings highlight how entrepreneurial resilience is shaped by intertwined psychological, social, and structural responses to crisis. Together, these patterns denote that

resilience among the entrepreneurs in terror-hit regions is both relational and reflective. It is also deeply embedded in social networks and rooted in personal belief systems. This shifts the focus beyond entrepreneurial failure or success, toward a more procession and contextual understanding of resilience under crisis conditions.

Major Contributions, Limitations, and Future Research Directions

This study offers a fresh perspective by documenting the lived experiences of marketplace entrepreneurs who owned their business in a violence-affected context in Peshawar, Pakistan. It showcases how the context shapes the entrepreneurial responses by demonstrating the coping strategies of small-scale entrepreneurs operating in the informal marketplaces and survive extreme disruption through a blend of spiritual resilience, communal solidarity, and adaptive risk strategies. By highlighting these, the study added to the literature on entrepreneurship in crisis settings and expands the discourse beyond binary outcomes of success or failure. Additionally, it identifies marketplace entrepreneurs as a “*unique subcategory*” of micro-entrepreneurs whose behaviors and responses are deeply influenced by the location, informality, and limited institutional support.

The study has several limitations. The use of a small, localized sample from a single event limits the generalizability of the findings. The retrospective design of the interviews may also introduce recall bias. Nevertheless, these limitations highlight opportunities for future research. Comparative studies across different regions or crisis types may clarify how resilience strategies vary by context. Longitudinal research could examine changes in recovery and entrepreneurial rebuilding over time. Additionally, gender-focused analyses and studies of institutional support mechanisms may deepen understanding of entrepreneurial resilience in fragile, high-risk environments.

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Classroom Practices of Teachers for Students' Moral Development: Islamic Studies Textbook Garde VIII

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This study was conducted to investigate teachers' practices in teaching the Islamic studies subject, aiming to enhance the moral development of grade VIII students. The goal of our study was to determine what teachers think about the impact of their teaching practices on the moral development of their students. Due to this, we employed a semi-structured qualitative interview approach for this study. Regarding the moral development of students, the researcher visited with six female teachers who taught Islamic studies to eighth graders during the 2023-24 session. The thematic method was employed for the interpretation of the results. This study revealed noteworthy findings about instructors' perspectives on their instructional methods and the impact of these practices on their students' morals. The study derived four main themes with sub-themes, which found: overall teaching and evaluation methods, including storytelling, questioning, providing examples from various sources, application of moral values in practical life, and engaging conversations with students, application of different languages for involvement of students, Involvement of Society in teaching learning process, application of audio-visual- aids, practicing research, practices according to need and development of an effective learning environment for students' moral development. Moreover, teachers emphasized the importance of providing meaningful examples before introducing a new topic and using persuasive techniques to motivate students. They also emphasized the importance of religious subjects, particularly Islamic studies, for the moral development of learners .

Keywords: teachers' practices, classroom practices, students' moral development, Islamic studies, Garde VIII.

Humans endeavor to determine what is right and wrong in cognition and behavior through notions of morality, which are subjective (based on individual or social opinions) as opposed to objective (grounded in empirical evidence and logical reasoning) (Bailey, Jones, & Clayton, 2021). According to Kohlberg, moral judgment would be encouraged by using the following principles;

1. Establishing an environment of respect for others in interactions between adults and learners by being democratic, collaborative, and sharing authority with them.
2. Letting learners participate in making decisions and help establishing the rules for the classroom.
3. Promoting ethical conversation in the classroom.
4. Research showed enhanced moral reasoning results from a participatory technique where learners ask questions and seek explanations, justifications, and suggestions. This method of conversation is linked to higher moral reasoning compared to fundamental dissatisfaction or controversial lectures. Small-group discussions foster moral reasoning from elementary school through higher education (Bergin & Bergin, 2011, p. 3).

Instructors' one-directional, regulated methods of information transfer do not foster a passion for the internal experience; instead, they advise starting as early as possible with the students' experiences rather than merely perusing and understanding the maps. Spirituality's domains are understandable apart from participation. The teacher's goal is for children to become independent thinkers who consider their existence, values, and the external factors that shape them. Moreover, their goal is to assist learners in becoming self-assured, accepting young adults by fostering appreciation for others, compassion, understanding of others' emotions, and the ability to recognize efforts at personal growth (Craft et al., 2001, p. 132). Increasing public awareness about Islamic values is only possible if textbooks for various subjects specifically for Islamic studies incorporate Islamic principles and parents and teachers play a significant role in shaping their children's moral and spiritual development (Thakur et al., 2022). The teacher's role is crucial in helping the children form their moral values. Moreover, the teacher's beliefs and how they teach significantly influence how these values are instilled. The teacher's beliefs directly or indirectly influence their thoughts, rules, choices, and approach to teaching. The perceptions of instructors' knowledge, skills, and abilities have been the subject of several research studies; however, these studies have not considered instructors' values. Every Country has developed its own set of moral standards and laws. In Pakistan, the official religion, which encompasses Islamic principles, history, and customs, served as the basis for moral education (Asif et al., 2020).

Objective of the Study

1. To determine teachers' practices in teaching the subject of Islamic studies to improve the moral development of students of grade VIII.

Question of the Study

1. What practices do elementary school instructors employ when imparting Islamic studies subject to students to foster their moral development?

Literature Review

Concept of Spirituality and Morals

Spirituality in connection to morals reflect how people behave, whereas practicing morals refers to the application of morality. Similarly, ethics is the study of human behavior from a theoretical, methodical, and logical perspective (Chowdhury, 2018). Society, spirituality, and culture have a strong influence on morals, values, and ethics (United Nations Educational, Scientific, and Cultural Organization, 1991, as cited in Chowdhury, 2018). Figure 1 showed the incremental steps of mora development.

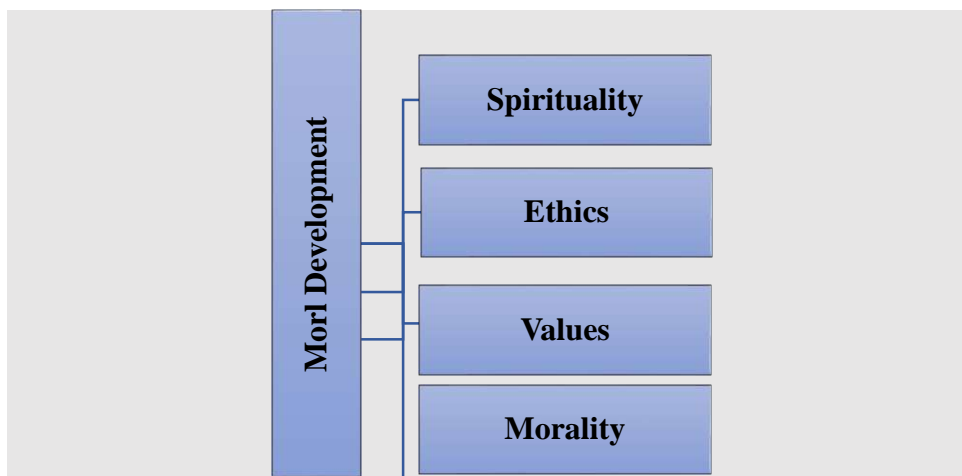


Figure 1: Incremental Steps of Moral Development (West & Jones, 2007, pp.34-35).

Similarly, ethics may have three different meanings. First, morality, or the universal principles of behavior that all rational beings desire for others to abide by, is widely understood to be synonymous with

ethics. Additionally, ethics is a firmly established area of philosophy that examines the origins of human standards and values and attempts to integrate them into theories about humans' personal and societal conditions. Lastly, professional ethics implies the unique behavior standards that people with a common interest follow. It is neither universal nor ethical theory. A profession's concept is closely linked to professional ethics (Chowdhury, 2018).

Morality

Morality is a branch of philosophy, the logically grounded study of the nature, causes, and principles of reality, knowledge, or values (Bailey, Jones, & Clayton, 2021). Likewise, morality is the philosophical field of ethics, also known as ethical philosophy, which examines the conceptual underpinnings and logical validity of such norms. The term "ethics" is now used to refer to specific moral codes or systems, as well as the empirical study of their development across time and the social, economic, and geographic contexts in which they emerged (Editors of Encyclopedia Britannica, 2023).

The primary philosophical schools and their areas of study are:

- Morality is the human attempt to define right and wrong in thought and behavior. It resulted in a system or set of ideas about good vs. bad action.
- Morality is the foundation of any individual's or group's conviction in suitable or good behavior (Bailey et al., 2021).
- Moreover, morality is the set of principles that enable individuals to flourish peacefully within communities. Similarly, it is what society considers to be "right" and "acceptable (Morin & Susman, 2023).

Meaning and Definitions of Morality

Morality is the field of ethics derived from the Latin *moralis*, which means customs or manners. It reflects the current ideals that a culture or community has adopted. It examines whether a particular behavior is consistent with current values or, in some way, contradicts them. Furthermore, morality addresses what is right by employing five traditional criteria, i.e., Pleasure, Happiness, excellence, Creativity, and harmony (Bailey et al., 2021). (Bailey et al.,2021).

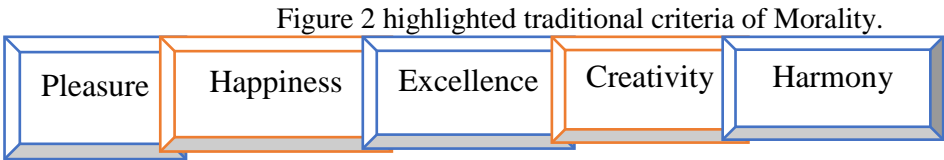


Figure 2: Traditional Criteria of Morality (Bailey et al., 2021).

Morals are the accepted norms that govern behavior, enabling individuals to coexist peacefully within organizations. What cultures acknowledge as correct and acceptable is said to be moral. People, in general, tend to behave decently and obediently. Morality often requires prioritizing the needs of society over one's personal, immediate needs. Amoral individuals or entities do not care about right or wrong. In contrast, immoral individuals or entities commit wicked deeds (Dotdash Meredith Publishers, 2023).

Similarly, morality encompassed the moral beliefs and practices, as well as the moral laws, precepts, or standards, of a culture, society, or religion. The philosophical field of ethics, also known as ethical philosophy, examines the conceptual underpinnings and logical validity of such norms. The term "ethics" is now used to refer to specific moral codes or systems, as well as the empirical study of their development across time and the social, economic, and geographic contexts in which they emerged (The Editors of Encyclopedia Britannica, 2023).

The researcher examined instructors' perspectives on the relevance of Islamic studies in shaping students' morals within the cultural context of Khyber Pakhtunkhwa.

Moreover, Morality is the conviction that specific actions are proper and appropriate while other behaviors are wrong. It is a set of guiding principles and values that broadly recognize how others should behave within a community or a specific group of individuals (Collins English Dictionary, 2023).

Likewise, moral development is the process by which we determine right and wrong as we mature and reach adulthood. It comprises our moral and religious principles, shaping our conduct and sense of civic duty (Moral Development: Definition, Examples & Stages, n.d.).

The researcher investigated student behavior about moral ideals in the classroom. Interviews with teachers were essential in revealing that pupils were acquiring moral principles in the classroom.

Moreover, a child's awareness and perception of social and personal values, correct and wrong, ethical standards, and interpersonal conduct are called their "moral development." Children acquire these values through a social and personal process that teaches them how to act in the community (What Is Moral Development | IGI Global, n.d). Similarly, moral development refers to the ideas, deeds, and emotions related to morality (Gray et al., 2012).

Need if Innovative Teaching methods (Literature based theme)

Issues of social justice as an indicator of moral development become nearly unavoidable. From the headlines of our daily newspapers to the discussions on street corners, socially conscious acts and objectives appear to be more prominent than they were in the past. The urge to abandon current patterns of behavior and adopt new techniques in the pursuit of a more equitable society for all is at the heart of many significant discussions (Thompson, 2022). Moreover, Nucci and Ilten-Gee's (2022) interactions with educators and learners revealed that when students are afforded opportunities to confront challenges, they consider them morally significant and view themselves as engaged in open dialogue with their peers; their involvement and quest for moral stances are authentic (Nucci & Ilten-Gee, 2022).

Certain aspects of Larry Nucci and Robyn Ilten-Gee's methodology need particular emphasis. Initially, they presented a perspective on morality and moral development that is inherently socially contextualized. This is significant since it highlighted the social framework in which moral actors may operate. Secondly, they identified moral education as a deliberate endeavor in which teachers must always participate, even when they may feel that they are not actively engaging in the continuing task. Thirdly, they positively transcend the individualist focus implied or expressed in some methods of moral instruction (Thompson, 2022).

The researcher found that educators' views, as expressed through their interviews, are that pupils' relationships with peers assist their moral development. The researcher would like to integrate Theme I from the findings of the current study with the relevant literature as described above in the context of teacher's practices. There were six participants.

Theme I: Overall teaching and evaluation practices (Findings of Current Study)

Most participants (6 out of 6) discussed their overall teaching and evaluation methods, including storytelling, questioning, providing examples from various sources, practical life experiences, and engaging conversations with students. They emphasized the importance of providing meaningful examples before introducing a new topic and using persuasive techniques to motivate students.

Some participants (3 out of 6) mentioned encouraging students to read a paragraph aloud, followed by a detailed explanation. Two participants (2 out of 6) reported using questioning techniques during the reading process, regularly asking questions to engage passive students and direct their attention to the content. These strategies were especially effective in motivating students toward the moral development aspects of Islamic Studies, which are grounded in both religious and social values. One participant shared:

"I involve students actively, and this practice has been very effective." (Participant E)

Few participants (3 out of 6) noted that their primary method for teaching moral development involved students telling stories. They also summarized the key points of the lesson at the end. One teacher mentioned:

"After the lesson, I always provide a summary and explain its relevance to the students." (Participant A)

Most participants (6 out of 6) indicated that exercises were conducted at the end of each chapter to reinforce the material, although this process was time-consuming. As one participant explained:

"We perform the exercises, but not all in one day." (Participant A)

Some participants (2 out of 6) mentioned that they assigned exercises after a detailed class discussion, while all six participants (6 out of 6) conducted written tests to assess students' understanding. Additional teaching methods for students' moral development included lectures on the practical significance of each topic, examples provided by the teacher, persuasive techniques, group discussions, and translation of Quranic verses. Two participants (2 out of 6) followed a "from simple to complex" teaching approach:

"I follow a method of teaching that moves from easy concepts to more complex ones." (Participants B and E)

Significance of Multiple Activities for Teaching and Learning (Theme from Literature)

Teachers in our formal educational system utilize textbooks as a resource to support students' learning and provide them with the knowledge that nourishes their developing minds (Nazir & Pakeeza, 2023). Textbooks for various subject have significantly impacted how the curriculum is interpreted and represented. In the majority of classrooms, the textbook for different subjects that is employed has a significant influence on both the intended and implemented curricula. This effect is especially noticeable when educators who develop the curriculum write the textbook. Textbooks are not the only factor that affects learners and their schooling; they comprise the majority of the curriculum in many regions of the world. When middle school teachers teach subjects beyond their areas of specialization, as is frequently the case, the importance of relying on textbooks increases (Niaz, 2013). Islamic studies education can help students by providing them with the tools to assess and improve their quality of life.

Significance of Multiple Activities in Teaching Islamic Studies (Findings of the Current Study)

Similarly, the researcher found that the Application of different languages facilitates student involvement. Some participants (3 out of 6) highlighted the use of the mother tongue or national language to increase student involvement. For example, one participant shared:

"I found that engaging the students in class was challenging at times. To help them understand and pay attention, I sometimes switched between Pashto and Urdu, as some students were not showing interest." (Participant B)

Involvement of Society in teaching-learning process

Most participants (6 out of 6) mentioned encouraging student engagement with society by assigning tasks involving discussions with parents, siblings, madrasa teachers, and other community members.

Application of Audio-visual aids

Some participants (2 out of 6) used visual aids, such as charts, to enhance their understanding. One teacher explained:

"I used a simple chart to help students grasp concepts and foster a sense of justice." (Participant C)

Practicing Research for Students' Moral Development

Few participants (2 out of 6) incorporated research into their moral development, encouraging students to consult reference books, maintain diaries, and utilize materials from higher-level classes. Two participants noted:

"We encourage research through chart work, reading relevant reference books, and using diaries, sometimes even looking into books from senior or junior classes."(Participants D and E)

Developing an Effective Learning Environment

Several participants (3 out of 6) emphasized the importance of preparing students for the lesson before teaching. One participant explained:

"When I enter the class, I always prepare the students by explaining the meaning of key concepts, which helps them understand the entire lesson. I also break the lesson down into smaller points that I focus on to make it easier for students to grasp. This way, students can apply what they learn daily." (Participant D)

Practices according to need

Most participants (6 out of 6) described using practices aligned with the lesson's requirements and designed to engage students actively. As one participant noted:

"We implement all necessary practices, and students feel satisfied when we focus on the key aspects of the lesson." (Participants B and E)

Settlement of Students for Moral Development

Some participants (2 out of 6) emphasized the importance of strategically placing students within the classroom to promote moral development. One teacher shared:

"Some students come from homes where they are already morally well-behaved, while others may not. I place the less disciplined students with those who are morally upright, and I take on a nurturing role, almost like a sister, to guide their development." (Participant E)

Teacher-Student Friendly Discussion Forums

Few participants (2 out of 6) reported using friendly discussion forums to foster students' moral development. These forums allowed for open communication and engagement between students and teachers. Two participants explained:

"There are designated days for discussions between students and teachers. Sometimes, I encourage student-led discussions. I always link the day's lesson with prior knowledge to help students make connections." (Participants A and E)

Awareness of Islamic Moral Values (Literature based theme)

In comparison, Islam exhorts us to mold our beliefs to benefit people and society. To achieve this, we must increase public awareness of Islamic values through education (Thakur et al., 2022). According to a study, even if educators support the development of "good" people, these people may nonetheless act in ways that reinforce unethical structural or systemic outcomes. By combining a social justice-focused understanding of systemic patterns with a moral education-focused emphasis on the results of one's actions, the discussion successfully demonstrates the value of contextual knowledge in evaluating moral behavior. It emphasizes the significance of moral education in encouraging a dedication to gaining crucial perspectives on one's social status and its positive and adverse effects (Thompson, 2022).

The researcher further integrated Theme II of the current study to highlight the significance of teaching practices in establishing a social justice-focused system.

Theme II: Teaching Activities and Practices for Students' Moral Development / Teacher Stories

Moral Development Practices in School Assembly

Some participants (2 out of 6) mentioned implementing different practices for moral development during the school assembly. These included reciting Quranic verses with translations and discussing their themes. Two participants reported:

"The assembly is an important platform for students to learn about the Quran and Islam. We recite Quranic verses with translation and teach moral lessons. On Fridays, we focus on the significance of Friday prayers; on other days, we explore various Islamic teachings related to morality." (Participants B and E)

Respect for Islamic Books in the Quran and Hadith Sections

A few participants (2 out of 6) described how they encouraged students to show respect for Islamic books, Quranic verses, and Hadiths. One teacher shared:

"We often find Islamic books scattered around, but we emphasize the importance of respecting them. When teaching Quranic verses, I always remove my shoes, sit on the floor, and encourage my students to do the same." (Participant C)

Another participant explained:

"I taught my students to respect Islamic texts by practicing what I preached. I would remove my shoes and sit on the floor during lessons on Quran and Hadith, and many of the students began adopting this practice in their daily lives." (Participant A)

Additionally, one participant compared this practice to how members of other religious groups show respect for their sacred spaces:

"I used to explain how, in Hinduism, people remove their slippers and ring a bell when entering a temple to show respect. I told my students that as Muslims, we should treat our Islamic textbooks." (Participant C)

Application of Hadiths in Teaching

A few participants (2 out of 6) shared personal stories about practicing Hadiths during their student years and how they now use similar methods with their students. One teacher reflected:

"When I was an MA student in Islamic Studies, my teacher, Fatima from Swabi, used to incorporate two or three Hadiths into each lecture, and she always prepared them in advance. This method helped us memorize the Hadiths because we were familiar with them before the class. Now, as a teacher, I use the same approach, and it has proven effective in encouraging students to internalize and apply Hadiths in their daily lives." (Participant D)

Teachers' students' Friendly interaction

A few participants (2 out of 6) discussed their approach to interacting with students in a friendly and approachable manner, which also helped promote moral development. One participant shared:

"When teaching the section on beliefs, I tell my students how fortunate they are to have access to this knowledge at such a young age. I explained to them that we were not as fortunate in the past and had no awareness of concepts like the Day of Judgment or accountability for our actions. I encourage them to internalize their beliefs and avoid the mistakes I made in my youth." (Participant A)

Developing a sense of hope in students

Most participants (6 out of 6) discussed their efforts to help students develop a sense of hope. One teacher shared:

"Many students are often feeling hopeless. I remind them that good and bad times come into everyone's life. These moments may pass, but through all of them, we must turn to Allah in prayer." (Participant C)

Developing a Sense of Gratefulness to Allah Almighty

Some participants (2 out of 6) mentioned using examples to cultivate the value of gratitude toward Allah. One teacher explained:

"We should never be ungrateful to Allah. I often tell the story of a sheikh who had no shoes. One day, he saw a man without legs walking in the mosque. The sheikh thanked Allah for his feet, realizing how much he had to be grateful for. This example always made me tear up and reflect on my blessings." (Participant C)

Examples of Fate and Hard Work through Cooking and Eating

Some participants (3 out of 6) used everyday examples to help students understand the connection between fate and hard work. One teacher described:

"I tell my students that if food is in my fate, it will not magically appear in my mouth while lying in bed. I must get up, cook, and serve myself. It is your fate, but you must also work hard for it." (Participant C)

Hard Work and Success are Interconnected

A few participants (3 out of 6) used the example of heaven to explain the importance of hard work in achieving success:

"If success is destined for you, Allah has already written it. But you must still work hard to achieve it, because, as Allah says, there is no paradise without effort." (Participant C)

Promoting Moral Development through Personal Classroom Activities

The majority of participants (6 out of 6) shared their classroom activities designed to foster students' moral development. One teacher stated:

"I always remind my students that we are all the same before Allah, regardless of our differences. On the Day of Judgment, we will all stand together and must help one another. If a classmate is hungry, we should share what we have to eat. I model this by sharing what I have with my students." (Participant A)

Another teacher shared their personal experience to motivate students who were not offering prayers:

"I told my students about when I neglected my prayers and lied to my parents about it. I explained that this was a mistake and urged them not to follow in my footsteps. When I asked the class if they were praying regularly, many said they were." (Participant B)

Additionally, several participants emphasized the importance of honoring teachers as an act of reverence and as a means of fulfilling human rights. One participant noted:

"I remind students that respecting their teachers is part of their worship, as is fulfilling all our human obligations." (Participants B, C, and E)

Encouraging Acts of Charity

Some participants (2 out of 6) encouraged students to be generous with their excess belongings. They explained:

"If you have more than you need, you should share with others. And if you are unable to help financially, do not hesitate to ask me for assistance." (Participants A and D)

Multiple Practices for Engaging Students

Some participants (2 out of 6) described how they involved students in discussions and storytelling to enhance their learning. One teacher shared:

"I invite students to share stories about the Prophets and Hazrat Muhammad ﷺ. This not only teaches them but also helps me learn from their insights." (Participant A)

Another participant explained how they used storytelling and student involvement to engage uninterested students:

"Some students were disengaged during my lessons, so I used storytelling and student participation to capture their attention and make the content more relatable." (Participant B)

Group Activities and Practical Involvement

Most participants (4 out of 6) employed group activities and interactive methods to promote moral development in students, particularly in the context of the principle of *"Amar Bil Maroof Wa Nahi Anil Munkar"* (enjoining good and forbidding evil). Some examples of these activities include:

- Organizing speech competitions among students
- Encouraging interaction and collaboration between students
- Using books and media (internet, YouTube, TikTok) for research
- Engaging students in class discussions on relevant moral topics
- Assigning tasks involved discussions with family members and the broader society (parents, siblings).

One participant explained:

"I organized group activities where students were tasked with practically dividing Zakat, including a mathematical solution on the board. We also practiced the Labbaik response for five minutes in class." (Participant E)

Teachers' Stories for Societal Moral Values

Most participants (6 out of 6) shared personal stories to illustrate societal moral values. One teacher explained:

"When teaching moral and societal values, I asked my students about their parents' work at home and how they contribute. One student shared that she helps her family by sewing, which enables her family to save money." (Participant C)

Another teacher reflected on their childhood and used it to teach students the consequences of dishonesty:

"I shared my experience of stealing bread as a child because I did not have guidance. I told my students that stealing, or cheating from others, is wrong, and they should avoid repeating my mistakes." (Participant A)

Additionally, one participant discussed how they used the example of helping people with disabilities to teach compassion:

"I asked my students how they treat disabled people and whether they ignore them. Most students admitted they did not care for them as they should. I reminded them that helping disabled individuals is a test from Allah, and we must offer assistance whenever possible." (Participant C)

Teacher as Role Model

One teacher emphasized the importance of being a role model, especially for students in the *Islamic Studies* class:

"As a teacher of Islamic Studies, I know that my students look up to me as a role model. Whenever I enter the class, I check to see if the students are wearing headscarves. If anyone is not, I gently remind them that covering their heads is a sin and should be practiced." (Participant E)

Teachers' guidance for moral development

Some participants (2 out of 6) reported consistently guiding their students outside the classroom to promote moral development. One teacher shared:

"Every day, for five to ten minutes, I would remind students to go directly home after school without looking back. I explained that even if they were looking for a friend or checking on a younger sibling, people might misinterpret it, thinking they were looking at men. While I do not suggest they have looked at anyone with wrong intentions, avoiding such situations is important." (Participant B)

Another participant emphasized the importance of fostering a sense of group within the classroom:

"I told my students that, as a class, we should support each other. If a student is struggling to pay admission fees or buy clothes, the others should help. The more fortunate students need to be motivated by this and support their needy classmates. Even without direct instructions, they begin to understand and help each other." (Participant A)

One participant used a story to teach about honesty and integrity:

"I used the example of a shopkeeper who sells goods with a torn cloth over the merchandise, which is sinful. I explained that a true seller must always be transparent with the buyer about the condition of the items." (Participant C)

Another participant used examples from everyday life to teach compassion:

"I told the students that there are orphans in their class, and when they take more than their share of the snacks, the orphans have nothing. So, I encouraged them to share, for example, giving a portion of their chips to a classmate in need. This teaches them the importance of helping others, such as assisting disabled classmates or helping those in need." (Participant B)

Another teacher shared the story of Hazrat Ayesha R.A to instill values of modesty and integrity:

"I told them about Hazrat Ayesha, how she was accused of something unjustly, and how Allah revealed Qur'anic verses to clear her name. This story helped them understand the importance of maintaining integrity in the face of accusations." (Participant E)

Additionally, one teacher emphasized the importance of kindness in daily interactions:

"I encouraged the children to call each other with kind and affectionate names, like Guriya or Gulab. This simple act fosters love and strengthen relationships." (Participant E)

Character Formation Through Various Subjects (literature-based theme)

Every subject, as well as the procedures and structures of the school community, should intentionally promote a spiritual component. Every subject should participate in some capacity in open-ended inquiry that reflects on purpose and examines attitudes, values, and beliefs. According to Professor Ken Robinson, creativity in educational settings is a level of excellence and ability that transcends a single subject and encompasses all aspects of instruction, the school's social structure or ethos, and the interaction among instructors and students. Helping young people become more productive in global affairs means that their understanding of the external environment and themselves will become more profound and comprehensive (Craft et al., 2001, p. 128). Character formation is among the objectives of the National Education Policy 2017–2025, which is based on the main dimensions of "Taleem" (Learn, Apply, and Analyze Knowledge), "Tarbiyah" (Social, Technical, Moral, and Ethical Training), and "Tazkiyah" (Purifying the Soul). Character formation may also be founded on fundamental Islamic concepts linked with moral rules applicable to everyone (Mushtaq et al., 2023). Spiritual and moral development must be integrated with educational practices that extend beyond simply imparting knowledge about world religions and prescribing moral

guidelines. The national curriculum acknowledges this as significant (West & Jones, 2007, pp. 13-14). Islamic education is fundamentally more than just learning facts; it emphasizes moral behavior and the development of character (tahdhib al-nafs) through divine awareness. The goal of Islamic education, or tarbiyah Islamiyyah, is to develop a whole person, or Insan-i-Kamil, who reflects religious and moral principles in accordance with divine direction (Nasrulloh, & Kholis, 2025).

The researcher integrated themes III and VI of the current study with the literature to highlight the significance of the Islamic Studies subject for students' moral development.

Theme III: The Significance of Islamic Studies for Students' Moral Development: Teacher's Individual Views

The majority (6/6) of participants expressed that Islamic Studies plays a crucial role in students' moral development. They highlighted its significance in shaping students' ethical understanding:

"Islamic Studies is fundamental to our moral development. As Muslims, we must learn Islamic Studies not just theoretically but as a practical guide for life. We need to introduce this subject to our students to help them understand why it is essential and how it motivates us to be better Muslims. It is a challenging subject that requires deep knowledge." (Participant A)

"Islamic Studies is a subject that requires deep learning and reflection." (Participants B and E)

"Islamic Studies is not just important for this worldly life but also for life after. It is the book of ethics that guides our actions." (Participant D)

"I often use the example of how even the smallest part of a matter cannot be ignored. Similarly, Islamic teachings are everlasting and essential for our moral development." (Participant C)

VI: Effective and Ineffective Methods / Practices for Students Moral Development

Sub-theme I: Impact of Assembly Preaching on Students' Moral Development

Some participants (2/6) observed that announcements made during school assemblies regarding students' lost belongings had a positive impact on fostering a sense of accountability among students. This practice was deemed effective in promoting moral development:

"When a student found something and publicly acknowledged it, she would confirm the item with her teachers. For this, other students would applaud and commend her for doing a good deed." (Participants B and E)

Returning Lost Expensive Items

Participants also noted that students were encouraged to return valuable or significant items to their rightful owners:

"Whether it was a valuable item or a large sum of money, students would make sure to return it to the concerned person." (Participants B and E)

Motivation through Rewards for Practicing Moral Values:

Some participants (2/6) mentioned that rewards served as a strong motivator for students to practice moral values, such as honesty and integrity in handling lost belongings:

"We presented awards to students who handed over found items to teachers." (Participants B and E)

Others emphasized that rewards motivated students to act ethically, especially regarding issues of ownership and respect for others' belongings:

"Yes, rewards motivate students. Everyone at the school notices, and teachers praise them for their actions." (Participants B and E)

Effective Methods for Promoting Moral Development through Islamic Studies

Most participants (4/6) identified practical methods for promoting students' moral development through Islamic Studies, including lectures, persuasive presentations, discussions, questioning, examples, and practical activities. On the other hand, a smaller group (3/6) found that methods such as lesson summaries, diary writing (checked by parents), and storytelling were also practical in enhancing students' understanding of moral values.

Sub-theme II: Awareness and Understanding through Examples

The majority (6/6) of participants highlighted the effectiveness of using persuasive methods, examples, and detailed explanations to teach students about Islamic beliefs. Teachers stressed the importance of making students aware of core concepts such as the purpose of life, the role of worship, and the guidance offered by the Holy Prophets:

"The most effective method is ensuring students understand who our Creator is, why we were born, whom we should worship, and why we follow the examples of our Holy Prophet (A.S). To lead a better life, we must devote time to the Quran, understand it, and act according to its teachings." (Participants A, B, and E)

Some participants (2/6) described their approach to teaching charity (Zakat) by directly addressing the students who were eligible for assistance. By openly discussing these students' needs, they ensured that no one felt uncomfortable:

"An effective method is to announce the names of students who need Zakat or assistance, either individually or collectively, so they do not feel uncomfortable." (Participant E)

Other participants (3/6) cited the overall effectiveness of lecture demonstrations, examples, questioning, and group discussions in conveying key Islamic teachings, with a particular focus on promoting good actions and avoiding bad ones:

"In my class, we discussed how to encourage good actions and avoid bad ones, just like the teachings of Amr Bil Maroof and Nahi Anil Munkar (enjoining good and forbidding evil)." (Participants B, D, and E)

Sub-theme III: Ineffective Methods for Teaching

Most participants (6/6) identified reading assignments without teacher explanation, keynotes, or direct guidance as ineffective methods for motivating students to adopt moral values. Some teachers acknowledged that they had used these methods in the past but found them ineffective:

"I have applied this method before, starting with reading assignments, but I have learned that such methods need more explanation and support to be effective." (Participants A, B, C, D, and E)

Implications

1. Educators can offer explicit explanations, engage in collaborative conversations, and provide systematic supervision to facilitate the successful internalization of moral principles by students.
2. Future studies may investigate the enduring effects of various moral instruction methodologies on students' moral growth.
3. Comparative research can be conducted to evaluate the effectiveness of moral teaching methodologies across different educational institutions.
4. Teacher education initiatives may focus on equipping educators with practical tools and strategies for moral instruction.

- 5. Policymakers may contemplate amending the Islamic Studies subject to incorporate additional participatory and pragmatic moral development practices.
- 6. Subsequent studies may investigate the impact of parental involvement and social involvement on the moral development of students.

Method

The researcher adopted a qualitative approach to achieve this target, conducting interviews with teachers in girls' government schools who taught Islamic studies to grade VIII students. In addition, Coding was used following thematic analysis.

The researcher employed an interpretive paradigm in conjunction with a phenomenological qualitative research design. The researcher conducted semi-structured interviews with educators who instructed grade VIII pupils on the topic of Islamic studies.

The interpretive paradigm is gaining prominence as it enables the accommodation of diverse viewpoints and interpretations of reality. Interpretivists claim that the interpretation of data collected depends critically on one's understanding of the setting in which any type of research is carried out. Interpretivist researchers, on the other hand, understand the "broader context of human experience. Interpretivist researchers use participants' perspectives, personal experiences, and backgrounds to reveal reality (Thanh & Thanh, 2015). This research focused on the phenomenon of moral development in eighth-grade students through the lens of Islamic studies. The researcher also examined how teachers promoted the moral development of students through their classroom practices and how students perceive the significance of Islamic studies and teachers' practices in encouraging their moral development.

Sampling/Participants of the Study

The research population consisted of teachers instructing Islamic studies to grade VIII pupils throughout the 2023-24 academic session. The researcher selected a sample based on her visits to six accessible schools in the Swabi area of Khyber Pakhtunkhwa. The researcher subsequently picked a sample of six teachers from three higher secondary schools. Each school had two parts, with distinct teachers instructing the subject of Islamic studies in each section. The researcher employed a purposive sampling method to select teachers from government higher secondary schools. Qualitative research often utilizes this method to identify and select instances with the most significant information, ensuring that resources are used as effectively as possible. This entails identifying and selecting individuals or groups who are knowledgeable and skilled in a particular area of expertise. In addition to knowledge and experience, the purposive sampling technique emphasizes the importance of availability, openness, readiness to participate, and the capacity for clear, expressive, and thoughtful communication of views and viewpoints (Etikan, Musa, & Alkassim, 2016). Similarly, the researcher collected data from six teachers of three higher secondary schoolwho taught Islamic studies to grade VIII students for the 2023-24 sessions. So, six Islamic Studies teachers of grade VIII were the study participants in the interview process. Each class had two sections labeled A and B, and two experts taught each section. Accordingly, the researcher examined interview transcripts obtained from five instructors who taught Islamic studies to eighth-grade students during the 2022–2023 school year. Table 1 showed Sample of the current study.

Table 1
Sample of the Study

S. No	Province and District		Total number of contacted GGHS Schools	Total number of Teachers taught Islamic Studies to Grade VIII (2022-23)	Total number of Teachers relevant to research objectives
1	Khyber	Pakhtunkhwa, Swabi	03	06	06

Semi-Structured Interviews

Similarly, the researcher conducted Semi-Structured interviews. This type of interview helped the researcher to maintain a flexible environment. In a Semi-Structured interview, the interviewer uses a guide with particular questions arranged by theme; however, these questions are not always asked in that sequence. However, when and how a question is posed is determined by the flow of the interview rather than the order in a guide (Bailey, 2017). An interview guide comprising specific questions was organized based on the specified themes identified through the Islamic Studies subject for eighth grade. However, the questions were not posed in that order; instead, the researcher followed the requirements of the current data situation provided by the respondents. Every interview lasted for over an hour. To keep teachers relaxed, the researcher visited them in locations where they felt confident. Following the interviews, all records were transcribed and employed to support the data collected from the Islamic Studies subject for grade VIII in Khyber Pakhtunkhwa.

Data Collection Process

The interview guide was prepared using themes and codes from the Islamic Studies grade VIII subject. The researcher then conducted semi-structured interviews with six of them. The researcher prepared an interview guide that included triggering and follow-up questions. Experts certified the developed interviewing guide. The validated guide was communicated to the participants for consent based on ethical considerations. The researcher personally visited all the schools and collected data. Although the researcher followed a guide, the questions asked depended on how the interview was going. A question scheduled for later in the interview was asked earlier; some questions were skipped. In addition, as this research was based on the interpretive paradigm, it aided in developing a new set of themes in light of the participants' interpretations of the phenomenon of "Moral Development" among students through Islamic studies and classroom practices. The researcher interpreted the meaning of the phenomena under study, which further provided an answer to the research's final purpose and question. So, a novel list of moral values for students' ethical development was constructed. The researcher found teachers with different qualifications for teaching Islamic Studies at the elementary level. Three teachers were specialists in Islamic Studies, three were senior certified teachers (S.C.T.), and one was a physical education teacher (P.E.T.).

Three teachers' interviews were recorded in Pashto, as per their preference, while the remaining three were recorded in Urdu and then translated into English. The researcher then validated the translations from an English expert. The total interview time for each participant was 90 minutes. Following these interviews, the researcher analyzed the responses to identify key themes related to the teachers' perspectives on fostering moral development through Islamic Studies.

The interpretive paradigm applies to the research, as it can provide detailed insights into human situations. Researchers may use data analysis to investigate, justify, communicate, and put the data in the participant's perspective or thought process to recreate the text's intended meaning (Pervin & Mokhtar, 2022). So, the thematic method was used to analyze the data. Moral development aspects were checked in the subject of Islamic Studies teaching practices. Using a three-stage thematic approach, the researchers first coded lines by line, then arranged the free codes to create descriptive themes, and finally, they developed analytical themes (Shams, Ajmal, & Jumani, 2021). The principal codes derived from semi-structured interviews for students' moral development were 04, including teaching practices, teachers' activities and modes of practice, the significance of Islamic studies, and effective and ineffective teaching methods with corresponding subcodes. Figure 3 highlighted the research methodology followed in the current study.

Qualitative Research Design

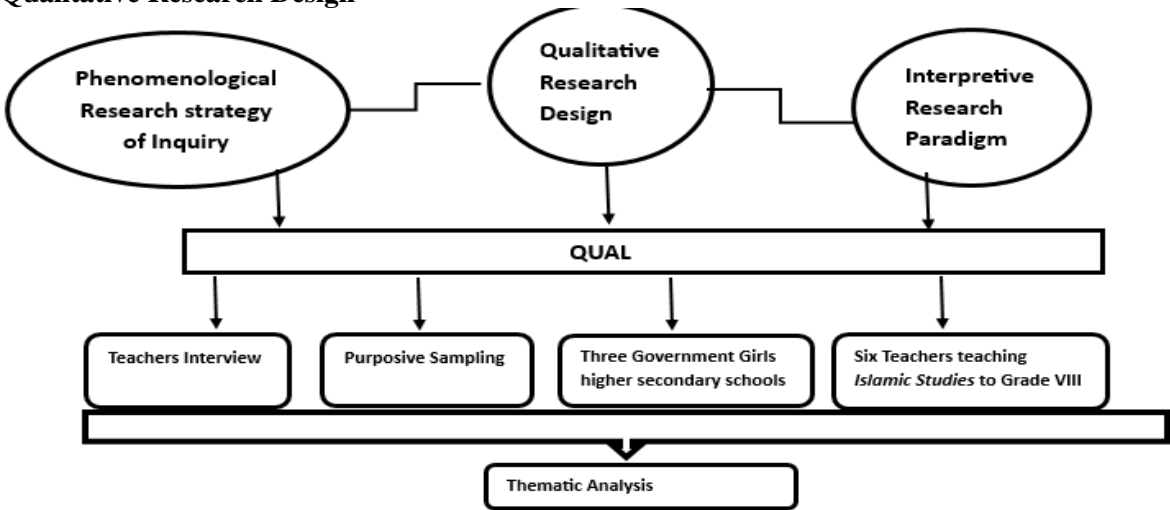


Figure 3: Conceptual Framework of Research Methodology (Creswell,2009).

Table 2.
Demographic Information of the Participants

S.No	Participants	Designation	Qualification	Gender	Experience	Subject	Institution
1.	1.	S. CT	Pushtu	Female	27 Years	Islamic Studies to grade VIII	Higher Secondary School
2.	2.	S. CT	Islamic Studies	Female	27 Years	Islamic Studies to grade VIII	Higher Secondary School
3.	3.	S.TT	Islamic Studies	Female	9 Years	Islamic Studies to grade VIII	Higher Secondary School
4.	4.	S. CT	Urdu	Female	28 Years	Islamic Studies to grade VIII	Higher Secondary School
5.	5.	P.ET	Islamic Studies	Female	10 Years	Islamic Studies to grade VIII	Higher Secondary School
6.	6.	S.TT	Islamic Studies	Female	15 Years	Islamic Studies to Grade VIII	Higher Secondary School

Ethical Consideration

The researcher contacted the Head and teachers of three higher secondary schools and then, after their permission, provided the interview protocol to teachers who taught Islamic Studies to grade VIII for their consent. Teachers were approached in person, and an informal meeting was held to obtain their consent and learn about their experiences in teaching Islamic Studies to grade VIII during session 2023-24. The teachers confirmed their consent for the interviews to be recorded. Figure 4 provided the main themes derived from Teachers’ Semi-Structured Interviews.

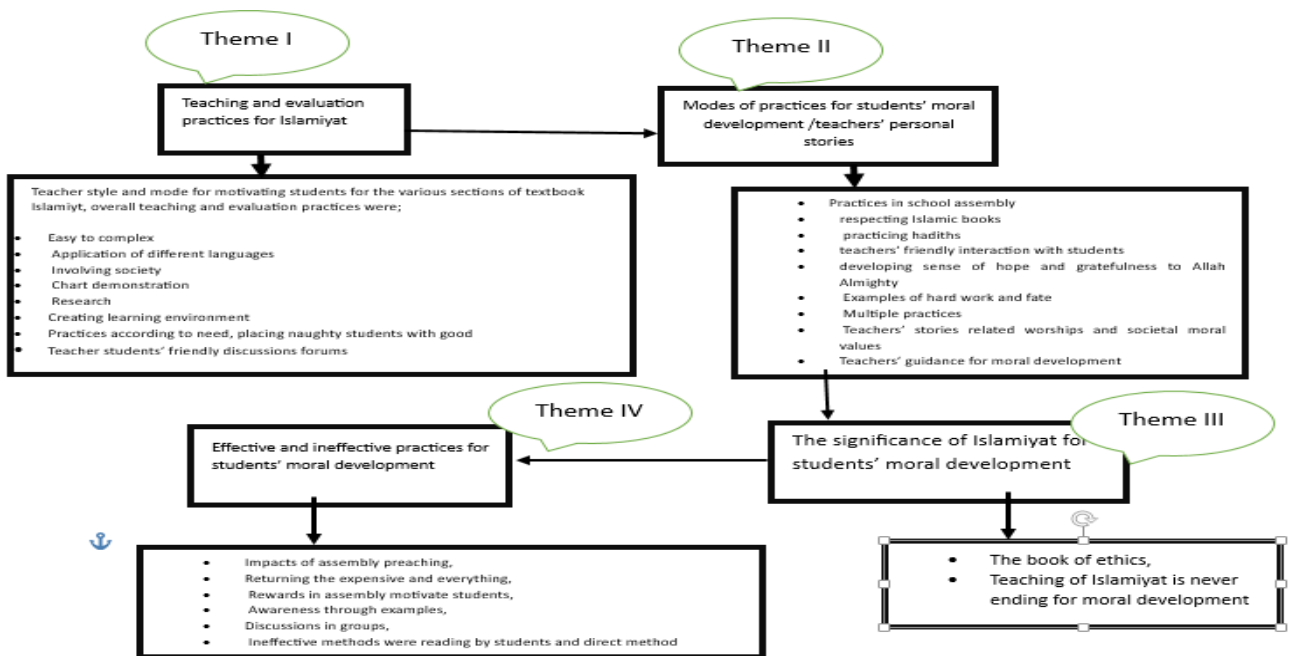


Figure 4:Themes Derived from semi structured Interviews

Discussion and Conclusions

The present study utilized a qualitative research methodology and carried out semi-structured interviews with educators who taught Islamic Studies to eighth-grade students throughout the 2023-24 academic session. The present study was undertaken to investigate the moral growth of students. Comparable to another research study that utilized a qualitative research design based on descriptive ethnography to investigate the dissemination of Islamic educational principles inherent in the Tembang Sorong Serah Aji Krame tradition of the Sasak community in Lombok, Indonesia (Nasrulloh, & Kholis, 2025). Similarly, the methodology and findings of the study are similar to the study conducted by Shams and Lodhi, (2024). The previous study was also qualitative in nature which described that students need to bring moral development contents into action for society's betterment at the local, national and international levels. The previous study also highlighted that teachers may perform their role as practical Muslims and role models for students' moral development while teaching the contents of Islamic Studies for grade VIII. They need to teach social media to motivate students towards the preaching of Islam in the light of the present age needs.

This study examined teachers' perceptions for students' moral development through their classroom activities. The study employed a qualitative method, including semi-structured interviews with the teachers who taught Islamic studies to grade VIII—similarly, Thakur et al., (2022) described the significance of textbook for the subject of Islamic Studies and the involvement of society in students' moral development. He stated that increasing public awareness about Islamic values is only possible if textbooks for various subjects incorporate Islamic principles and parents and teachers play a significant role in shaping their children's moral and spiritual development. Likewise, certain aspects of Larry Nucci and Robyn Itlen-Gee's methodology were found to be similar to the findings of this study. Initially, they present a perspective on morality and moral development that is inherently socially contextualized. This is significant since it highlights the social framework in which moral actors may operate (Thompson, 2022). This study concluded that teaching practices in Islamic studies for grade VIII focused on moral development through storytelling, questioning, examples from various sources, practical life experiences, and engaging conversations with students. Thompson (2022) also reflected on other aspects of Larry Nucci and Robyn Itlen Gees's work, which are similar to the findings of this study. They identify moral education as a deliberate endeavor in which teachers must always participate, even when they may feel that they are not actively engaging in the continuing task. Thirdly, they

positively transcend the individualist focus implied or expressed in some methods of moral instruction. This study concluded that Teachers emphasized the importance of using persuasive techniques and examples to motivate students and capture their interest. Likewise, the previous study described that the Application of the following principles would encourage moral judgment from Kohlberg's point of view such as; 1. Establishing an environment of respect for others in interactions between adults and learners by being democratic, collaborative, and sharing authority with them. 2. Let learners participate in making decisions and assist in establishing the rules for the classroom. 3. Promote ethical conversation in the classroom. 4. Research shows enhanced moral reasoning results from a participatory technique where learners ask questions and seek explanations, justifications, and suggestions. This method of conversation is linked to higher moral reasoning compared to fundamental dissatisfaction or controversial lectures. Small group discussions fostered moral reasoning from elementary school through higher education (Bergin & Bergin, 2011, p. 383).

The involvement of students in different languages, strategic placement within the classroom, and teacher-student-friendly discussion forums were also discussed in the current study. Teaching activities and practices for moral development in schools included reciting Quranic verses, respecting Islamic books, applying Hadiths, and fostering a sense of hope. Teachers shared personal stories about practicing Hadiths, encouraging students to internalize their beliefs and feel gratitude towards Allah. Personal classroom activities were also discussed, including sharing what they have with others and encouraging regular prayer. Honoring teachers as an act of worship and fulfilling human rights was emphasized. The study examined various practices and personal stories that foster students' moral development, including generosity, group activities, interactive methods, and serving as a role model. Teachers also guided their students outside the classroom to promote moral development, such as going home after school without looking back, fostering a sense of group, teaching honesty and integrity, and promoting kindness in daily interactions. Islamic studies are essential for students' moral development as they shape their ethical understanding and motivation. Effective methods for promoting moral development include assembly preaching, encouraging students to return lost belongings, and rewards for practicing moral values. Ineffective teaching methods include assigning reading without providing clear explanations, keynotes, or direct guidance from the teacher. Similarly, another study stated that the teacher's role is crucial in helping the kids form their values. Moreover, the teacher's beliefs and how they teach significantly influence how these values are instilled. The teacher's beliefs directly or indirectly influence their thoughts, rules, choices, and approach. The perceptions of instructors' knowledge, skills, and abilities have been the subject of several research studies; however, these studies have not considered instructors' values. Every Country has developed its own set of moral standards and laws. In Pakistan, the official religion, which incorporates Islamic principles, history, and customs, is the basis for moral education (Asif et al., 2020).

Recommendations

The findings of this study yield numerous recommendations to improve teaching procedures in Islamic Studies for the advancement of students' moral development:

1. **Application of Teaching methods through Educators:** Educators can integrate narrative, inquiry, and practical experiences to make moral lessons more relevant and impactful.
2. **Students:** Empowering students to engage in discussions and reflections on moral challenges might enhance their comprehension of moral ideals. Students may collaborate with their instructors to promote their moral development on both the school and societal levels.
3. **School:** Schools must incorporate practical exercises, including collaborative tasks, role-playing, and real-life examples from the Hadiths, to reinforce moral lessons. Schools may cultivate an environment that fosters moral education through the application of organized activities, such as assembly messages, incentives for virtuous conduct, and encouragement of student-led projects. Classroom seating configurations and amicable discussion platforms have to be developed to promote ethical dialogues and collaborative learning among peers. Schools' ought to reduce inactive pedagogical

practices, like rote memorization and disconnected reading tasks, as these techniques do not foster profound moral awareness.

4. **Educators as role model:** Educators can embody moral ideals in their conduct and relationships, thereby emphasizing the importance of honesty, integrity, and generosity in their interactions. Personal narratives and practical implementations of Islamic teachings have to be disseminated to motivate pupils. Educators can continue their mentorship outside the classroom by encouraging ethical conduct, such as honesty in everyday encounters, fostering a sense of community, and promoting courteous behavior in public environments.

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Student Problems in Self-Directed Learning: A Survey of Vocational High School Student in Islamic Religious Education

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This study analyzes the perceptions of vocational high school students regarding the application of SDL in Islamic religious education learning. The research method used is an exploratory sequential mixed methods design. Data were collected by distributing open-closed questionnaires to 42 volunteers as respondents. The results showed that there were 5 problem themes with an average score of 2.40 - 2.84, which is classified as high. This indicates that students still experience problems related to their learning independence due to their learning habits. This study has implications for the importance of teachers in innovating learning that can motivate students to direct their abilities to achieve the expected results. Therefore, this study shows that implementing SDL in Islamic religious education learning in vocational high schools is not easy, because students' high ability to access information from various digital media platforms and their learning habits that require practical activities, making them feel dissatisfied if learning only focuses on understanding the text.

Keywords: Islamic religious education, self-directed learning, vocational high school students, student problems.

In Indonesia, the policy of implementing an independent curriculum has shifted the direction of student-centered learning by prioritizing student independence to express themselves in developing their own knowledge and skills (Cahayani & Suastra, 2024; Nora et al., 2025). Therefore, the application of self-directed learning (SDL) in Islamic religious education in vocational high schools has become a concern in the world of education, as a hope. Which can support the improvement of student learning independence, SDL as a 21st-century learning approach, which encourages students to take the initiative to think critically in digital literacy by implementing effective strategies according to student abilities, so that they can be developed in real life (Brandt, 2020). Student learning independence in Islamic religious education learning is believed to provide students with a passion for learning in understanding material flexibly and critically in the use of digital media through designs that integrate Islamic values into students through the process of understanding, experiencing and practicing, by motivating students to continue learning and developing their cognitive, affective and psychomotor aspects (Setiadi et al., 2022; Ali et al, 2022).

So far, research results have shown a positive relationship between SDL and various conditions and disciplines, improving self-control, motivation, performance, self-efficacy, and support, as well as improving student academic achievement (Siswanto, 2024). In Islamic religious education learning, In vocational high schools, learning success is based on the achievement of all learning elements. Which is based on the fields of faith, morals, fiqh, hadith, memorization and history of Islamic culture. It is hoped that these learning elements will support the development of soft skills for students who are ready to work. This is because student success is not only achieved through hard skills but also through on soft skills (Wulaningrum & Hadi, 2019). Therefore, the implementation of SDL begins with understanding the material itself and progressing to real-life practice. Given the high level of ability of vocational high school students to access information from various digital media platforms, and their habits in exploring information and expressing their work results with creativity and innovation in learning activities, laboratory practicums and workshops. Therefore, Islamic religious education learning is relevant to the existence of vocational high schools as

formal educational institutions for the younger generation (aged 15-19 years) that provide skills training as technicians with personalities that can meet the needs of the world of work and the demands of life in society.

Researchers agree that SDL is a process in which individuals take the initiative to diagnose their learning needs, formulate learning objectives, identify human and material resources for learning, select and implement learning strategies, and assess learning outcomes, with or without the help of others (Mentz&Oosthuizen,2016; Fajrah, 2023). In SDL, being a self-directed learner requires having a positive attitude in directing their ability to understand and be responsible for their learning, taking the initiative to find the desired results through communication and collaboration and the use of media they consider effective, directing themselves to be more independent in learning and assessing their own learning progress (Auliana & Hadijah; 2022).

However, the implementation of SDL consistently faces challenges with conventional learning, which often leads students to become dependent on teachers, resulting in a lack of student engagement and a failure to think critically about digital use. Students lose focus and tend to memorize concepts without understanding the information in depth (Wasyilah, 2021; Dahal & Bhat, 2023; Zubaidi & Amanah, 2024). These challenges can also occur in Islamic religious education (Putra et al., 2024).

In Islamic religious education learning in vocational high schools, the challenges faced in students' independent behavior in learning, the less than optimal between students' ability to access information from digital media and their efforts to understand the information. In completing assignments, students use digital media as entertainment and not as a means of supporting learning, there are still students working on projects from other subjects while Islamic religious education learning is taking place, low student involvement in class discussions to develop their understanding, and student indifference to their learning success. Therefore, the need for strategic interventions that depart from vocational high school students' perceptions of the application of SDL in Islamic religious education learning, which can improve students' independent learning attitudes.

This research was conducted not only to contribute to the literature on integrating vocational education and religious pedagogy, but also to combine the application of SDL that is oriented towards responding to students' problems to provide practical insights in formulating strategic interventions on the application of SDL in Islamic religious education learning in vocational high schools that can increase students' learning independence.

Method

In applying the research methodology, the study was conducted using an exploratory sequential mixed methods design, by collecting qualitative data first to explore a phenomenon, then collecting quantitative data to explain the relationships found in qualitative data (Creswell, 2014: 543). In the first phase, the researcher collected and analyzed qualitative data to delve deeper into students' perceptions of problems regarding the application of SDL in Islamic religious education learning in vocational high schools. Next, in the second phase, the researcher conducted quantitative data analysis to measure the average and consistency of students' perceptions of these problems. The research questions are: What are the problems in SDL in Islamic Religious Education learning? And how can these problems be overcome?

Participant

The respondents of this study were determined based on the respondents' willingness to participate in the study, which amounted to 42 students from class XI spread across the departments of audio video engineering, industrial electronics engineering, mechatronics engineering and computer network and telecommunications engineering, in 2 schools in Padang city, Indonesia, namely vocational high schools 1 West Sumatra and vocational high schools 6 Padang.

Data Collection and Analysis

Data collection was conducted by distributing open-ended and closed-ended questionnaire surveys. The open-ended questionnaire aimed to explore students' perceptions of the problems they face and their solutions. The data from the open-ended questionnaire were analyzed based on the research objectives and the depth of the responses provided. Next, the data were analyzed using thematic analysis to identify patterns and categories of respondents' responses (Imran &Yusoff, 2015; Velasco et al., 2022). This inductive approach presents themes that are naturally constructed based on the facts and experiences of respondents, carried out systematically, as proposed by Braun and Clarke (2006). These steps include: (1) Familiarization with data: The researcher read and reread the transcripts many times to gain a deep understanding of the content; (2) Generating initial codes: The data was systematically coded to identify meaningful features; (3)Searching for themes: Codes were grouped into broader themes representing significant patterns; (4) Reviewing themes: Themes were refined to ensure coherence and relevance; (5) Defining and naming themes: Themes were clearly defined, capturing the essence of the data; and (6) Writing the report: A narrative was developed, using data extracts to support the themes (Dinh, 2025).

The second stage, developing a closed questionnaire instrument using a four-point Likert scale (“strongly agree”, “agree”, “less agree”, and “disagree”) which was given to respondents. Previously, the statement items were validated on 25 respondents (Daud et al., 2018) by correlating the data item scores with the total item scores, the significance test used the criteria from rtable of 0.396 for $df = 25 - 2 = 23$ with a significance level of 0.05 and two-tailed. If the value obtained is positive and the number of r counts \geq rtable, then the item being tested is declared valid. Conversely, if the r count value $<$ rtable then the item is declared invalid. Meanwhile, the reliability analysis used Cronbach Alpha, namely if the calculated Cronbach value is > 0.6 then it can be said that the research variable is reliable. The quantitative data obtained were then analyzed using descriptive statistics such as averages and data consistency analysis, not seeking or explaining interrelationships or testing hypotheses related to respondents' answers. This stage provides

Table1
Interpretation of Student Responses

Classification	Score
Very High	3,26 – 4,00
High	2,51 – 3,25
Low	1,76 – 2,50
Very Low	1,00 – 1,75

Results

The results of the open-ended questionnaire survey yielded 42 students who were willing to respond. Based on the research objectives, 18 perceptions were obtained from the 42 responses, consisting of 15 perceptions of problems and 3 perceptions of efforts to address them. Next, a thematic analysis was conducted based on the research objectives and the depth of the responses.

From the results of the theme analysis, development was carried out using a closed questionnaire to 42 respondents. Respondents who have provided responses based on a Likert scale with 4 answer choices, namely: "strongly agree," "agree," "somewhat agree," and "disagree." Previously, a validity test was conducted on 25 respondents for the statement items, with the following results:

Table 2
Results of the Statement Validation Test for Difficulties in Critical Thinking

Statement	<i>r</i> value	Sig.	<i>r</i> table	Criteria
Item 1	0.913	0.000	0.396	Valid
Item 2	0.931	0.000	0.396	Valid
Item 3	0.932	0.000	0.396	Valid
Item 4	0.930	0.000	0.396	Valid
Item 5	0.952	0.000	0.396	Valid

Item 6	0.649	0.000	0.396	Valid
Item 7	0.627	0.000	0.396	Valid
Item 8	0.963	0.000	0.396	Valid
Item 9	0.983	0.000	0.396	Valid
Item 10	0.975	0.000	0.396	Valid
Item 11	0.986	0.000	0.396	Valid
Item 12	0.972	0.000	0.396	Valid
Item 13	0.978	0.000	0.396	Valid
Item 14	0.980	0.000	0.396	Valid
Item 15	0.965	0.000	0.396	Valid
Item 16	0.973	0.000	0.396	Valid
Item 17	0.649	0.000	0.396	Valid
Item 18	0.972	0.000	0.396	Valid

Table 2 shows that all items for the 5 perception themes are valid, with the calculated $r_{\text{value}} > r_{\text{table}}$ of 0.396. This is also shown in the summary of respondent data from the reliability test results conducted using the SPSS program, the results of which are as follows:

Table 3*Respondent Data Summary*

Case Processing Summary			
		N	%
Cases	Valid	25	100.0
	Excluded ^a	0	.0
	Total	25	100.0

a. Listwise deletion based on all variables in the procedure.

Table 3 is an explanation of the number of valid data processed in percentage categories. Where the percentage of valid data is 100%, and nothing is excluded. The results of the reliability test are as follows:

Table 4*Reliability Test Results*

Theme	Cronbach's Alpha	N of Items
Difficulties in critical thinking	0.963	4
Difficulties in determining the desired results	0.967	3
Difficulties in students motivating themselves to learn independently	0.920	4
Difficulties in optimizing the use of media and time	0.991	4
Students' ability to solve their problems.	0.885	3

Table 4 shows that the results of the reliability analysis using the Cornbach Alpha technique, the resulting value exceeds 0.6, so it is concluded that the items are declared reliable and consistent.

After conducting validity and reliability tests, a closed-ended questionnaire was distributed to 42 respondents to measure the average student perception of each theme. The results of this measurement are as follows:

Table 5*Average Results of Respondents' Answers*

Theme	Mean	Median	Std. Deviation
Difficulties in critical thinking	2.60	3.25	1.053
Difficulties in determining the desired results	2.80	3.33	1.171
Difficulties in students motivating themselves to learn independently	2.69	3.25	1.056
Difficulties in optimizing the use of media and time	2.67	3.00	1.097
Students' ability to solve their problems.	2.84	3.33	1.152

Table 5 presents the results of the descriptive analysis which shows that the average overall score of the theme, the average range is 2.60–2.84. This average range indicates that all student problem themes are classified as high, indicating that the majority of respondents "agree" with the statement. This is further supported by the respondent's tendency level, which ranges from 3.00 – 3.33 and the variation in respondents' answers also varied with a standard deviation of more than 1 (range 1.053 – 1.171).

Discussion

Student problems that arise in the implementation of SDL represent a form of student dissatisfaction with the independent learning process they face (Nash, 2020), as is the case in Islamic religious education learning in vocational high schools. Therefore, each problem theme in this research finding will be narrated by describing the phenomenon based on the learning styles and actual learning situations that vocational high school students typically experience. This discussion will also provide strategic interventions to improve student independent learning in the application of SDL in Islamic religious education learning in vocational high schools.

Difficulties in critical thinking

Students' problems in critical thinking or high-level and deep thinking are influenced by students' self-efficacy, therefore it is important to create a learning environment to improve students' learning readiness (Turan & Koç, 2018). This means that students' problems in critical thinking indicate students' unpreparedness to learn independently. Students' problems in memorizing and understanding the verses of the Qur'an depend on their ability to read the verses of the Qur'an and their weak interest in reading and memorizing. The verses of the Qur'an are presented in Arabic with Tajweed rules for reading them, therefore students' difficulties in memorizing and understanding the Qur'an are influenced by the ability of vocational high school students to read and memorizing verses of the Quran.

In Indonesia, the admission process for vocational high schools is based on the skills desired by prospective students. Consequently, students' skills are sometimes not commensurate with their ability to read and memorize the Quran. This impacts the learning process of Islamic religious education in vocational high schools, leading to students' disinterest in Islamic religious education, which leads to perceptions of difficulty understanding Islamic terminology, weaknesses in analyzing peers' opinions, and limited involvement in providing relevant examples or events.

The researcher's intervention to increase students' confidence in critical thinking is based on the ability of vocational high school students to learn by expressing their work and creativity integrated into Islamic religious education learning materials. Assignments that encourage understanding of the material and facilitate student retention by creating engaging interactive media about the material, video editing about real experiences according to the material, digital preaching content and so on, which can be applied directly in the classroom, either individually or in groups. This is relevant to the learning style of vocational high school students who tend to be visual and kinesthetic, thus providing space for students to develop competitive and cooperative learning (Kamyyly & Özönur, 2019). In addition, this strategy emphasizes that SDL is designed not only to convey material, but to create meaningful challenges that encourage students to explore and problem solve (Munawwaroh & Putri, 2024).

Difficulties in determining the desired results

In students' problems in determining the desired results, active communication is required which can clarify the objectives and efforts to understand the material (Van Zyl & Mentz, 2019). Communication is conducted to review student understanding, so students are exposed to the perspectives of other students, as well as between students and teachers. Although SDL seeks to reduce dependence on teachers, it is important to align perceptions about the goals and outcomes to be achieved, including negotiating the timeframe for completing assignments (Hawkins, 2018; Maksoud & AlHadeed, 2024; Keller & Raemy, 2024).

Vocational high school students' independent learning is accustomed to a cooperative work environment; they tend to complete their work collaboratively. Teachers should not ignore students' unclear understanding, which can lead to students assuming that Islamic religious education focuses solely on knowledge and teachers being less transparent about the desired outcomes. Therefore, the researcher's interventions view SDL as inseparable from collaborative learning (Buitrago, 2017; Kemp et al., 2022). Therefore, it is important to provide space for students to share their understanding. Students are also

allowed to question the teacher about the accuracy of these results (Bishara, 2021). This is considering that students' process of becoming self-directed learners is achieved gradually and can occur individually or in groups (Hawkins, 2018).

Difficulties in Students Motivating themselves to learn independently

Students' motivation for independent learning is a major issue in SDL. From a humanistic psychological perspective, every individual possesses a spontaneous drive for self-actualization, under favorable conditions (Lanskih et al., 2020). This spontaneous drive is a form of the human instinct to progress and develop, which can increase students' motivation for independent learning. This means that students' activities in SDL are driven by something meaningful and valuable to themselves and their lives. If this meaningful value is not found, it will weaken students' willingness to learn independently (Nash, 2020). As a result, students who tend to expecting explanations from the teacher and the learning atmosphere feels less interesting.

Fundamentally, the study habits of vocational high school students are closely related to the learning process implemented. The more engaging the learning process, the more likely it is to increase student motivation and engagement. Therefore, SDL begins with presenting topics that are interesting to students (Robinson & Persky, 2020). Digital literacy plays a significant role in developing individual knowledge of learning materials by encouraging creativity and curiosity (Rini et al., 2022). Researchers believe it is important for students to choose their own learning methods or determine projects based on their learning interests, which contribute to the desired outcomes. In psychological motivation theory, the principle of freedom to choose learning methods allows students the freedom to choose different resources, time, and learning pace, through which participants acquire true knowledge (Radovan, 2020).

Furthermore, Hidayah (2024) explains that student independence can be increased by giving different assignments to each individual. This encourages students to complete assignments independently by utilizing all learning resources. Therefore, designing SDL in project-based Islamic religious education learning with an inquiry and discovery approach can be the basis for increasing motivation for independent learning. Students are free to explore and analyze information independently to understand Islamic religious education material, thus encouraging student activeness (Caswell & LaBrie, 2017; Al Mamun et al., 2022; Guo et al., 2020; Suradika et al., 2023; Mutanga, 2024). This intervention aligns with the learning styles of vocational high school students who tend to prefer active learning (Agustini & Tegeh, 2019; Baihaqi et al., 2024; Maulida & Utama, 2024).

Difficulties in optimizing the use of media and time

The problem of suboptimal use of resources and time indicates a lack of self-awareness in students' learning management. One cause is the distraction of non-academic activities, which causes students to lose focus on learning activities and completing assignments (Murniati et al., 2023). This is demonstrated by the perception that the time to search for information is too short, the presentation of Islamic information in online media is difficult to understand, information from the internet distracts students, and difficulty in determining accurate information from the internet.

Vocational high school students tend to study with tools that require physical activity (Sumardi et al., 2025), a condition that makes them fantasize about being lazy, excessively relaxed, so they tend to spend time without a goal or desired result, or procrastination. Researchers see the need for strategic intervention in the application of SDL in Islamic religious education learning, by applying the pomodoro method developed by Francesco Cirillo in the 1980s.

The Pomodoro method is a technique for increasing students' focus and attention by utilizing media and the time allotted. The time allotted is limited by intervals according to predetermined stages of a task or activity. In SDL, teachers can direct students' focus by determining which tasks to choose and asking students to prepare themselves and their learning needs. Next, the activity can begin by establishing agreed-upon time rules, and ensuring that both teachers and students are committed to that time agreement. Teachers

can also provide breaks to relieve tension and strengthen students' learning motivation (Wang et al., 2010; Dizon et al., 2021; Septiani et al., 2022). Implementing the Pomodoro Method in SDL it can also provide reinforcement for students' learning independence.

Students' ability to solve their problems

Students' ability to solve their problems is a primary concern in the implementation of SDL, as it is related to students' concern for evaluating the success of what they have learned and reflecting on themselves and the processes that occur during the learning process (Voskamp et al., 2022). Students can get a broad overview of the stages and activities they are going through, so that prompting him to ask why something could happen.

Vocational high school students typically apply reflective skills to improve their performance. They are accustomed to identifying weaknesses in their work, adjusting theories and project work processes, and developing their creativity skills and creativity, all the work qualities they need to be the basis for them to reflect on (AyuSulistiyarini et al., 2018; Oviawe, 2020; Messina Dahlberg & Gustavsson, 2024). Therefore, the implementation of SDL in Islamic religious education learning can be intervened by familiarizing reflection-based learning to vocational high school students, to provide more meaningfulness, experience, and sustainability to their learning.

Conclusion

This study explores students' perceptions of SDL in Islamic religious education learning in vocational high schools, which can improve their learning independence. The findings indicate that students' perceptions of the application of SDL in Islamic religious education learning in vocational high schools are categorized as high, so it is not yet able to support students' learning independence. However, Islamic religious education learning in vocational high schools relevant to preparing students for work by combining vocational skills and Islamic values. This study concludes that the importance of innovative learning skills can motivate students to direct their abilities to achieve the expected results. In addition, this study shows that implementing SDL in Islamic religious education learning in vocational high schools is not easy, because students' high ability to access information from various online media platforms and their learning habits that require practical activities, making them feel dissatisfied if learning only focuses on understanding texts.

The limitations of this research, the need for exploration, analysis and experimentation for future research, so that strategic interventions can be developed and researched in the application of SDL to various similar or different situations that can provide different results.

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The Contribution of Peer Tutoring in The Development of Motivation Among Students Toward Learning Biology at The Secondary Level

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Motivation is one of the essential factors in the learning process. This study investigates the role of peer tutoring in motivation development. In this study, the current research explored the contribution of peer tutoring in the development of motivation among students toward learning biology at the secondary level. The study's primary objective is to probe the impact of peer tutoring on the development of motivation for learning. A group of 20 10th-grade students was selected as a sample for peer tutoring from the ANSI school in Mardan using a random technique from a pool of 120 students. This study employed a qualitative research design, utilizing participant observation as a tool to assess key motivational factors, including interest level, engagement, and session preparation, among participants, to determine students' motivation toward learning. The behavioral data related to motivation observed during participant observation were analysed qualitatively using data coding and thematic analysis. The study's findings revealed that peer tutoring had played a beneficial role in developing motivation among tutors and tutees towards learning. It was found that confidence level and understanding of the teaching contents were enhanced among the tutors. At the same time, the tutees got a supportive and social environment where they were free to discuss and understand the learning content. The study has concluded that peer tutoring is an effective strategy for improving motivation in students at the secondary level.

Keywords: motivation, peer tutoring, interest, learning, development, observation

Peer tutoring is a teaching strategy (Fitz-Gibbon, 1988) in which students of diverse academic abilities assist one another by revising key topics. (Perrott, Davis, Vannest, & Williams, 2013). According to Powell (1997), tutoring is a strategy to support students' weak areas to help them perform well in academic activities. Tutoring is typically provided to help with homework and instill good study habits, often by older students, intelligent classmates, or professional individuals. Jokinen (2012) differentiated mentoring from peer tutoring based on the fact that mentoring occurs between older and younger persons, in which the mentor shares his/her knowledge and experience in learning situations through cooperation with each other in the workplace. In contrast, peer tutoring may occur among diverse groups that can easily interact with one another (Nawaz & Rehman, 2017).

The approach of peer tutoring is a new approach adopted in almost all countries (Arrand, 2014), and it was found to be effective in the development of academic performance. Rizve, 2012; Comfort and McMahon, 2014; Ullah et al., 2018, interest (Klavina & Block, 2008) of the students in learning activities,

and has also brought a positive effect on the attitudes (Robinson et al., 2005; Tella, 2013) of the students towards course contents (Naseerali, 2013). Students with disabilities learn through peer tutoring effectively (Topping et al., 2003; Okilwa & Shelby, 2010; Lazarus, 2014; Klavina & Rodionova, 2015). Peer tutoring was also found to be effective in anger management (Gebes, 2011). It is also effective in managing social and emotional problems (Bowman-Perrott et al., 2014; Alegre et al., 2017). Furthermore, Uzuner, Yurt, and Aktas (2016) found that peer learning showed significant results in mathematics, science, physical training, and social studies. Interest development, improvement in academic performance, and the role of peer tutoring in managing social problems are all directly or indirectly components of motivation.

Motivation is abstract, which can not be directly observed or measured like other variables (Pakdel, 2013). Motivation is a force that compels and sustains an individual's behavior toward a specific activity, ultimately driving the achievement of a goal (Cherry, 2016). These motivational forces act as agents responsible for most of the work in the world (Volet & Jarvela, 2001). In order to make the learning effective, the teacher should develop the motivation of the students towards learning (Ebata, 2008; Goktepe, 2014), and the curriculum developer should bring those contents/experiences into the program that can arouse the motivation of the students towards learning (Muho & Kurani, 2013).

Factors that constitute the structure of motivation include effort, goal orientation, locus of control, self-efficacy, sense of self, self-esteem, self-regulation, and individual interest (Yunus & Ali, 2009; Arkhipova et al., 2017). These elements are named about a specific core struggle individuals face with phenomena (Muho & Kurani, 2013). Therefore, when designing any learning activity, the instructor should consider all these elements to give due weight to the students' motivational level (Miele & Scholer, 2018). When managing the peer tutoring session, the motivational structure should be considered to keep the students motivated.

The learning process is not a simple phenomenon (Dutta & Crossan, 2005); instead, many factors work collectively during the process of learning (Lim & Morris, 2009). Among these components is the motivational force (Ramli, 2014; Eddy-U, 2015), which is provided to the learners from different perspectives. The relation of learning and motivation is interdependent (Abass, 2008). Thus, motivation is a source of energy for the learning process (Packer, 2004).

Different methods are used for the development of the motivation of students, which various researchers present and are listed here;

- The behavior of the teacher in academic problems, as well as non-academic problems, should be supportive of their students. The adaptation of supportive behavior promotes the abilities, motivation, and interests among students in academic activities (Lanzinger, 2009).
- Students should be involved in the lesson planning, target setting, and learning strategies. When learners understand the learning process and its outcomes, they will be more motivated to learn. Same during planning a peer tutoring session, tutors were engaged in lesson planning and target setting (Hattie, 2012).
- An appealing and exciting environment should be created for learning in the classroom because it has a momentous effect on the students. Keeping in view this idea, a supportive and attractive environment is provided for the peer tutoring sessions (Greany, 2005).
- Curiosity for learning should be fostered among students to facilitate effective teaching. So the contents of peer tutoring were presented in such a manner that students were waiting for upcoming sessions (Rehman & Haider, 2013).
- For maintaining motivation among the students, proper rewards should be given to deserving students, irrespective of personal discrimination (Leuven, Oosterbeek, & Klaauw, 2010).
- It is considered necessary for developing confidence levels and motivation (Ang, 2006) that students should be given responsibilities in classroom activities. Similar to peer tutoring, tutors take on a teaching role, gaining confidence, while the tutee can interact confidently with their colleague tutors.

- Group activities should be encouraged in the classroom. During group activities, students engage in socialisation, which can enhance their autonomy and motivation, and peer tutoring is an example of group activities (Reeve & Jang, 2006).
- The discussion of success stories from well-known individuals in history or society also motivates students to learn more effectively (Leuven, Oosterbeek, & Klaauw, 2010).

Motivation is considered an important factor in learning. However, the nature of humans is also very complex, and in this regard, the nature of motivation is equally diverse and cannot be fully described by a single school of thought. Individual differences in humans cause this diversification. According to Williams and Williams (2011), the primary ingredients that remain dominant in the learning process are the more successful students who are motivated intrinsically, as compared to students who are motivated extrinsically through rewards and other forms of reinforcement (Lei, 2010). The teacher is the primary agent of motivation in the classroom, playing a crucial role in developing students' motivational levels (Weinstein & Romano, 2010). Legg and Wilson (2009) discussed how the contents of learning experiences significantly raise students' motivational levels. Among the learning experiences, peer tutoring was tested to find its role in developing the students' motivation.

Theoretical Background of Motivation in Learning

Greeks and Romans are credited with initiating the study of motivation in business and education when their philosophers contributed their knowledge about motivation (Bonner, 2011). According to the Greeks, desires, pains, and pleasures are the three main factors that stimulate motivational activities in an individual's daily life (Pakdel, 2013). According to Ford (1992), motivation was ascribed to both internal and external factors at the beginning of the 20th century, including incentives, needs, reinforcements, and initiatives, which were beyond a person's control. At this time, the primary objectives of life were to fulfil needs and ensure self-protection (Larrick, 1993). In the central decades of the 20th century, mental processes and emotions were given importance in motivation (Ferguson, 1989). At the end of the 20th century, theories of motivation gained importance, and as a result, the concept of motivation was extensively explored, leading to the formulation of many theories of motivation (Miner, 2005; Steel & Konig, 2006).

According to Role Theory, as proposed by Robert Merton, an individual's social role in a given context plays a significant role in their life (Biddle, 2013). These roles have their duties and responsibilities (Eagly et al., 2000). This theory is based on the statement that "Behavior adheres to the role and not to the actor," e.g., when a person becomes a teacher, the role of teaching will bring modification in the behavior of this person (Turner, 2001). So, when a tutor assumes the role of a teacher, their behavior towards the students changes. Responsibility is also an important aspect of tutoring (Leung, 2019). According to this theory, tutoring can lead to observable changes in the attitudes and behavior of tutors (Galbraith & Winterbottom, 2011). In the case of tutees, the tutors are closer to tutees as compared to the teacher, and as a result, improvement is recorded in behavior as well as in academic performance in most of the studies (Powell, 1997; Rizve, 2012; Comfort and McMahon, 2014; Ullah et al., 2018; Leung, 2019) conducted in tutoring. Peer tutoring in the Zone of Proximal Development was another recommendation made by Vygotsky for students participating in academic activities (Vygotsky, 1987).

Skinner explored various external factors that can influence the manipulation of intended behavior in both positive and negative directions (Skinner, 2014). Rewarding and appreciating good behavior lead to the desired behavior (Gütherk, Irlenbusch, & Rockenbach, 2009; Smith et al., 2015; Afandi, 2017), whereas punishment yields unwanted results (Elbla, 2012). However, due to individual differences, the same stimuli do not produce the same results for different individuals (Lai, 2011). In peer tutoring, both the tutor and tutee may act as stimuli for each other to enhance the motivation level for learning. At the same time, some aspects of motivation were elevated in some studies, like (Austin, 2008; Razak & See, 2010; Silvia, 2012; Renninger & Hidi, 2015; Arrand, 2014).

According to Stipek (1996), intrinsic factors are stronger than extrinsic factors in motivating individuals. In line with this, Meichenbaum (1977) gives the idea of cognitive manipulation and presents the model of "Cognitive Behavior Modification" (CBM). According to this model, an individual's behavior can be modified by controlling their inner cognitive processes, such as suppressing and ignoring negative habits or memories, and encouraging positive behaviors (Harris, 1982). According to this model, students' motivation can be developed by modifying the internal cognitive elements of the students. Staats, Minke, Goodwin, and Landeen, (1967); Wulfert, Blanchard, Freidenberg & Martell, (2006);, like the use of emotional attachment of students with each other Schoeps, et al (2020), or acting the role of teacher for tutors De Smet, Van Keer, De Wever, and Valcke, (2010), or learning from colleague are some of the factors Robinson, Schofield, and Steers-Wentzell, (2005) showed positive indicators which may be manipulated further for motivation enhancement among students in this study.

Maslow's theory is the hierarchy of human basic needs, and the theorist Maslow placed drives for learning at the secondary level after the fulfillment of basic needs. (Bauer & Erdogan, 2012). The Existence Readiness and Growth (ERG) theory of Clayton Alderfer (1940-2015) has also supported Maslow's theory, suggesting that the drive for learning is at the secondary level of needs. (Bauer & Erdogan, 2012). According to the Drive theory of Clark Hull (1940), the desire for learning is one of the acquired natures of humans, which means that motivation towards learning can be manipulated. (Rehman & Haider, 2013).

Numerous studies have been conducted to explore practical ways of motivating and engaging students in learning (Blumenfeld, Kempler, & Krajcik, 2006), as motivation is the catalyst for cognitive activities (Brophy, 2013). Among these, one is Keller, a professor, who presented the ARCS (Attention, Relevance, Confidence, and Satisfaction) model of motivation (Malik, 2014). The model emphasises maintaining Attention, Relevance, Confidence, and Satisfaction to keep the students motivated (Keller, 1987). The implementation of the model reported positive results in maintaining the students' motivational levels (Li, K., & Keller, 2018).

In light of the above-mentioned theories, peer tutoring integrates the elements mentioned, such as social responsibility, confidence development, and adopting the role of teacher for effective learning, especially when the students are in the zone of proximal development, where students can get help from their colleagues and learn effectively.

Contents and Procedure of the Peer Tutoring

The researcher selected three untaught chapters of 10th-grade Biology: Inheritance, Biotechnology, and Man and His Environment. Thirty lesson plans from these chapters were developed for peer tutoring sessions. Each lesson plan was discussed and taught to tutors a day earlier by the researcher, who provided proper guidance for the progression of the study. Tutors received specific training on how to teach various components of the plan and were guided on how to assist their tutees effectively. The researcher supervised the entire process to prevent misconduct and save time. During the session, as part of the peer tutoring, observations were recorded by the researcher as a participant observer.

The Impact of Peer Tutoring on Students' Motivation

Numerous studies have been conducted on peer tutoring across diverse sample sizes worldwide, some of which are listed here to analyse the effectiveness of peer tutoring on various dependent variables. For example, Clarkson and Luka (2002) studied the experiences of media students and their approaches towards learning from their tutors. A questionnaire was employed as a data-gathering tool. Findings revealed that both tutors and tutees enjoyed the learning experience during peer tutoring sessions. However, due to the diversity of the students' backgrounds, some tutees reported responses that were not in favour of peer tutoring. Eisenkopf (2008) explored the impact of peer learning on students' motivation along with learning. All the literature cited in the study supported peer tutoring, with some deviations due to the mishandling of the phenomenon. The study's findings revealed a significant effect on both tutors and tutees. The study also recorded some impact on the motivation level of both partners. Austin (2008) conducted her Master's

degree thesis to investigate the influence of peer learning experiences on subjects, such as mathematics and motivation towards learning at the elementary level in one of New York's urban schools. Strong motivation was observed among the students towards learning mathematics from their peers. Cheng and Ku (2009) noted positive results of reciprocal peer tutoring on students' motivational level and attitudes. Razak and See (2010) examined the differences between in-person and virtual peer learning in the field of statistics, where a significant effect was found on motivation and academic performance. The impact of peer tutoring on the motivation and conceptual understanding of college students at the Physics Department was explored by Gok (2012). A significant effect was found on conceptual understanding, but no impact was observed on students' motivation and interest in learning. Arrand (2014) studied peer tutoring qualitatively by collecting responses from media students using a questionnaire, narrative inquiry, and a self-evaluation sheet. The study aimed to examine students' opinions on the multifaceted nature of peer tutoring, a topic that has already been explored in the literature. The study's findings confirmed the existing literature's claim that peer tutoring makes a significant contribution to learning from peers and the development of motivation.

After reviewing the literature mentioned above, it becomes evident that motivation plays a vital role in the learning process. It acts as an internal drive to achieve academic goals. Sustaining motivation among students using traditional teaching methods can be complex. Peer tutoring is a social and democratic learning approach where students of different academic levels help each other by sharing ideas and strategies. By giving students the roles of both teacher and learner within a democratic learning environment, peer tutoring encourages emotional engagement, personalised attention, strong motivation, and effective learning.

While international research has confirmed the effectiveness of peer tutoring in improving academic performance, attitudes, and inclusion, there is limited research in the context of Pakistan, particularly in terms of its impact on secondary students' motivation. This study aims to address this gap by examining how peer tutoring influences students' motivation to learn biology. The research is based on motivational and learning theories such as Vygotsky's Zone of Proximal Development and Role Theory, which emphasise the importance of social interaction and responsibility in learning. Using qualitative methods like participant observation and thematic analysis, the study seeks to understand the subtle behaviors and experiences of students involved in peer tutoring. The findings are expected to provide clear evidence in support of the integration of peer-assisted strategies into mainstream classrooms and fostering more engaging, student-centred teaching approaches in Pakistani secondary schools.

Aim of the Study

To investigate the impact of peer tutoring on the development of motivation among secondary-level students.

Research Question

To what extent does peer tutoring contribute to the motivation of students towards learning in biology at the secondary level?

Method

This study is a qualitative component of a doctoral dissertation examining the effect of peer tutoring on the academic achievement of secondary-level students in biology. The significant steps adopted for completion of this study include;

Population and Sample

The study population consisted of 433405 students who were enrolled in secondary schools in 2016-17 at grade 10 in Khyber Pakhtunkhwa (EMIS, 2015). The peer tutoring program was implemented in a secondary school in Mardan, Khyber Pakhtunkhwa. A sample of 20 students was selected for peer tutoring from the ANSI school in Mardan through random selection from 120 students. The median of the pre-test results was used as the cut-off criterion. The pre-test, which covered three previously taught chapters of biology in the tenth grade, was administered to a sample of students, creating two groups: high achievers and

low achievers. Low performers were nominated as tutees, and high achievers as tutors. Following that, 10 pairings were created so that students could choose their tutors and learn from their selected collaborators.

Research Instruments

Participant Observation

Participant observation was employed as a qualitative tool to assess the students' motivation towards learning. The research drew on the idea of using participant observation, as described by Colvin (2007). The researcher was personally involved in the study, acting as a monitor and close observer, and collected diverse information from the students about their experiences. Creswell (2015) and Kumar (2018) recommended participant observation as the most effective tool for assessing student motivation towards learning through peer tutoring.

Design of the study

This study was a qualitative component of an experimental study, "Effect of Peer Tutoring on Academic Achievement of Students at Secondary Level in the Subject of Biology," conducted at the ANSI school in Mardan. One of the study's objectives was to explore students' motivation during peer learning.

Selection of Participants for the Study

There were 120 students enrolled in the 10th-grade biology class, divided into four sections. Twenty students were randomly selected, and then a pre-test was administered to the sample. The pre-test scores led to the formation of two groups based on the median score. The students whose scores were above the median were nominated as tutors, and the students whose scores were below the median were nominated as tutees.

Tutor Training

According to Clarkson and Luca (2002), a training program should be arranged for tutors because tutors are novices. Therefore, training sessions were arranged for tutors before the treatment sessions. The training focused on the structural and operational aspects of peer tutoring, while also emphasizing the psychological basis of both tutees and tutors. The training was also found to help reduce management problems, as noted by Smith (2010).

Data Collection

As this study was part of a doctoral dissertation, the data regarding student motivation measurements were collected through participant observation and further analyzed in the following steps, as described by Creswell (2012).

Participant Observation (Transcriptional View)

This study lasted for seven weeks. The treatment sessions included tutor training, preparation for tutoring, and various other activities. In all these steps, the researcher was involved and engaged, acting as a participant observer and extensively noting the students' experiences, behavior, and attitudes, which led to a decision about the students' motivation towards learning.

The school administration allocated a computer lab for tutoring sessions because it was the only available room and a suitable location, given its multipurpose nature. The researcher played the role of a participant observer and noted the students' behavior towards learning through field notes, in a narrative and extensive manner. Every session of peer tutoring was pre-planned and involved a well-developed lesson plan.

Before each session of peer tutoring, the tutors were oriented correctly on the content and various approaches to teaching. During these preparatory sessions, tutors attempted to satisfy themselves by asking questions about teaching materials and occasionally about the nature of the tutees. The contents were also provided to tutors one day earlier in a complex form for preparation.

Before the start of every session, the contents and central theme of the lesson plan were properly oriented to both tutors and tutees. They were also informed about the target objectives to be achieved by the practice and then allowed to proceed correctly.

The peer tutoring program was monitored and assessed by the researcher, who provided necessary guidance and assistance as needed. Both the tutors and tutees interacted during the tutoring process by asking questions about the content. The researcher played the role of motivator and encouraged both the tutors and tutees to participate and interact. Tutees were encouraged to ask as many questions as possible to their partners in order to achieve satisfaction. Some topics, such as Mendel's law of independent assortment and protein synthesis, were challenging, and most pairs appeared confused in such situations. The researcher explained the contents to all members of the pairs and then allowed further peer tutoring to enhance the students' comprehension level.

Students demonstrated high motivation, as evidenced by their reflections during peer tutoring sessions, including waiting for the session, regular attendance, and completing all necessary arrangements before the researcher's arrival. These behaviors demonstrated the participants' motivation in the tutoring sessions. Thirty lesson plans were developed for the session, comprising five 45-minute lesson plans per week, and the procedure of peer tutoring continued for six weeks. Moreover, to foster motivation, each day was dedicated to a pair of students. Their pictures were pasted on the title page of the plan, so all they were waiting for was to receive the complex form of the plan to find out to whom the plan was dedicated.

During peer tutoring sessions, it was noted that participants asked the researcher different questions about the study's nature and objectives. They also inquired about higher educational studies and shared their thoughts on their future.

They were surely discussing peer tutoring with their classmates, which led them to the researcher for inclusion in the peer tutoring program. However, it was not possible to include other students, but to show their motivation for peer learning.

It was the teenage age of the students, during which they are usually in a flighty mood, which makes them very naughty. However, here the situation was different, all the participants had shown very obedience and interest, except in a few cases where some disciplinary issues were noted. All the necessary preparations and arrangements, including the pasting of charts and cleaning of the white board, were performed by the participants. They never involved the researcher in classroom activities. One negative thing noted was that two pairs were repeatedly caught in personal discussions due to their close friendship. Enjoyment and relaxation were observed among the participants during the peer tutoring sessions.

The announcement of the termination of peer tutoring shocked all the participants, and they all requested that the practice be continued to complete the entire biology course. This was the enhanced level of motivation that was induced by peer tutoring among the participating students. The study was also delightful for the researcher, and he made an effort to minimize personal biases and preferences, as well as any extra work.

Coding

The observations collected as a participant observer were then scrutinized word by word, and the text words that conveyed the concepts for which they had been examined were underlined. Each underlined text was allotted a code word (phrase) and noted in the margin of the sheet. Similarly, the entire transcription was coded, with each code framed in a textual box. Codes of the same idea were clustered together, and each cluster led to the formation of a theme, which represented an idea, as the investigation progressed.

Results

The current study aimed to examine how peer tutoring influences students' motivation to learn biology at the secondary level. Data was collected qualitatively through participant observation of students involved in peer tutoring over seven weeks at a secondary school. The data were analyzed using thematic analysis, which revealed the following significant findings:

Active Preparation and Participation

- All 20 selected participants (tutors and tutees) showed a high level of readiness for the peer tutoring sessions. They were all present on the site and were anxiously waiting for the session. All the students were enthusiastic and committed to learn.
- Students came prepared, maintained regular attendance, and completed necessary classroom arrangements without the researcher's help.
- This behaviour reflects strong achievement motivation, consistent with Muho and Kurani's (2013) definition of motivated learners.

Curiosity and Engagement

- Both tutors and tutees demonstrated intellectual curiosity by repeatedly asking questions during training and tutoring sessions.
- Tutors sought clarification on content and teaching strategies from the researcher, while tutees actively engaged with the material and discussion, asking questions for better understanding.
- This finding aligns with the concepts mentioned by **Silvia (2012)** in his book that curiosity is an important component of intrinsic motivation.

Motivated Behaviour and Collaboration

Students displayed strong signs of intrinsic motivation during the entire peer tutoring sessions, such as:

- Consistent attendance
- Respectful communications with peers
- Engaged participation
- Sharing ideas

These behaviours are indicators of a motivated learner, as noted by Renninger and Hidi (2015).

Desire for Continuation

- As the peer tutoring session continued for six weeks, just for three chapters of 10th biology, and as the period of the peer tutoring session ended, all participants asked for peer tutoring to continue for the rest of the biology course. This showed a strong interest of the students in peer tutoring.
- This intense desire to extend the program of peer tutoring demonstrates deep emotional and academic interest in peer learning. This finding is aligned with findings explored by Fong, Schwab, and Armour (2006).

Minor Disciplinary Issues

A few disciplinary issues arose when participants were in relaxed conditions.

- For example, two pairs were occasionally distracted by personal friendships.
- These incidents emphasise the need for structured supervision, as noted by Galaviz (2009).

Description of the Themes

Similar codes were grouped, and the main idea extracted led to a theme; the following five themes were then developed.

1. All participants effectively met the requirements for the smooth conduct of peer tutoring sessions.
2. To gain a comprehensive understanding, participants were asked repeated questions during training and treatment sessions.
3. Regularity, interest, curiosity, respect, and sharing of ideas were observed among the participants.
4. Tutors and tutees strove to continue peer tutoring after completing the treatment sessions.

5. Minor disciplinary problems were noted where relaxation is awarded to participants.

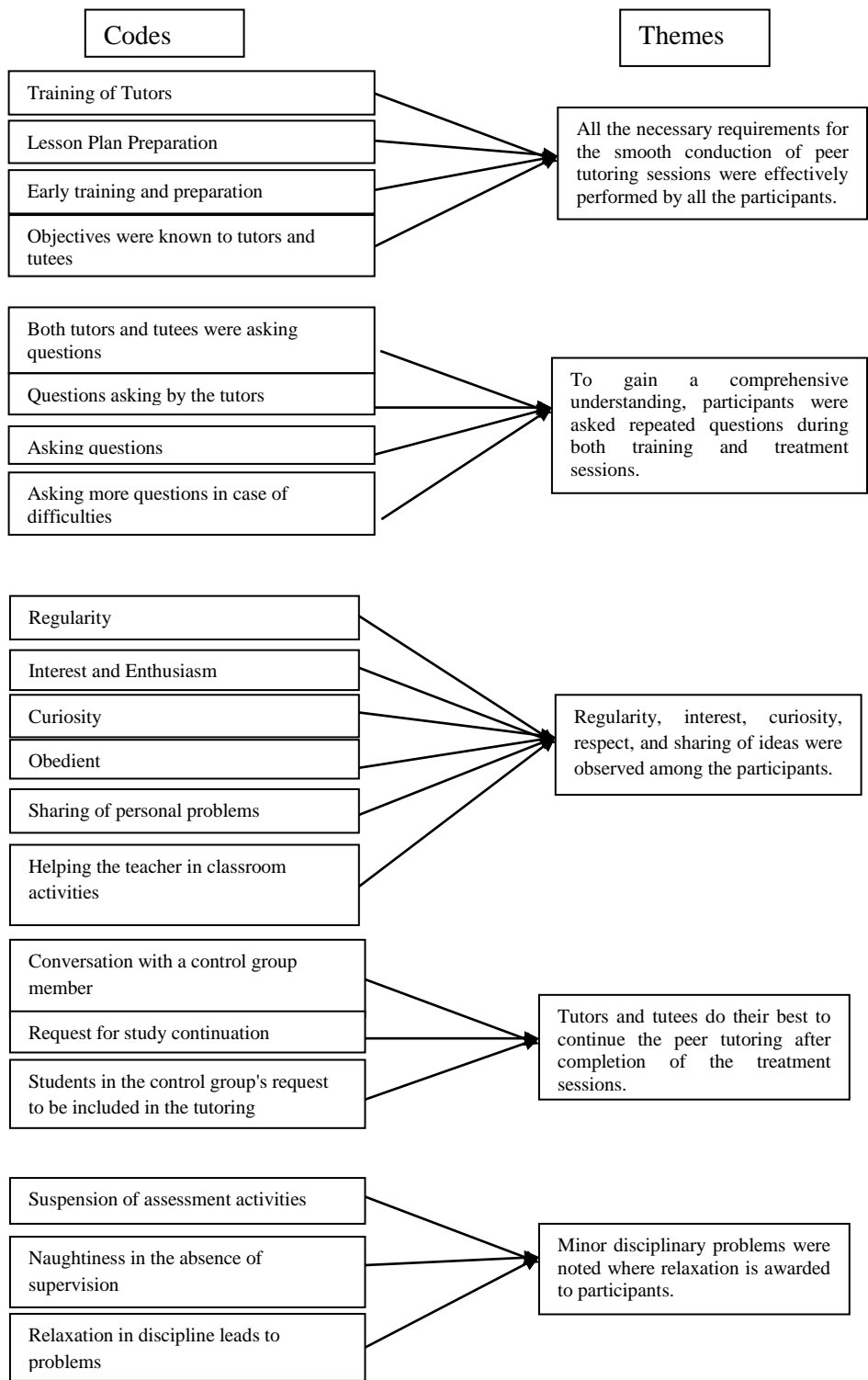


Figure 1: data analysis and theme development

Theme Analysis

Maho and Kurani (2013) listed several enterprises, including the struggle for achievement, attachment to goals, emotional pressure for target achievement, efficiency in performance, and interest in

work, which were collectively referred to as motivation. The findings from the first theme concluded that the participants had made all the necessary preparations and received training for the smooth conduct of the peer tutoring program, as mentioned by Maho and Kurani (2013), who noted a struggle for achievement. In the second theme it was noted that curiosity was there among the participants for understanding the contents and for this purpose both tutors and tutees were asking questions for understanding which had confirmed the curiosity as mentioned by Silvia, (2012) that curiosity reduce ambiguity, information gap and negative thoughts and further curiosity was considered as one of the factors of intrinsic motivation for learning. In the third theme, it was concluded that Regularity, curiosity, interest, respect, and sharing of ideas were found among the participants. This was also noted by Renninger and Hidi (2015), who found that the power of interest for motivation is beneficial, regardless of age, and results in meaningful outcomes. In the case of education, policymakers are busy searching for and developing activities based on students' interests to maintain a high level of motivation among students. In the fourth theme, it was extracted from the codes that both partners strive to continue peer tutoring after the completion of the treatment sessions. Likewise, Fong, Schwab, and Armour (2006) found that continuity and attachment contribute to the adjustment and welfare of students in school and social contexts. In the last theme, it was noted that some Minor disciplinary problems arose among the participants due to the relaxation allotted to them. This finding aligns with the lines of research explored by Galaviz (2009) and Smith (2010), which suggest that a lack of external discipline leads to deviation from target objectives.

Discussion

To find the answer to the research question, "How much does peer tutoring contribute to students' motivation toward learning in biology at the secondary level?" the researcher collected data on student motivation through participant observation and then analyzed it using coding and theme development. (1) The findings concluded that both tutors and tutees made necessary preparations for the tutoring session, one of the elements of motivation described by Muho and Kurani (2013), which shows their efforts. (2) Their interest, classroom conduct, and constant questioning demonstrated their innate motivation. The same findings also align with those explored by Silvia (2012), who found that curiosity reduces ambiguity, information gaps, and negative thoughts. Furthermore, curiosity is considered one of the factors contributing to intrinsic motivation for learning. (3) Regularity, interest, respect, and sharing ideas were observed among the participants. Additionally, Renninger and Hidi (2015) and Robinson, Schofield, and Steers-Wentzell (2005) support the idea that the power of interest for motivation is highly beneficial, regardless of age, leading to meaningful outcomes. (4) Continuation in any activity reflects motivation, so the requests from tutors and tutees for extending sessions fall into the category of motivation, which was also confirmed by Fong, Schwab, and Armour (2006), who stated that continuity and attachment help with students' adjustment and welfare in school and social settings. Overall, significant motivation was noted among students toward learning by Austin (2008), Arrand (2014), and Razak and See (2010). (5) Some disciplinary problems were observed among the participants during relaxation periods, and Galaviz (2009) and Smith (2010) also highlighted that a lack of external discipline can lead to deviations from target objectives.

Conclusion

According to the available literature, both tutors and tutees were actively engaged in every tutoring session and ensured they were well-prepared, which may be seen as a sign of motivation. One type of intrinsic motivation is the interest and striving for learning, as evidenced by the questions asked by both tutors and tutees. This conclusion is also supported by empirical research. Regularity, interest, curiosity, respect, and the sharing of ideas were demonstrated by both tutors and tutees, which may indicate motivational components, as supported by other studies in this area. Both Tutors and tutees were in favor of continuing the peer tutoring program for the entire course, which demonstrates their intrinsic motivation for learning. Other studies have also found support for this finding, further confirming that peer tutoring develops motivation for learning. Some minor disciplinary problems were reported, where a small quantity of relaxation was offered, which leads to the conclusion that peer tutoring programs should be supervised and controlled.

Summarizing the key findings of the study, it is clear that peer tutoring has boosted the motivation of participating students. The social and democratic nature of the peer tutoring sessions enabled participants to interact meaningfully, building confidence and responsibility, and creating a positive learning environment. Additionally, analysis of the emerging themes from participant observation demonstrated that peer tutoring is not only a teaching method but also a motivational strategy that increases commitment and engagement with academic tasks in challenging subjects.

Recommendation

Teachers should praise and share the work of good performers because it develops the motivation and confidence of the students. The teacher should be familiar with the student's family and activities, and at least know the student's name. Asking students rarely is beneficial, as it fosters a positive learning environment. The study may be conducted on a diverse sample size with a combination of diverse genders to explore the motivation of the students further. The effects of peer tutoring may be explored in other aspects, such as socialisation development, career counselling, mutual understanding, and reduction in dropout rates.

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Women's Role and Challenges in Household Water Conservation: A Case of Rawalpindi City

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The world is facing an increasing water crisis and multiple water-related challenges, including a shortage of clean water, depleting underground water tables, and flooding during the rainy season. Research suggests that individual water conservation practices, rainwater harvesting at the household level, and the construction of water storage dams can help alleviate water crises. This study investigates the obstacles that inhibit the development of water conservation behavior among women. Using a qualitative research approach, we conducted 35 in-depth interviews with women from various socioeconomic backgrounds, educational levels, and age groups. The collected data were transcribed in English, and 70 open codes were compiled against eight major themes. Major themes identified from data analysis were lack of knowledge, threat of dengue, financial limitations, governmental responsibility, quality testing issues, perceived inadequacy of efforts, and a non-cooperative community. In line with the Feminist Political Ecology framework, the present study highlights contextual challenges in framing water conservation behavior of women in a patriarchal society where women, despite having the most important role in water use, lack access to basic facilities and resources to participate in conservation activities effectively. The study highlights the need to educate women about environmental and water crises. It suggests that policymakers and organizations should incorporate environmental issues into education curricula and launch awareness campaigns and positive and negative reinforcement strategies to promote water conservation behavior. This study supports the United Nations' Sustainable Development Goals 6 and 13 and helps identify indigenous factors affecting women's water conservation behavior.

Keywords: water crisis, household water conservation, dengue fever, rainwater harvesting, environmental issues

Water scarcity is a pressing issue worldwide, with freshwater resources depleting rapidly. According to WRG (2009), there may be a 40% freshwater shortage by 2030 (Schuster et al., 2020; Vanham et al., 2018; Wutich, 2020). Recently, the United Nations University (UNU) warned the world, particularly developing countries with rapidly growing populations, of a severe water crisis in the near future. According to UN-Water, two-thirds of the population may face water scarcity by 2025. The developing countries with an expected population of 7.9 million by 2050 may face a severe crisis, and three out of four people could face a drought (Sivakumar, 2011; UNU-INWEH, 2024). Pakistan, a country of 242.8 million people, has the highest urbanization rate in South Asia and is expected to present a 10% rise in demand for water in its Metropolitan cities shortly.

This has happened because of increased groundwater extraction and the replacement of permeable with impermeable land, causing more floods and less groundwater recharge. As a result, the water level has decreased to 59 meters from 37 meters below ground, with an alarming annual depletion rate of 1.83 meters. One major cause of this depletion is increasing domestic water use and household waste (Rana et al., 2025).

Household water consumption significantly contributes to these emerging crises, with hygiene-related activities accounting for most of the water usage, averaging 146-152 liters per person/per day globally (Carragher et al., 2012). Various household activities, such as toilet flushing, dishwashing, laundry, showering, watering plants, and car washing, contribute to excessive water usage, leading to underground water level depletion. This depletion is attributed to rapid urbanization, climate change, and increasing prosperity (Sahoutara, 2017). Efficient water use, rainwater harvesting, and water conservation at the household level are increasingly vital strategies, and it is important to raise awareness among ordinary households about these strategies (Hurlimann et al., 2009).

Research indicates that despite water scarcity issues, people do not use water conservation strategies very commonly (Hurlimann et al., 2009), and there is a need to identify reasons for this adaptation gap (Anang et al., 2024; Smith et al., 2018; Koop & Van Leeuwen, 2017). Almulhim and Abubakar (2024) investigated human behavior towards water conservation in Saudi Arabia and found that it is not very friendly towards water conservation practices. They suggested that future researchers conduct in-depth studies on why households are unwilling to engage in household water conservation practices that are often inexpensive and simple. Moreover, factors influencing human water behavior and conservation strategies vary across cultures, emphasizing the need for investigation in specific cultural contexts (Castillo et al., 2021; Pakmehr et al., 2020). Identifying contextual factors and issues impeding the adoption of water conservation strategies is crucial, especially for developing countries with escalating poverty and water crises. Pakistan is one of those countries facing a two-pronged severe water crisis and is declared the third most vulnerable country (IMF, 2023). Per capita water availability has drastically reduced in the country, with only 20% of the population having access to clean drinking water. At the same time, regular devastating floods pose another challenge during almost every rainy season (Aziz et al., 2018; Shukla, 2018). The solution lies in balancing these two opposite situations, which poses a question mark for policymakers. Addressing these issues can guide policymakers in designing effective water conservation policies and saving precious resources from going to waste (Faridi et al., 2020).

In developing countries, women, particularly homemakers, are responsible for managing all the tasks related to their house and families and, therefore, are the primary water users at the household level (Mukhter&Chowdhary, 2024; Seri, 2023). However, their voice remains limited in related decision-making due to gender discrimination, cultural norms, and lack of resources, including knowledge, and represents a vivid gender discrimination at all levels, including policy-making (Arora & Mishra, 2022; Houart, 2022; Ogutu et al., 2025). Research (Palamuleni et al., 2022; Sarabia-Sanchez et al., 20221; Theodoridou et al., 2025) indicates that women have more inclination towards conservational activities as they are primary sufferers of water scarcity, yet their perspective remains underrepresented and calls for inclusive research and policy making for sustainable water management and gender sensitive water governance. However, existing studies remain limited. Therefore, the present study is designed to fill the gap and identify contextual factors affecting the water conservation behavior of household women in one of the water-scarce cities of Pakistan. For this purpose, we use the qualitative research technique to provide context-specific policy implications and suggestions for other stakeholders.

Literature Review

According to the World Economic Forum (2012), due to rapid population growth and heightened climate change issues, the water crisis has become the top priority risk in the present times. Therefore, it becomes important to assess the magnitude of the problem to make informed policies and formulate strategies to mitigate the situation. Adoption of household water conservation strategies has become increasingly important due to rising water demands worldwide. This issue has recently gained attention

from researchers and policymakers (Bakker, 2012; Lalika et al., 2015; Velez & Moros, 2021; Woodhouse et al., 2017). Previous literature (Arjomandi et al., 2023; Hoang-Thi et al., 2023) indicates that despite the growing water crisis, the adoption of water conservation strategies at the household level has not been given adequate attention to date. There are several factors influencing this behavior. Researchers (like (Aprile & Fiorillo, 2017; Lucio et al., 2018; Ramsey et al., 2017; Russell & Knoeri, 2020; Vieira et al., 2018; Yildirim & Semiz, 2019) divide these factors into three main categories as psychological (attitude, belief, values, norms, emotions and care), socio-economic (personal involvement, environmental concern, sense of responsibility, income, financial status) and personal factors (habits). However, some contextual factors were not investigated.

Rasoulkhani et al., (2018) found that individuals with better financial positions are more likely to invest in water conservation technologies, while those with lower incomes may prioritize other immediate needs (Lynne et al., 1995). Moglia et al. (2018) recommend that policymakers offer financial incentives to promote the adoption of water-saving strategies, and reducing the prices of these technologies can be a practical approach. Education is another important socio-economic and individual factor that correlates with adopting water conservation strategies; educated individuals tend to be more aware of environmental issues and the importance of water conservation for a sustainable future (Dagnino & Ward, 2012; Pineiro et al., 2020). From a policy perspective, Maduku (2021) suggests that targeted and well-designed awareness campaigns are needed to encourage water conservation behaviors among the public. Another socio-economic factor identified is the urban-rural divide (Hommes et al., 2019). According to Dos Santos et al. (2017), the urban population generally has better access to water-saving technologies, infrastructure, and usage knowledge, leading to more frequent adoption compared to rural areas where traditional conservation practices are prevalent (Du et al., 2018).

Personal factors contributing to the adoption of water-saving strategies include environmental attitude (Poortvliet et al., 2018), social norms, peer influence (Dean et al., 2016), habitual behavior, and personal efficacy (Koop et al., 2019). According to Aprile and Fiorillo (2017), individuals with positive environmental attitudes are more likely to engage in water-saving practices, as they value preserving natural resources for future generations. Poortvliet et al., (2018) add that these values and personal norms significantly influence individual behavior and contribute to societal cohesiveness. According to Lowe et al. (2015), some individuals are habitually efficient users of resources and believe in their ability to make a difference through small interventions, making them more inclined to adopt water conservation strategies.

Much research is available on the factors contributing to adopting water conservation strategies at the household level. The majority of researchers, such as CallejasMoncaleano et al., (2021), Namuwelu (2020), Ramsey et al., (2017), Rodriguez-Sanchez et al. (2020), and Sanchez et al., (2023), agree that contextual factors such as climate conditions, water availability, regulatory framework, cultural context, precipitation patterns, etc., are the most potent determinants of water conservation behavior at the household level. According to Hannibal et al. (2019), people living in water-scarce areas will likely adopt water-saving strategies. Additionally, Torres-Bagur et al., (2020) highlight the role of Mediterranean culture in fostering water conservation, emphasizing strong communal values and norms surrounding needs.

Other factors include the availability of water-saving technologies and infrastructure at a reasonable cost (Pronti et al., 2024), government regulations (Koop et al., 2019), and urban planning and development (Chelleri et al., 2015). Effective water management policies may involve regulatory measures such as mandatory restrictions, penalties, and rewards for efficient water use. These are crucial in creating environmental awareness and fostering water conservation behavior among people. Therefore, researchers like Shahangian et al., (2022) have suggested studying the determinants of water conservation behaviors and implementing necessary measures to induce positive behavioral change in society, especially in the context of developing nations with limited financial resources.

It is evident from a review of the above literature that adopting water conservation strategies is mainly dependent on contextual factors, and understanding these factors is essential for developing

effective water management policies. Integrating these contextual factors with socio-economic and personal determinants can help promote sustainable water use at the household level. To move forward, we will examine the case of Rawalpindi City to identify contextual factors affecting the adoption of water conservation behavior among women in the global south.

Method

We conducted a comprehensive qualitative research study to explore the factors influencing the water conservation behaviors of women in Rawalpindi, a city grappling with significant water scarcity issues. Our research employed a purposive sampling technique to select women meeting specific criteria, including being over 30 years old, experiencing water scarcity, and being willing to participate in the study. Upon securing consent, we conducted in-depth interviews with the selected respondents using a 10-question research guide. Ethical considerations were paramount, and we assured the participants of the confidentiality of their identities. Additionally, we respected their autonomy in choosing whether to answer specific questions and allowed them to decline participation at any interview stage. Data collection took place over 20 days, starting from June 20, 2023, capturing the peak of water usage and the associated challenges faced by women. Interviews were recorded with consent, and in a few cases where recording was not permitted, detailed notes were taken by a qualified note-taker accompanying our team.

Initially, keeping in view the ease of understanding, the interviews were conducted in Urdu and Punjabi languages, and recorded after due permission from the respondents. The recorded interviews were then transcribed into English by proficient translators, and the validity of the transcribed content was confirmed by 70% of the respondents. Thematic analysis was employed to analyze the interview data, resulting in the identification of 70 open codes, which were further categorized into 13 axial codes/sub-themes as shown in Figure 2. Multiple coding sessions involving thorough discussions and comparisons among the researchers were conducted to ensure the reliability and validity of the analysis. To ensure inter-coder agreement, the research team, which was comprised of PhDs in social and management science disciplines, having more than 10 years of research experience, conducted several face-to-face and online meetings. A consensus was reached after detailed deliberation on each code and coding mechanism.

In the subsequent section, a detailed description of these themes is provided, shedding light on the contextual factors influencing the water conservation behaviors of women in Rawalpindi.

Results

The demographic data (Table 1) revealed that the average age of respondents was 41.86 years, ranging from 31 to 59 years old. Most women were graduates, although some had intermediate or lower educational backgrounds. Most women were married, with an average of 2.4 children and five individuals living in each household. The average income was Rs. 61,543, from 40,000 to 120,000 rupees. Notably, almost all the women relied on water tankers for their water supply, with some having limited access to bore-well water. Additionally, only a small percentage of women used bottled water for drinking, while most depended on bore-well water (Detailed demographics are provided in Figure 1).

Lack of knowledge

The primary theme from the research was a lack of knowledge, encompassing five sub-themes or axial codes. These sub-themes included insufficient understanding of the water crisis, limited awareness of environmental issues, inadequate knowledge about water conservation strategies, poor understanding of water purification methods, and little knowledge about the proper use of stored water.

Lack of knowledge about water crisis

The survey revealed that even though most respondents had received an education, they lacked awareness about the global severe water crisis in Pakistan. Many of them believed that Pakistan had an ample supply of water and annual rainfall to fulfill its basic water requirements. Furthermore, respondents

expressed a significant absence of campaigns to educate the public about water-related issues. Moreover, they noted that discussions about water scarcity and its impact are rare among the general population.

Figure 1 - Demographics.

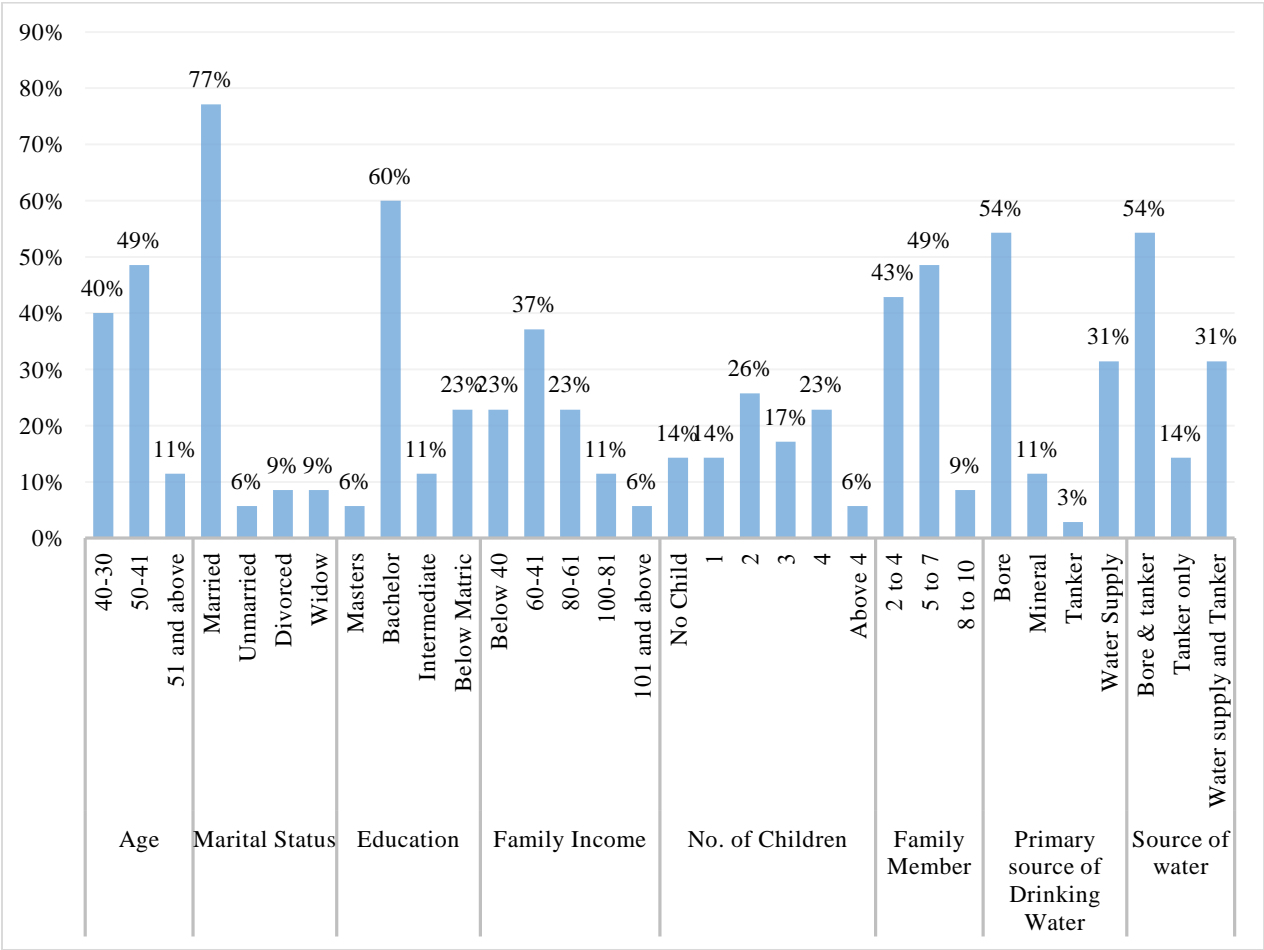
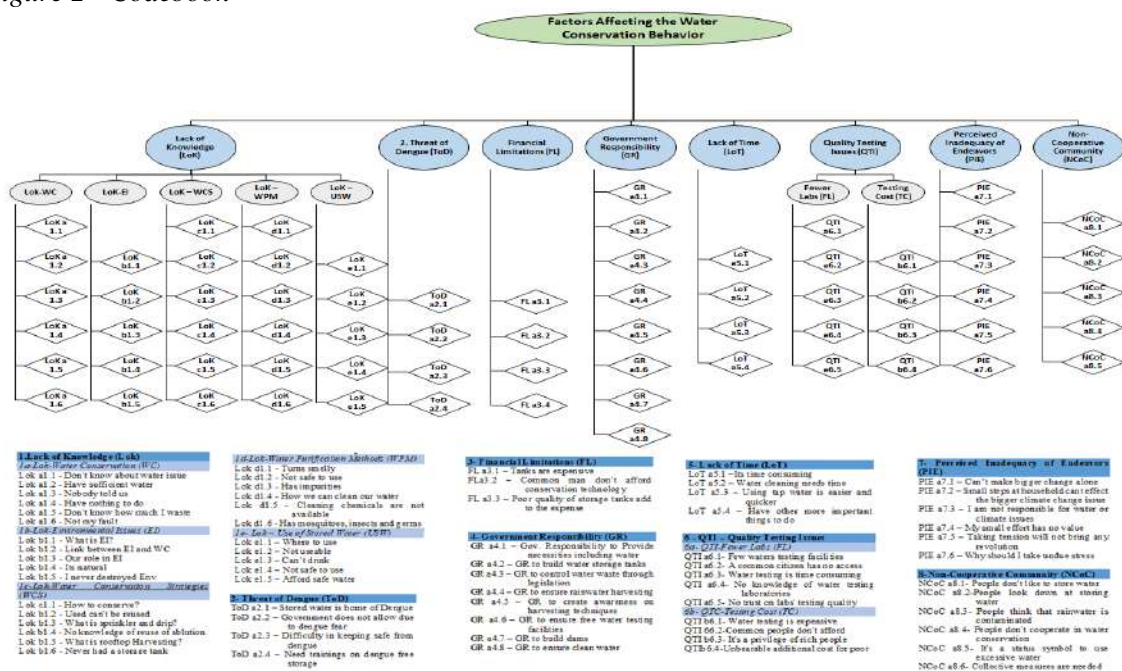


Figure 2 - Codebook



The issue of the water crisis is often neglected in the media. Shockingly, 30% of survey participants were unaware of the water crisis, and out of those, 20% believed that it was not a genuine problem but rather a result of government mismanagement. One 48-year-old respondent named Tan expressed cynicism, saying, *"Every year Pakistan faces devastating floods and rain. We have abundance of water, and we are purchasing drop-by-drop here. It is not an issue in Pakistan, it is created by the people at the top."*

Furthermore, there was a widespread lack of awareness regarding personal water usage, with 60% of respondents not knowing the amount of water they waste daily at home. Even those aware of their water consumption blamed nature and were unwilling to take responsibility. A 33-year-old respondent named Yus highlighted her perspective during the interview, saying, *"We observed depletion of underground water table when we got boring done at home to get water, however, we all have a common perception that it was because of the earthquake (2005) that the water table went down. It is natural and we cannot do much about it."*

Lack of knowledge of environmental issues

The awareness of environmental issues is lacking among the general public. Many people associate environmental problems only with air pollution. According to Figure 1, 40% of respondents were unaware of environmental issues. This lack of awareness reflects the government, media, and responsible sectors not taking these issues seriously. For example, a 39-year-old named Saf expressed that people in her community are preoccupied with making a living and do not feel responsible for environmental or water issues. They believe that the government or wealthy factory owners are to blame for environmental contamination.

Additionally, most women were unaware of the connection between environmental and water issues. 50% of the women surveyed stated that they do not play a role in environmental issues and therefore do not feel concerned about them. However, a 50-year-old named Nar emphasized the need to educate people about the link between the environment and the water crisis, highlighting the importance of electronic and social media in spreading awareness. She also called for educational institutions to take the issue seriously and conduct thorough investigations.

Lack of knowledge of water conservation strategies

The survey revealed a critical issue: over 60% of people were unaware of water conservation strategies. Most had never heard of these terms when asked about rooftop harvesting, sprinkler and drip systems, and other water-saving technologies. Similarly, many were unfamiliar with the reuse of ablution water and water harvesting tanks, and those who were aware didn't use them much. A 35-year-old named Sad mentioned, *"I've read about rooftop harvesting and rainwater harvesting techniques, but they're not practiced here due to various reasons. People believe rainwater is contaminated and cannot be used. TV and social media campaigns should be launched to raise awareness about this."*

Many people do not understand the impact of water harvesting techniques on the overall water crisis. They believe these activities won't be sufficient unless the government takes serious action on effective water management. A 33-year-old person mentioned, *"We can't afford expensive technologies to save water. We fetch water from a tap installed outside the house of a wealthy community member. It's really difficult for us. The government should provide us with water and these water-saving technologies."*

Furthermore, women are unfamiliar with various water-saving strategies and therefore do not use them. 60% of women were unaware that they waste clean water by keeping the tap open during household activities like ablution, dishwashing, and laundry.

Lack of knowledge of water purification methods

Water purification strategies are directly linked with water conservation because stored water needs to be purified. However, women have raised serious concerns about the lack of knowledge of water purification strategies. Over 80% of respondents stated that they do not store rainwater because it is smelly and contaminated, potentially containing germs and insects. They also mentioned that they were not aware of water purification methods at home. Haf, 41 years old, mentioned, *"We can't store water because it has a lot of impurities. We don't know about any strategy to purify the water. I watch TV regularly and people sometimes talk about the need to boil drinking water, but of course, we cannot use this technique to clean a large amount of water in a tank as it becomes very expensive."*

Another critical issue raised by women was the lack of knowledge about chemicals used in water purification. They spoke about knowing a few chemicals but not knowing how and where to obtain them. The common perception is that such chemicals must be expensive because they are not available in regular grocery shops. Kha, 45 years old, shared an interesting incident: *"Once I tried to store the water after washing the rice before cooking it for use in plants afterward, and on the very next day it turned so smelly that my plants smelled bad for the next two days. I never tried this again afterward."*

Water testing and purification methods need to be communicated among people to ensure water conservation at home.

Lack of knowledge use of stored water

One of the key sub-themes identified is the lack of knowledge regarding storing water, with a widespread belief that it is unsuitable for drinking or food preparation. Over 90% of the survey respondents agreed that using stored water poses a health risk, and some expressed skepticism about its safety for any purpose. Quality concerns led to a reluctance to use stored water for household activities. Limited space for outdoor use, such as gardening or car washing, was mentioned as a challenge, and rainwater was cited as effective for laundry but not suitable for long-term storage due to contamination. Additionally, 30% of respondents associated storing water with financial hardship and preferred purchasing fresh water. Notably, some respondents exhibited an ostentatious attitude toward storing water, viewing it as a reflection of financial weakness. An individual voiced concerns about the potential dangers of using contaminated water and advocated purchasing fresh water.

These findings underscore the importance of raising awareness about water treatment and storage technologies, emphasizing the need to educate people about water purification to ensure the availability of clean and safe water for storage and use.

The threat of spreading dengue

The survey found that over 70% of respondents expressed concern about the spread of dengue mosquitoes, which cause a deadly fever. They noted that storing clean water is unsafe as it leads to the development of dengue mosquitoes. Many were unaware of techniques to keep stored water safe from dengue mosquitoes and, as a result, were not using any strategies. Additionally, government officials visit their homes and inspect water storage tanks, prohibiting using open tubs or utensils for storing clean water.

A 41-year-old respondent named San, who had suffered from dengue fever, emphasized the need for caution, stating, *"One careless activity affects the entire community. Last year, we had two deaths due to dengue in our community. We have learned from these experiences that it's better not to keep water safe in tanks than to face the deadly fever."*

People stressed the need for training to eradicate dengue mosquitoes and keep clean water safe. They believed that the government and citizens could tackle this issue collectively, but its role was considered more crucial due to its resources for implementing an effective strategy. According to a 47-year-old named Sai, *"We often feel like the government is not serious about eradicating dengue fever from Pakistan. They don't provide us with water and don't let us store rainwater. People are not trained to deal with the spread of dengue fever, and at the same time, they are facing water issues."*

Respondents agreed that the government has a major role in stopping the spread of dengue fever. They highlighted the need for training to control the spread of dengue fever, keep stored water safe from mosquitoes, and optimize the use of stored water. They also emphasized the role of the media in raising awareness about these issues and urged them to consider them important for humanity.

Financial Limitations

Another crucial issue highlighted by respondents was the lack of funds to build or purchase water tanks for water storage. Over 50% of the women stated that they either do not buy or install water tanks for storage. In some cases, they mentioned that the plastic water tanks are of poor quality and frequently get damaged, requiring frequent replacements at a high cost. Additionally, in 40% of cases, it was observed that people living in rented houses did not receive support from their landlords to build a separate water tank for storage. A 41-year-old widow named Tas mentioned, *"I heard that the Government sponsors building water tanks in some rural areas. I would request them to do the same for us. We are poor and can't afford to buy a water tank."*

Similarly, another woman, Shu (39 years old), shared, *"We installed a plastic water tank last year for Rs. 16000/, and this year the cost has gone up to Rs. 32000/ as the previous one was damaged and leaked. Prices are increasing day by day, and it's becoming unaffordable for the average person."*

This discussion reveals that the price and quality of water tanks pose significant obstacles to adopting water conservation strategies. However, analyzing the cost-benefit ratios can provide insights into the long-term environmental impact of these strategies on society and may encourage their adoption.

Governmental responsibility

The respondents provided interesting insights. Over 90% of women were aware of their rights as citizens, emphasizing that providing clean drinking water and ensuring proper water management and monitoring systems is the government's responsibility. They also pointed out the government's lack of effective enforcement and monitoring of rules and regulations for efficient water resource use. Furthermore, they stressed the need for the government to provide water storage facilities and offer training and education on water conservation strategies.

A 31-year-old named Abe highlighted the lack of public awareness regarding existing rules and regulations. He shared his experience of being informed by authorities about leaving specific spaces open and uncemented during home construction to allow water absorption into the land. However, he observed no implementation or subsequent enforcement.

In the case of dengue mosquito spread, people expressed the need for the government to ensure regular mosquito spray and educate the public on techniques and technologies for keeping stored water clean and safe from mosquito breeding. Ruq, a 33-year-old woman, mentioned that the government hardly provides common-use water. She highlighted the issue of dengue monitoring teams fining residents for unclean stored water and the lack of guidance on water preservation and use.

Furthermore, people raised concerns about the government's lack of attention to building water dams, which they viewed as the only solution to water and energy-related issues in Pakistan.

Lack of time

Storing and keeping water safe for an extended period is time-consuming. Respondents mentioned that they have so many daily tasks that they hardly find time for such activities. They also noted that using tap or pipe water directly for washing and watering saves time, so they prefer it. Sum, 44 years old, expressed this point, saying, *"I know water saving is important, but we women perform multiple tasks simultaneously. This would be another time-consuming activity and we can't do it."* She mockingly added, *"It feels good using tap water openly."* Another woman, Kar, 41 years old, also shared similar concerns, *"I work in different homes to earn money for my family. I hardly find time to cook food at home. How can I add a new job for me, even though I need to store water for my needs?"*

Fewer and more expensive water quality testing laboratories

Water quality testing has become a significant concern, preventing people from storing water at home. More than 80% of respondents indicated they were unaware of any facilities for testing water at home, making it impractical to store water. A 50-year-old respondent, Ram, shared his experience, saying, *"Once my daughter got sick with stomach issues, and the doctor asked us to get our water checked. I tried to find a lab facility close to the house, but there was nothing. After a few days of searching, I found one away from home, but it was so expensive that I stopped considering getting the water tested again."* When respondents were asked if they knew of any methods to test or clean water at home, no one knew about it. Additionally, water testing kits were not readily available in stores. Respondents also raised concerns about the quality of available water testing facilities. A 46-year-old respondent named Bar mentioned, *"My husband once tried to get water tested here and then took the same sample to another city. There was a huge difference in results. We don't trust these so-called water testing laboratories. It's all fake."*

Perceived inadequacy of endeavors to meet the water challenge.

Another critical factor was the perception of the inadequacy of smaller measures to deal with a significant water scarcity or environmental issue. Many women felt their small efforts to save water at home would not make much difference in addressing the problem. More than 50% of women believed they couldn't do much about it. Some also indicated they were not responsible for creating environmental or water issues, so why should they take the initiative to resolve them? A 45-year-old woman named Kha expressed her opinion *"Why do people expect us to make sacrifices? What change can we bring by saving a few gallons of water every day? I don't think we should even be asked to do so."* Similarly, another woman, 41-year-old Tas, indicated that *"Conserving water is not our responsibility. The government should address this by building dams. We have many other important issues to deal with. Alternatively, they should target the owners of mills and factories who use and contaminate large amounts of water."*

Non-cooperative behavior of community members

The text below discusses the challenges faced by women in getting consensus among community members on social issues, particularly related to water conservation. More than 60% of women feel that community members do not cooperate in implementing water-saving strategies. They are concerned that significant change will not be possible unless the entire society adopts water-saving practices.

Zub, 31 years old, stated, *"I think it's a societal problem. People, especially those who have resources, do not cooperate in such activities. We might adopt these technologies, but what if my neighbor wastes water*

by washing his car every day with an open pipe? It's unfortunate that we save electricity and gas while the rich waste resources."

Women also believe that government intervention is necessary to ensure the efficient use of water resources. A 49-year-old woman suggested, *"Only the government can legislate to control water wastage. I often think there should be a ban on excessive water use at car washing centers and homes. People waste a lot of water in washing floors and doing other unnecessary things while we suffer a shortage of drinking water."*

Based on this discussion, it is clear that a collective effort is necessary, and the government should take the lead in making community organizations responsible for controlling water usage with formal authority.

Discussion and Implications

The above analyses indicate that Pakistani women are essential in addressing the water crisis. However, their impact as water conservers is limited by several factors, with the lack of knowledge being the most important one. Educating people about the water crisis, environmental issues, water conservation strategies, water purification methods, and the use of stored water is crucial. Belachew et al., (2020) also highlighted the need for training people in water conservation techniques. A significant awareness campaign on electronic and social media is imperative, and policymakers, social institutions, and other not-for-profit organizations are responsible for addressing this need. Hovden et al., (2020) also pointed out the insufficient discussion of these issues in schools, colleges, and universities; all stakeholders must step forward and educate people about their role in the water crisis.

We used a multilevel framework to understand women's critical household water management roles. At the individual level, using the empowerment theory (Kabeer, 1999), women need empowerment, agency, and resources to take part in critical, related decision-making as they are the primary water users and managers at the household level. Secondly, at the community level, based on development theory (Chambers, 1994), they must participate in water governance to ensure participatory development; however, feminist political ecology (Rocheleau et al., 1997) reveals unequal power structures. Thirdly, at the policy level, using a rights-based approach (UN-Water, 2014), it is critical to acknowledge their rights and contributions and allow their voices to be heard on an equitable basis for effective and sustainable policy making. The study also revealed the necessity of training people in cleaning and maintaining stored water to prevent the breeding of dengue mosquitoes. The fear of dengue mosquito infestation in stored rainwater is a significant concern in Pakistan, and the government plays a vital role in eradicating these mosquitoes. Wilson et al., (2020) emphasized the government's responsibility in disease control, suggesting that regular sprays can help combat dengue. People should be educated about protecting water from dengue by utilizing specific chemicals or properly covering water tanks. Moreover, accessible and affordable water testing facilities are also crucial. Menger et al., (2021) suggested that water testing labs should be accessible to the general public.

The study highlighted people's concerns about the cost and quality of water storage tanks. Both the government and private sector manufacturers of plastic tanks have an important role in addressing this issue. It is essential to improve the quality of water tanks while reducing costs to ensure accessibility for ordinary citizens. Research by Martínez-Martín (2022) demonstrated that RC water containers are more durable, cost-effective, and environmentally friendly, suggesting promoting such technologies for wider accessibility. Furthermore, there were complaints about the time required to address these issues, but it is crucial to match the importance of the water issue (Younis et al., 2021).

Respondents also raised the issue of non-cooperative community behavior in addressing the water crisis. Broska (2021) emphasized that only a collective community effort can produce desired results in any social activity. Community members must recognize the importance of their roles and efforts in precipitating significant societal change. It is important for stakeholders, particularly the media, to

vigorously disseminate the message among people that their efforts will lead to collective achievements. This is only possible if they realize the potential of their efforts and roles.

The present study is aligned with the theory of Feminist Political Ecology (FPE) (Rocheleau et al., 1997) that provides a powerful tool to explain the unique combination of gender, power, and environment. This theory is particularly applicable in the context of patriarchal societies of the Global South, where women are major sufferers of environmental issues, yet have a limited role in related decision-making. Similarly, the deep-rooted patriarchal norms assign key water-related tasks to women at the household level while denying them recognition, authority, access to supportive infrastructure, and therefore marginalize them at all levels from the household to the policy framework. In line with the PFE framework, this study reveals that women face structural barriers in water conservation, such as a lack of education, awareness, limited financial resources, unsafe storage options, and several others. The study makes a significant contribution to the literature by identifying various issues and factors, and providing guidance to stakeholders to devise strategies to address the growing water crisis.

Conclusion

The present study highlights factors affecting the water conservation behavior of women amongst the alarmingly increasing water crisis in Pakistan. It was found that women face several challenges hindering their active and effective participation in water conservation, management, and governance activities. These include a lack of knowledge and resources to manage, conserve, purify, and effectively store water for sustainable usage. For this purpose, they must be educated about water conservation methods, purification techniques, environmental risks, and proper storage practices. Another critical factor emerged as the risk of dengue mosquito breeding in stored water, for which public awareness campaigns on safe storage practices, effective use of medicines/chemicals, and preventive measures are essential. Moreover, the availability of high-quality, affordable water tanks, water testing facilities, and related infrastructure can help women improve their conservation behavior, which is critically required in the rapidly increasing water crisis.

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