Nexus Between Technology, Education, Income, and Social Capital in Top 10 Terrorism Affected Countries: The Leading Role of Corruption

Muhammad Sibt e Ali[1], Muhammad Zahir Faridi[2], Muhammad Ramzan Sheikh[3], Kashif Javed[4] and Muhammad Qasim Javaid[5]

Abstract

There is a strong correlation between the expansion of institutions in nations with advanced educational systems and an increase in the frequency and severity of terrorist attacks. This trend remains substantial even after accounting for factors like per capita income, political stability, unemployment, inequality, and urbanization. This is when the frequency and severity of terrorist attacks appear to be at their highest. Therefore, this study analyzes the impacts of terrorism on education in the top 10 terrorist countries between 2010 and 2020. This study considers the determinants of education (EDU): GDP per capita, terrorism, social capital, technology and physical capital. The study employs FMOLS estimation and the DOLS test to check the results of variables in this study. The effect of GDP per capita, social capital, and physical capital significantly positively impact education in this model. However, terrorism and technology have a negative impact on education. Moreover, the moderate effect of terrorism on social capital, technology and physical capital is negatively related to education. On behalf of the results, this study proposes how a country can maximize education.

Keywords: Technology, Education, Terrorism, Social Capital, Physical Capital, Terrorism.

Introduction

There is a widespread misunderstanding that terrorists are continuously marginalized, ignorant, and disadvantaged members of society. Empirical research on terrorism has shown time and time again that this is an incorrect assumption. Aside from the lack of evidence supporting this view, many people also seem to view terrorism as an appealing option rather than a desperate last resort. Terrorists, as described in a paper by Thị (2018) and a subsequent study by Boubker et al. (2021), are more likely to come from affluent backgrounds and have higher educational attainment than the general public. Reference (a) uses a claim by UN relief worker Nasra Hassan, in which a Hamas leader is quoted as saying, "the swarms of young guys who beat on our doors, screaming to be dispatched [on suicide missions]," to show that terrorism is desirable.

[1]*Business School, Zhengzhou University, Henan, China. Email: ali4bzu@gmail.com*
[2]*Professor, School of Economics, Bahauddin Zakariya University Multan, Pakistan. Email: zahirfaridi@bzu.edu.pk*
[3]*Professor, School of Economics, Bahauddin Zakariya University Multan, Pakistan.*
Email: ramzansheikh@bzu.edu.pk
[4]*School of Law, Zhengzhou University, Henan, China. Email: Kashifjaved777@gmail.com*
[5]*Business School, Zhengzhou University, Henan, China. Email: qasim939@yahoo.com*

To put it simply, terrorism is a catastrophic act of sudden, premeditated violence and coercion. Terrorism is not clearly defined in any one dictionary. Terrorism goes back quite a ways and can take many shapes. The study of Dutta et al. (2020) claims,

> *Students' education has deteriorated as a result of the frequent closing of schools, colleges, and universities owing to the fear of terrorist attacks. As a result of these incidents, schools have had to compress their academic calendars and open on holidays like the weekends to make up for lost time in the regular school week. This disrupts normal activities, including those of students' families and social groups.*

Terrorism has emerged as a global security concern over the past two decades. Even if there is no agreed-upon definition of terrorism, the term has come to mean harassment, destruction, suicide attacks, and senseless slaughter in the literature that has come before. Terrorism, it has been written, disrupts populations, destroys infrastructure, has adverse effects on education, and contributes to economic stagnation. In addition, terrorism causes widespread political unrest and rips at the social fabric of whatever society it affects.

More than 30 per cent of the world's terrorist attacks occurred in South Asia between 2004 and 2008. Recent years have seen a shift in armed clashes over the world from civil clashes and extensive conflicts to more minor, more localized insurrections and drug-related fierceness. Some examples include small-scale insurgencies in Pakistan and India (the Naxalite movement) and large-scale ones in Brazil and Mexico (drug gangs). The costs of internal conflict are enormous, both on the macro (Chau et al., 2021) and micro levels. An extensive literature on the outcome of armed war jolts on investments in HC, such as children's health and education, demonstrates that conflict may also cause intra-household alterations to long-term investments, besides the risks to life and property.

Following are three ways our research adds to the existing body of knowledge. First, we provide a significant contribution to the literature on the consequences of armed conflict on the accumulation of HC by families and individuals, with a particular emphasis on South Asia, a region that this year has not substantially examined. The majority of research on the effects of violence on human capital investment has an emphasis on African nations (Zafar et al., 2021), with the remainder examining Europe and Latin America (Senadjki et al., 2021), and only one addressing the instance of Nepal in South Asia (Sinha et al., 2020). Terrorist-sponsoring nations account for 27 million people, and we analyze the effects of local insurgency within such nations (Tang et al., 2022). We also contribute to the research on gender inequality in early development and the reaction of agricultural households to shocks caused by armed conflict by examining the connection between shocks, composition, gender and educational expenses. South Asian countries are notorious for favoring boys over girls when allocating resources (Phelps et al., 2021). Third, we discover the lasting effects of the addition of HC in response to short-term adverse shocks, including a gender gap in educational attainment among men and women of school age in areas more vulnerable to terrorist attacks.

One of the first things we look at in our analysis is how the insurgency in terror-stricken countries affected the educational opportunities of adults who were between the ages of 6 and 16 during the insurgency. The 2005 Survey of Human Development in India provides us with cross-sectional data on the terrorist situation in various countries (IHDS). During the insurgency in Punjab from 2010 to 2020, we combined information on terrorist attacks and associated deaths from the district-level data collected by the South Asia Terrorism Portal (SATP). A desire to create a sovereign state of Punjab apart from India was at the heart of the terrorist insurgency that raged from 1981 to 1993. We practice a within-state counterfactual cluster and analyze the impact of the war on an

older population that would not be realistically affected by a conflict that occurred after their education years in order to demonstrate that the observed influence of conflict is not attributable to preexisting variances through districts in Punjab. Analyses are conducted for the complete sample and a subsample of people whose families did not migrate, mitigating the effects of any possible endogenous migration. We also investigate endogenous fertility and the possibility of changes in sample composition due to migration as potential challenges to the validity of our estimates. Remember that our findings hinge on the assumption that the person survives the conflict. Disputes may have spread from areas of higher conflict to those with lower conflict rates. Our research is limited because the war has had only a minimal impact on spending and outcomes in education.

Afghanistan, Nigeria, Iraq, Somalia, Syria, Yemen, the Democratic Republic of the Congo, Pakistan, India, and the Philippines are the top 10 nations in terms of terrorism, and their means and standard deviations are shown below. The afflicted generation had between 0.72 and 0.75 fewer years of schooling than men of a similar age in these areas, which is shown in the pairwise relationship coefficient between the number of killings and the number of occurrences per district. These figures are significant because the average education level of Punjabi women is just 4.83 years. Much research has been done on the reduction in female educational attainment in war-torn civilizations (Khan et al., 2018). That is about the same as the estimated half-year of schooling lost as a result of landmine contamination (Wang et al., 2021). Consistent with the local distribution of events throughout the 2010-2020 conflict, the negative impact of insurgence is more pronounced in rural areas. Two independent placebo tests, caste fixed effects, checks for selection bias and migration, and other conflict measures all yield the same results as our primary conclusions.

Against this background, this study uses annual data from the world's top 10 most dangerous economies from 2010 to 2020 to assess the impact of GDP per capita, terrorism, social capital, technology, and physical capital on attaining an appropriate educational goal. As evidenced by this research, terrorism hurts classroom learning. A secondary goal of this study is to investigate the moderating impact of social security, technological advancements, and physical infrastructure on academic achievement in the face of terrorist threats. Finally, this research employs a dynamic empirical approach, including simultaneous control for LLC and ADF panel unit root test, Pedroni and Kao co-integration test, FMOLS estimation, and robust check by DOLS estimation in the top 10 terrorism economies data, to produce practical and objective results. Our subsequent paper is structured as follows: literature gaps are identified by a review of the relevant studies in section 2. The study's theoretical underpinnings and methodological approach are presented in section 3. Results and commentary are presented in section 4. Section 5 contains the last thoughts and policy recommendations.

Literature Review

The past decade has seen substantial growth in quantitative research devoted to terrorism. The authors of several of the pieces in this collection claim that a country's lack of economic progress and education is to blame for its terrorism problem. This, however, quickly turned out to be not the case. "eradicating poverty and universal secondary education are unlikely to modify these emotions," argues Tang et al. (2022). The well-off and the educated may be especially attuned to these emotions. Terrorists are not typically typical of the population; they are more likely to have higher levels of education and financial stability. Terrorists, according to Pu et al. (2022), "are men and women in their twenties with some postsecondary degree, mainly in technical or engineering

education." For instance, Worthington and Lee (2008) found that Al Qaeda members' biographies consistently revealed a high level of education, especially among the group's members involved in the sciences or the technological fields.

Jabeen et al. (2020) examines whether economic globalization increases the number of transnational terrorist occurrences within countries. One way globalization may be linked to relative poverty is through the increased awareness of one's relative affluence, or lack thereof, that results from more exposure to news and media about individuals in other parts of the world. Trade facilitates cross-border terrorist acts. Hence, Li and Schaub argue that as globalization increases, so does the prevalence of international terrorism. Based on a sample of 112 nations from 1975–1997, their findings suggest that a decrease in domestic terrorist occurrences is associated with economic progress and increased trade openness. They discovered that economic progress reduces the chance of terrorism, which is an intriguing instance of the impact of an economic indicator on terrorism. Because terrorist groups pick only the best qualified "applicants," as argued by Zhang et al. (2022) in their book "The Quality of Terror," terrorists are more likely to have a high level of education and financial stability. It is not that people with less money and education are less likely to be terrorists; it is just that groups do not back them. Because it implies that the pool of terrorists is hand-picked by influential terrorist organizations, this supply and demand hypothesis severely distorts empirical evaluations.

Furthermore, Bueno de Mesquita concludes that deteriorating economic conditions should be correlated with heightened terrorist mobilization. However, Bueno de Mesquita's work is purely theoretical; he does not incorporate any actual data into his model. The article "The roles of foreign help and education in the war on terror" by Sayaf et al. (2021) investigates the connection between international aid and education. They conclude that a decrease in terrorist acts is linked to better levels of education in the recipient countries of foreign aid. Azam speculates that terrorists' motivations may be influenced by a desire to help future generations. "The good effect of education on intergenerational altruism may compensate for the negative effect of education on the opportunity cost of putting one's life at danger." That is to say, terrorists may factor the money they make from their groups into their decision-making. The study argues that a country's educational level is a crucial factor in shaping its political behavior and that governments will change their repressive policies "optimally as a function of the impact of education." In addition, Azam considers alternative hypotheses, such as the possibility that those with a higher level of education are more attuned to the influences of their peers. This lends credence to my claim that those with a high level of education may be more vulnerable to the effects of social variables like reduced work opportunities.

Terrorism, as defined by Li et al. (2022), is the use of violent means by a defined organization to accomplish predetermined ends. The global community has been profoundly impacted by terrorism. The Taliban had 8252 targets in Pakistan between 2011 and 2015; 11330 of them were killed and 17912 injured. Terrorist organizations mainly target the education sector because they are biased against both western and female education. There was a terrorist attack on the Army Public University in Peshawar on December 16. in which 141 persons lost their lives, including 132 schoolchildren. Terrorism has an impact on KP school enrollment, according to research by Kumar and Byrne (2022). School shootings, hostage situations involving teachers and students, drone attacks, injuries, and deaths have all made headlines recently, and Wang et al. (2021) argue that this has caused increased anxiety among schoolchildren and professors. Terrorist attacks regularly have turned college students pessimistic, angry, aggressive, violent, and despondent. Also, they suggested that lectures be set up to inspire college students to keep working on their

studies. In addition, they stress the need to create a tranquil campus environment. By looking at 50 African countries from 1970 to 2011, Wu et al. (2021) analyze the effect of education on lowering terrorist activity in the continent. Based on the findings, it appears that higher levels of elementary, secondary, and higher education each have a unique impact on acts of domestic terrorism. Secondary and primary education have been shown to reduce terrorist activity in sub-Saharan nations. However, other studies have found that there may be other factors at play in civilizations with a rapidly growing young population.

Concerns have been raised about prevent's path, especially about its primary target audience, Muslim youth and their educational institutions (Che et al., 2021; Zafar et al., 2022). Prevent's initial phase, from 2007 to 2011, focused on interacting with young Muslims through community and youth-based settings; the latest priority focus has moved to the more proper educational settings of colleges, universities and schools, thus deepening the program's challenging characters. Although Prevent has been in place for a while, there is little evidence that educational approaches promoting youth resilience against extremism have been encouraged and supported. The letdown to investing in and trusting the procedures of citizenship and political education for young people, which openly confront the threat of radical beliefs and reinforce the standards, processes, and democratic citizenship, embodied values of equality, is one such process that single out here. Prevent is uneven and leans profoundly towards a securitized interaction with and reconnaissance of Muslim youth since such methods of "educating against extremism" (Chau et al., 2021) are missing. Here, Britain's Prevent is embezzling child security concepts (Chick et al., 2020) to enhance surveillance of Muslim youth in proper education. This approach is ostensibly justifiable due to the description of the Iraq/ Syria disaster and the political mistreatment of ethical panics regarding the assumed Muslim "radicals" effect on British state schools (Zhang et al., 2021).

Human rights-based citizenship education methods (Dana et al., 2021b) are criticized in this article as an alternative to Prevent's approach to youth. Such programs, which can occur in a school or community setting, encourage open discussion of divisive political issues among young people of varying socioeconomic backgrounds. Since the emphasis on individual, human rights-based nationality has been regarded as Eurocentric and in war with the more communist values and beliefs of many minority populations, it is acknowledged that such an educational approach to extremism is contentious in and of itself (Agudo et al., 2014). However, it maintains that this strategy can be a valuable tool in combating racism, Islamophobia, and injustice and strengthening resistance to terrorism. Here, resistance to radical ideas comes from a communal rather than an individual level of fortitude. More importantly, the supported approach to citizenship education gives a positive and inclusive base for policy, as opposed to the harmful and stigmatizing method of Prevent's monitoring system.

Data, Variables and Methodology

Six factors were taken into account when compiling this paper's data on the world's top 10 terrorist hotspots (Afghanistan, Somalia, Iraq, Democratic Republic of Congo, Nigeria, Syria, Pakistan, Yemen, India, and Philippines). Education, terrorism, social capital, technology, and physical capital are all examples. The data for all variables begins in 2010 and constitutes annual remarks for each variable, as this best reflects the accessibility and reliability of the information variables. Such information is compiled from numerous public domain resources such as Knoema, the OECD Data Bank, and the World Bank open data portal. The dependent variable, education, is measured by (student enrollment in universities) from Knoema. The GDP per capita is measured by (constant US$) from WDI; terrorism is measured by (number of attacks) from world development indicator;

social capital by (% of GDP) from WDI; technology is measured by (internet users) from WDI and physical capital is measured by (% of GDP) from Knoema.

Table 1: Variables description

Variables	Definitions	Sources
EDU	Higher education (student enrollment in colleges)	Knoema
GDPC	GDP per capita (constant US$)	WDI
TER	Terrorism (number of attacks)	Global terrorism
SC	Social capital (Rank)	WDI
TEC	Technology Innovation (internet users)	WDI
PC	Physical capital (% of GDP)	Knoema

Figure 1: Scatter plot of variable
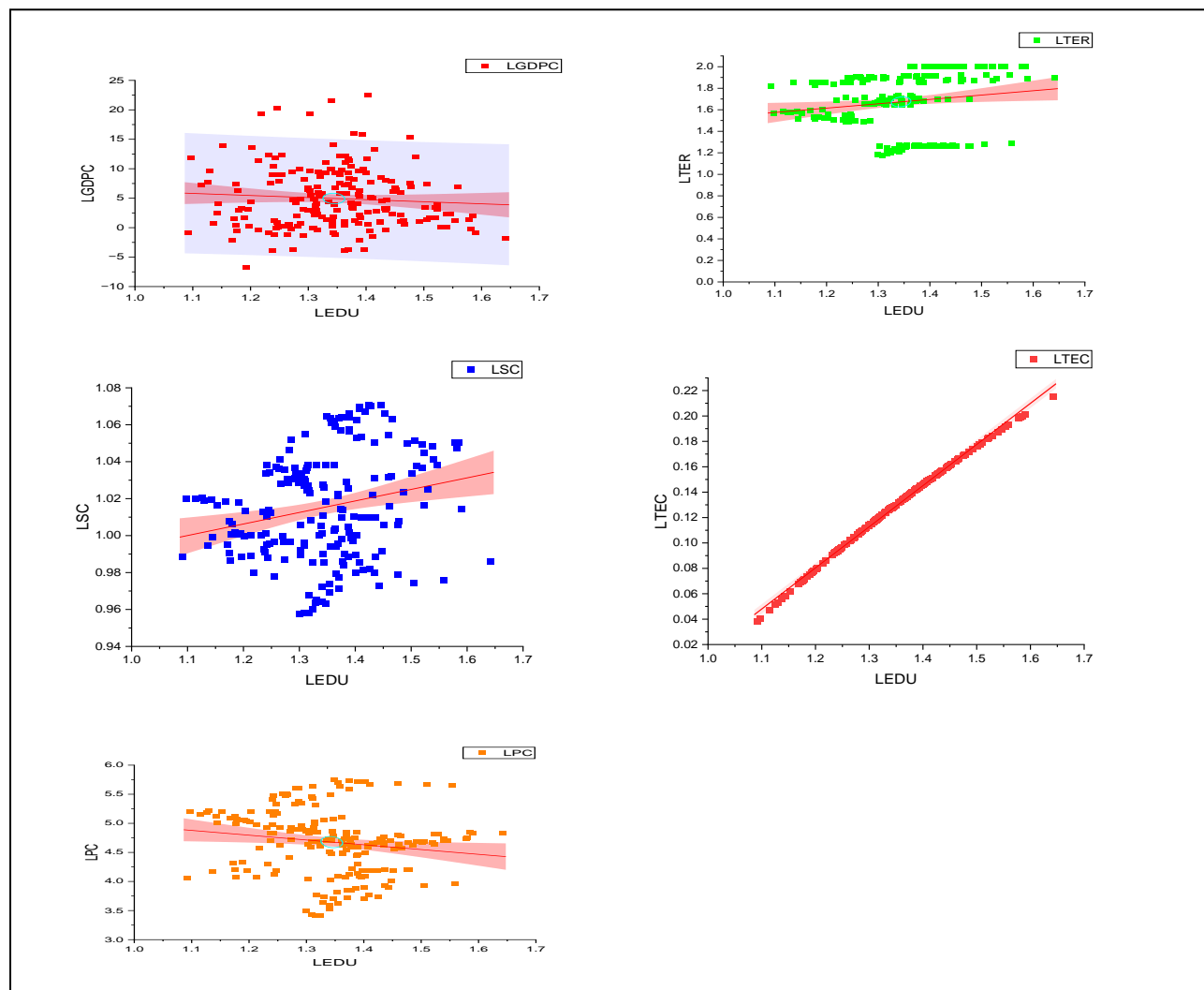
The Eq. (1) can be converted into natural form and can be formulated as,

$$EDU_{i,t} = f(\beta_0, GDPC^{\beta 1}{}_{i,t}, TER^{\beta 2}{}_{i,t}, SC^{\beta 3}{}_{i,t}, TEC^{\beta 4}{}_{i,t}, PC^{\beta 5}{}_{i.t}) \tag{1}$$

$\ln EDU_{i,t} = \beta_0 + \beta_1 \ln GDPC_{i,t} + \beta_2 \ln TER_{i,t} + \beta_3 \ln SC_{i,t} + \beta_4 \ln TEC_{i,t} + \beta_5 \ln PC_{i,t} + \varepsilon_{i,t}$　　(2)

Whereas lnEDU denotes the natural log of education, lnGDPC shows the natural log of GDP per capita, LTER, LSC, LTEC, and LPC represents the natural log of terrorism, social capital, technology and physical capital. Likewise, i depict the number of cross-sections, and t signifies the number of years.

$\ln EDU_{i,t} = \beta_0 + \beta_1 \ln GDPC_{i,t} + \beta_2 \ln TER_{i,t} + \beta_3 \ln SC_{i,t} + \beta_4 \ln TEC_{i,t} + \beta_5 \ln PC_{i,t} + \beta_6 \ln TER * SC + \varepsilon_{i,t}$　　(3)

$\ln EDU_{i,t} = \beta_0 + \beta_1 \ln GDPC_{i,t} + \beta_2 \ln TER_{i,t} + \beta_3 \ln SC_{i,t} + \beta_4 \ln TEC_{i,t} + \beta_5 \ln PC_{i,t} + \beta_6 \ln TER * TEC + \varepsilon_{i,t}$　　(4)

$\ln EDU_{i,t} = \beta_0 + \beta_1 \ln GDPC_{i,t} + \beta_2 \ln TER_{i,t} + \beta_3 \ln SC_{i,t} + \beta_4 \ln TEC_{i,t} + \beta_5 \ln PC_{i,t} + \beta_6 \ln TER * PC + \varepsilon_{i,t}$　　(5)

However, another aim of this study is to examine the moderate role of terrorism on social capital, technology and physical capital and their influence on education. Similarly, the moderate effect equations 3, 4, and 5. It is assumed in our green growth model that the chosen data does not integrate at the level and stabilizes at the I-1st difference (1). Hence, prior to continuing with the co-integration test, it is crucial to expose the data integration. Panel unit root tests by Dwivedi et al (2020), and Fisher-ADF were also conducted in this investigation (Nirmal & Singh, 2018). The LLC unit root test presupposes that the series under investigation have a common unit root process and exhibit equivalent cross-sectional distributions.

If you're doing an LLC test, keep the following ADF-specification

$\Delta y_{i,t} = \alpha y_{i,t-1} \sum_{j=1}^{pi} \beta_{i,j} \Delta y_{i,t-j} + X'_{i,t}\delta + \varepsilon_{i,t}$　　(6)

Here, it is supposed that $\alpha = -1$, and vary across the cross-sections. Hence, the null hypothesis is H_0: $\alpha i = 0$, while the alternative is H_1: $\alpha i < 0$. It is not necessary to reject the null hypothesis for all i for it to be rejected.

Having the integrated data allows one to delve into the long-run co-integration among chosen variables. Given that the variables are integrated at the difference, Pedroni's co-integration tests Huang and Yang, (2022) are more applicable. Pedroni's co-integration methodology is suitable for this investigation because it allows for more than one explanatory variable. The outline of the required evaluation is as follows:

$\ln EDU_{i,t} = \alpha_{i,t} + \delta_{i,t} + \beta_1 \ln GDPC_{i,t} + \beta_2 \ln TER_{i,t} + \beta_3 \ln SC_{i,t} + \beta_4 \ln TEC_{i,t} + \beta_5 \ln PC_{i,t} + \mu_{i,t}$　　(7)

$\mu_{i,t} = p_i \mu_{i,t-1} + \mu_{i,t}$　　(8)

nevertheless, t = 1,...., T denotes the time period, and i = 1,...., N denotes the number of panels. Similar to how δi,t allows for the presence of deterministic effects and αi,t allows for country-specific effects. The error term is denoted by μi,t. Therefore, Pedroni has introduced panel and group tests to examine the null hypothesis of no -co-integration. There are four statistics inside the dimension, and three statistics between the dimensions Zafar et al (2021b).

Now that we know there is strong evidence for long-run co-integration, we can examine the long-run link among the variables; this was estimated using FMOLS developed by Zhou et al (2021), and DOLS developed by Alzaidi and Shehawy, (2022). When endogeneity and autocorrelation between the variable and error term are present in panel data, several econometric methods can be helpful. Because of this, the current investigation has adopted the Panel FMOLS & DOLS tests, whose canonical forms are shown in the following eqs.

$\beta FMOLS = [\frac{1}{N} \sum_{i=1}^{N} (\sum_{t=1}^{T} (A_{i,t} - bar\ A_i))^2]^{-1} * \sum_{t=1}^{T} (A_{i,t} - bar\ A_i)^2)\ bar\ Y_{i,t} - Tbar\ \Delta e\mu$　　(9)

$\beta DOLS = [\frac{1}{N} \sum_{i=1}^{N} (\sum_{t=1}^{T} (A_{i,t} A'_{i,t}))^2]^{-1} * \sum_{i=1}^{N} (\sum_{t-1}^{T} (A_{i,t} Y_{i,t})]$　　(10)

Where Y is the explained variable in the projected model and A is the explanatory variables.

Results and Discussion
Descriptive Statistics

Table 2 presents the summary of descriptive statistics. The mean value from the education is 1.758%. The average GDP per capita is almost 1.075%. The mean annual terrorism is nearly 3.876%. Likewise, the average social capital and technology is almost 5.853% and 2.586%, respectively. Finally, the average physical capital is approximately 1.086% for selected economies. According to the empirical values given in the table, social capital has the highest while GDP per capita development has the lowest mean value. Further, for some panels, the median does not vary far from the mean. There is no implausible outcome in the presented data.

Table 2: Descriptive Statistics results

Statistics	EDU	GDPC	TER	SC	TEC	PC
Mean	1.758	1.075	3.876	5.853	2.586	1.086
Median	1.076	0.875	2.976	5.825	2.368	0.597
Maximum	3.986	4.087	5.934	6.576	4.293	4.297
Minimum	0.735	-1.756	2.069	2.394	1.039	-1.383
Std. dev.	0.536	0.327	0.319	0.428	0.218	0.283
Skewness	-1.398	-0.387	0.398	0.208	0.937	0.482
Kurtosis	2.976	2.875	4.957	1.497	2.856	2.847
Prob.	0.000	0.000	0.000	0.000	0.003	0.032

Empirical Model

The likelihood of multicollinearity in chosen panel data must be addressed before moving on to the multivariate regression model. As proof that our model is free of multicollinearity, we calculated a pairwise correlation matrix. The fascinating results of the pairwise correlation are shown in Table 4. The results denote that there is a positive relationship between GDP per capita and education at the 1% level of significance. The explained variable (EDU) is correlated with social capital and technology at a 5% level of significance in both positive and negative directions. More so, a 1% inverse correlation can be shown between terrorism and schooling. Last but not least, a 1% positive correlation exists between physical capital and educational attainment. The model is not subject to multicollinearity.

Table 3: Pairwise correlation test

Variables	LEDU	LGDPC	LTER	LSC	LTEC	LPC
LEDU	1					
LGDPC	0.456*	1				
LTER	-0.314*	-0.342*	1			
LSC	0.615**	0.543**	0.186**	1		
LTEC	-0.198**	0.154*	0.614*	0.329**	1	
LPC	0.613*	0.431*	-0.258**	0.173*	0.515*	1

Panel Unit Root Test

Panel unit root tests are used to establish the order of integration for each variable before proceeding with the analysis. Specifically, we conduct an ADF unit root test and an LLC panel

unit root test, with the results of both tests presented in Table 3 for each variable. Both the level and the first difference of variables are tested. In the case of variables, it is not possible to reject the null hypothesis that they all assume a single and independent unit root process. However, after using the first difference, all of the variables are within the margin of error for the investigation. Accordingly, we can agree that they are stable within a 95% confidence interval. Recent research has shown that if variables are not joined, the regression could be inaccurate, highlighting the significance of unit root tests (Archambault et al., 2022). Summaries of unit root tests are included in table 4. The results showed that, at first glance, none of the relevant sustainable growth metrics are changing.

Table 4: Levin, Lin & Chu and ADF unit root test

Variables	Levin, Lin & Chu Unit Root test				ADF Unit Root test			
	Level		1st Difference		Level		1st Difference	
	Statistics	Probability	Statistics	Probability	Statistics	Probability	Statistics	Probability
LEDU	2.685	0.021	4.599	0.024	5.796	0.287	9.286	0.019
LGDPC	0.524	0.011	6.464	1.000	18.875	0.005	26.841	0.000
LTER	1.756	0.178	3.655	0.000	6.657	0.087	12.442	0.037
LSC	6.367	0.000	8.849	0.002	8.486	0.002	21.701	0.000
LTEC	0.248	0.065	0.314	0.087	2.868	0.764	8.481	0.326
LPC	3.876	0.099	6.468	0.046	5.865	0.046	7.873	0.048

Cointegration Test

The next stage is to look into whether or not the variables being described and those being explained are long-run co-integrated. This is why the Pedroni co-integration test was devised by the authors of this study (Alzaidi & Shehawy, 2022). In both parametric and nonparametric settings, it offers seven different test statistics. Outcomes are revealed in table 5. The presence of long-term co-integration for the chosen panel was statistically confirmed by four tests performed here. This leads us to the conclusion that certain measures of schooling (education) exhibit long-run co-integration. This study also uses the Kao panel co-integration approach to confirm Pedroni's outcomes, and the outcomes confirm the existence of co-integration (table 5).

Table 5: Pedroni and Kao estimators

Alternative hypothesis: common AR coefficient (within-dimension)				
	Statistics	p-value	Statistics	p-value
Panel v-statistics	-3.685	0.006	-4.458	0.098
Panel rho statistics	1.623	0.675	1.886	0.954
Panel PP statistics	-5.348	0.000	-12.855	0.000
Panel ADF Statistic	-1.758	0.024	-3.861	0.046
Alternative hypothesis: individual AR Coefficient (between-dimension)				
	Statistics		p-value	
Panel rho statistics	2.547		0.076	
Panel PP statistics	-16.645		0.000	
Panel ADF Statistic	-3.767		0.027	
Kao cointegration				
ADF	-2.865		0.005	

Long Run Estimation of FMOLS

According to the data, higher levels of per capita GDP have a beneficial effect on educational attainment. Education spending rises by 0.537%, 0.658%, 0.475%, and 0.698% for every 1% increase in GDP per capita, as calculated by the GDP per capita coefficient. Literacy rate improvements typically accompany GDP per capita increases because of the positive correlation between the two variables. More affluent families are in a better position to provide aid, particularly in the form of educational opportunities. Low-income families sometimes have to prioritize meeting basic needs before educating their children. Since the bar is increasing and the income gap is widening, this also means that those who hope to improve their life by studying hard are naive. Children's social, behavioral, emotional, and physical health outcomes have the slightest evidence, followed by educational attainment and cognitive development. Most research in all three areas reveals a positive and statistically significant income impact.

The findings suggest that terrorism lowers educational attainment. This demonstrates that for every one per cent increase in terrorism, there will be corresponding decreases in the education of -0.086 per cent, -0.84 per cent, -0.27 per cent, and -0.073 per cent. Schools, colleges, and universities are wasting students' time by remaining closed in the face of terrorist threats, which has a severe impact on both the students and their education. There are regular cancellations and postponements of extracurricular activities due to the persistent dangers schools face. Terrorism is still a problem down in the valley, and improving training standards is like climbing a treacherous mountain without any ropes or assistance, but that is what is needed. The combined destruction of the establishment, parents' reluctance to have their children attend school, children's increased involvement in organized extracurricular activities, negative financial burdens on households with nuclear members, and forced relocation are all contributing factors to a decline in students' satisfaction with their educational experiences. However, this is far from ideal, as training should not advance at all, as doing so would cause irreparable harm to our community. No one can predict what will happen next, so it is essential to focus on solving pressing issues like reducing parents' anxiety about sending their children to school and encouraging a generation of young people to view school as an exciting and rewarding experience.

Results show that social capital contributes to educational success. An increase of 0.092, 0.078, 0.268, and 0.049 percentage points in schooling corresponds to a 1% increase in social capital. This research examined the relationship between social capital and three measures of academic success: arithmetic and reading test scores, grade point averages, and graduation rates. The study also expanded on "community social capital" and how it may boost student performance in the classroom. The study's results confirm the importance of parents' socioeconomic situation in influencing their children's academic success. Students with parents with higher socioeconomic status or higher levels of education have an advantage in school. As a result of having these advantages, children grow up in a culture where education is highly prized and anticipated. A child's scholastic success is influenced not only by their genetic makeup and their family's socioeconomic status but also by the family's social capital. Youths' educational outcomes are much improved when placed in a safe and supportive setting where they are offered advice on what actions are acceptable and what are not. The study results are consistent with the previous studies (Ma et al., 2022; Hua et al., 2022; Ahmed et al., 2022; Weimen et al., 2022)

Based on the data, every 1% technological improvement also brings a 1% drop in educational attainment. The results suggest that technology has a negative impact on education by -0.004%, -0.009%, -0.005% and -0.015%. Employing technological devices like graphical calculators, high-tech watches, and compact cameras to forge answers or take pictures during exams is possible.

Graphing calculators make it easier for kids to copy and paste calculations and take notes. Due to the increasing utilization of shortcuts and internet chatting, the young population's writing talents have dropped substantially. In this instance, pupils primarily waste their time with poor technology usage. These days, teenagers trust more and more digital interaction and have turned to remembering to hone their writing services. They cannot write in cursive, utilize proper language, or spell correctly (Zhao et al., 2024; Zhao et al., 2023).

Human and material capital are shown to be endogenous in the model as a whole. Higher education levels will rise by 0.065%, 0.865%, 0.654%, and 0.412% for every 1% growth in physical capital. Education is a positive and significant factor in the per capita stock of physical capital. In contrast, the stock of material capital is a significant and positive determinant of education at the 0.05 level. A proper comprehension of the economics of higher education can be achieved with the help of physical capital. It is a crucial component of the production process, but it is hard to put a price on because of the need for a reliable metric. Although capital services contribute more than 30 per cent to the entire cost of education, this fact is not typically recognized in traditional college financial accounting. The loss of data on input costs, crucial to effective management, is the most devastating effect of ignoring physical capital in educational institutions. That is why it is so essential for a country to invest in its physical infrastructure to support higher education.

Terrorism's mild impact on social, technological, and physical capital has a deleterious effect on learning. The results show that the education level drops by -0.547%, -0.654%, and -0.375% for every 1% increase in the level of moderate effect. Terrorism is negatively impacting everything in the country.

Table 6: FMOLS estimators

Variables	Model 1	Model 2	Model 3	Model 4
LGDPC	0.537 (0.012)	0.658 (0.009)	0.475 (0.000)	0.698 (0.000)
LTER	-0.086 (0.044)	-0.847 (0.002)	-0.275 (0.007)	-0.073 (0.000)
LSC	0.092 (0.000)	0.078 (0.013)	0.268 (0.000)	0.049 (0.009)
LTEC	-0.004 (0.038)	-0.009 (0.022)	-0.005 (0.004)	-0.015 (0.000)
LPC	0.065 (0.032)	0.865 (0.011)	0.654 (0.045)	0.412 (0.000)
LTER * SC	-	-0.547 (0.026)	-	-
LTER * TEC	-	-	-0.654 (0.000)	-
LTER * PC	-	-	-	-0.375 (0.014)
R- Squared	0.987	0.781	0.956	0.938
Adjusted R- Squared	0.966	0.768	0.935	0.901

Robust Check by DOLS Estimation

This model shows that GDP per capita has a positive impact on education in this study. The result indicates that increasing in GDP per capita level of education increases by 0.425%, 0.412%, 0.702% and 0.961% in this model. As a like, terrorism has a negative impact on education by the given value -0.065%, -0.634%, -0.076% and -0.056%. Similarly, social security has also positive impact on education in this model. The outcome displays that increasing in social security education increases by 0.087%, 0.087%, 0.027% and 0.031%. Technology has also negative impact on education that is shown in the given result below -0.009%, -0.007%, -0.005% and -0.022%. Another indicator shows that increasing in the value of physical capital the level of education increases by 0.213%, 0.398%, 0.076% and 2.754% in this model. The moderate effect

also shows negative influence on education by the given results -0.689%, -0.023% and -0-.005% in this study.

Table 7: DOLS estimator results

Variables	Model 1	Model 2	Model 3	Model 4
LGDPC	0.425 (0.012)	0.412 (0.000)	0.702 (0.000)	0.961 (0.000)
LTER	-0.065 (0.009)	-0.634 (0.000)	-0.076 (0.005)	-0.054 (0.000)
LSC	0.087 (0.000)	0.087 (0.001)	0.027 (0.026)	0.031 (0.000)
LTEC	-0.009 (0.004)	-0.007 (0.001)	-0.005 (0.003)	-0.022 (0.000)
LPC	0.213 (0.043)	0.398 (0.001)	0.076 (0.060)	2.754 (0.065)
LTER * SC		-0.689 (0.016)		
LTER * TEC			-0.023 (0.239)	
LTER * PC				-0.005 (0.000)
R- Squared	0.976	0.869	0.931	0.906
Adjusted R- Squared	0.952	0.829	0.906	0.884

Conclusion and Implications

The main focus of this study is investigating the role of education along with GDP per capita, terrorism, social capital, technology and physical capital in the top 10 terrorist economies. The study first checks the LLC and ADF panel unit root test. Based on the validation of the link, then the study performs an FMOLS estimator that produces long-run cointegration factors for estimations. Similarly, this study performs DOLS estimation for robust checks. The results show that GDP per capita, social capital and physical capital positively impact education (EDU). Similarly, terrorism and technology have a negative impact on education.

At the outset, governments should have a role in shaping the educational system and the fair education policy to guarantee a just allocation of educational resources. Those in authority in the region should work to expand the local educational sector's urban-rural divide so that less-developed areas have access to effective pedagogical materials. To ensure that lagging children can access trans-regional education without the restrictions imposed by household registration, it is imperative that the household registration system reform be accelerated and regulations over the migrant population be strengthened. If we are serious about closing the income gap and helping low-income families, we need to work to improve the current distribution system. The level of education in a family is influenced by its socioeconomic standing. Raising the family's income would provide their children better living and learning conditions. Terrorism has a negative correlation with learning. Based on the results of this research, the government should take measures to protect the city's most at risk of terrorist attacks. In such a situation, the government should ensure the safety of schools. If these issues are resolved, the valley's young people will benefit from improved educational opportunities. If we assume the worst, the future will be much more complex and awful, filled with instability, confusion, and an increasingly barbaric generation.

In order to help students succeed in school, strengthening their families' resources is crucial. In order to create social capital in the home, it may be necessary to plan and implement a variety of programs that help parents develop their skills. Tools for improving parent-child connections, helping kids feel good about themselves, setting loftier academic goals, and restraining disruptive behaviors are all possibilities. Such initiatives provide communities with a chance to increase their

social capital. As a first step, they get a wide variety of community members and groups working together to aid at-risk kids' academic performance and the smoothness of their transition from high school to the workforce. This means they can assist in consolidating community resources and cutting down on service duplication. Second, they provide a range of programs for young people to bridge the gap between classroom theory and real-world application. This method facilitates the development of connections between individuals who aim to assist local youth in transitioning into the working world. Third, by allowing youth to connect with various groups and individuals whose mission is to aid and uplift, they give young people a sense of belonging in their community.

A well-made teacher training programme is crucial to satisfy the needs of today's educators who want to learn how to make the most of ICT in the classroom. Thus, teachers and policymakers must realize the traits impacting the effectiveness and cost-effectiveness of various methods of utilizing ICT in teacher training so that appropriate training practices may be examined to make such modifications realistic for all. Therefore, if the institute providing teaching training programs uses ICT in its courses, our country's teaching and learning process will be much more streamlined and accessible to students of all backgrounds. Finally, the precise function of ICT in facilitating multimedia replications of effective teaching practices, delivering individualized training courses, reducing teachers' separation, linking single teachers to a greater teaching society on an uninterrupted basis, and indorsing teacher-to-teacher teamwork warrant more kindness. This is a positive opportunity that educators and students should seize in order to rid themselves of the obstacles that prevent many kids and schools from reaching their full potential. In light of this, all nations must upgrade their educational systems to accommodate rapid technological advancements better. The findings are significant, but the ramifications for policymakers are even more remarkable. Governments can help end the cycle of low capital accumulation by encouraging private investment in human and physical capital. Improving a society's stock of physical capital is an unintended side effect of every strategy that aims to educate its population more thoroughly.

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