

ANALYZING THE PERCEPTION OF TERRORISM IN SWAT: APPLICATION OF ORDERED LOGIT REGRESSION

Muhammad Shah^{*1}, Dr. Gulawar Khan², Dr. Hazrat Yousaf³

^{*1,2,3}Lasbela University of Agriculture Water and Marine Sciences Uthal Balochistan

^{*1}mshah12336@gmail.com

Corresponding Author: *
Muhammad Shah

DOI: <https://doi.org/10.5281/zenodo.15639329>

Received	Revised	Accepted	Published
18 April, 2025	18 May, 2025	03 June, 2025	11 June, 2025

ABSTRACT

This study was carried out with the aim to find out the perception of terrorism and its effect on female education in district Swat of Khyber Pakhtunkhwa, Pakistan. For this purpose, 303 respondents were interviewed through simple random sampling technique. The study examines socioeconomic characteristics, perception of terrorism and its effects on female education, using descriptive statistics and ordered logistic regression model for analysis of the data. The results revealed that the current government efforts to protect schools and ensure the safety of students as well as teachers are inadequate in the area. Lack of effective collaboration between the school administrations and law enforcements agencies were among the widespread dissatisfaction by the respondents. Results of the ordered logistic regression model, confirmed that the Institutional damage, fear of terrorist attacks, threats to female education and instability in the community, all of these independent variables have statistically negative significant effect on girls' enrollment and are the major barriers to girls' education in the study area. Institutional damage had the most substantial inverse impact and reduces the odds of girls' enrollment by 51.10 percent. Similarly, fear of terrorists attacks and lack of security measures were also found to adversely affect female' education by reducing the enrollment likelihood by 22 percent and 37.5 percent respectively. Results of the marginal effects for the logistic regression indicated that the largest negative effect observed for the institutional damage having values of 14.3 percent indicate the probability of girls' enrollment followed by community instability associated with a 13.6 percent decrease in the probability of girls' enrollment. While, threats to female education reveal a decrease in the probability of girls' decrease by 9.2 percent. Based on the findings of the study it is recommended that foster social cohesion and community led initiatives like engagements of local leaders, religious figures to counter extremist ideologies and build reliance against terrorism and provide mental health programs counselling services to train teachers to identify and support students experiencing psychological distress and help them cope with the trauma and stress caused by terrorism.

Keywords: Terrorism, Female, ordered logistic, Khyber Pakhtunkhwa, Pakistan.

INTRODUCTION

Terrorism poses a serious threat to educational institutes by targeting them, changing the attitude towards education among people across the world. It has not only disturbed the learning environment by leading to the closure of schools and universities but has also created an environment of fear and distress among students

and educators. Consequently, compromising the welfare of crisis-stricken societies by triggering psychological anguish. Over the last few decades increased number of terrorist attacks around the globe makes terrorism one of the important and recurring topics for debate among scientists (Saebra, 2020). Terrorism is often described as

"the purposeful use of violence or threat of violence against noncombatants by individuals or subnational groups to further their political objectives by terrifying a wider audience than just the victims themselves" (Gaibullov, 2019). According to this definition terrorists use violence as a means of achieving their political goals. They believe that by creating chaos and destruction, they can pressure governments into making concessions that will benefit their cause. The idea is that if the government believes that the cost of resisting terrorist demands is greater than the potential damage caused by future attacks, it will be more likely to give in to these demands. This can lead to compromises that may not have been made otherwise. However, it is important to note that the definition presented by (Gaibullov, 2019) does not condone or justify terrorist actions in any way. Rather, it seeks to explain the motivations behind these actions and how they can impact political decision-making (Sandler and Enders, 2008).

Terrorism in Pakistan

Terrorism occurs in many forms, each with its own set of causes. Terrorist activities happen in both poor and rich countries, regardless of government type. Previous studies indicate that terrorism is caused by a variety of factors (Newman, 2006 and Crenshaw, 2012). Most likely, several factors come together to foster terrorism. Some of these factors include political, economic, and social grievances, as well as religious or ideological extremism. Political instability, poverty, and inequality can also contribute to the rise of terrorism. In addition, the use of violence and intimidation by extremist groups can further fuel feelings of fear and anger, leading to a vicious cycle of violence and retaliation. Terrorism is not restricted to one area of the world. The various terrorist activities carried out by the militants in the last few years in Germany, the USA, Sri Lanka, Spain, the UK, Finland, Tunisia, France, Turkey, Afghanistan, Pakistan, Saudi Arabia, and the list goes on, terrorism has been portrayed as a threat to peaceful areas of the world (Rauf, 2019 and Seabra et al., 2020). The history of terrorism in Pakistan is intertwined with geopolitical dynamics, regional conflicts, and internal factors. While efforts have been made to counter-

terrorism, challenges persist due to a complex web of historical, political, and social factors.

The violent partition of British India in 1947 led to communal tensions and conflicts. The unresolved Kashmir issue became a longstanding point of contention between India and Pakistan, contributing to regional instability. Pakistan played a pivotal role in supporting Afghan Mujahedeen (an Arabic term meaning "those who involve in jihad") against the Soviet invasion. The influx of foreign fighters, weapons, and the establishment of training camps laid the groundwork for the later rise of militant groups. The Taliban's rise in Afghanistan in the 1990s had repercussions for Pakistan. The strict interpretation of Islamic law and the sheltering of international terrorists, including Osama bin Laden, created an environment conducive to extremism.

The end of the Afghan-Soviet War led to the return of Afghan Mujahedeen to Pakistan, some of whom turned to militancy domestically. The porous border facilitated the movement of militants, leading to the formation of various extremist groups. The TTP emerged as an umbrella organization for various militant factions, aiming to establish strict Islamic law in Pakistan. Internal conflicts, including military operations in tribal regions, fueled TTP's insurgency. The tribal areas along the Afghan border, particularly in FATA (Federally Administered Tribal Areas), became safe havens for militants. The difficult terrain and limited government control allowed extremist groups to establish bases and plan attacks. Internal sectarian tensions led to the emergence of groups like Lashkar-e-Jhangvi, which targeted religious minorities. This sectarian violence further contributed to the overall climate of instability and terrorism. Pakistan faced criticism for alleged support to militant groups and concerns over a dual policy of distinguishing between "good" and "bad" terrorists. This contributed to international pressure on Pakistan to take more decisive actions against all forms of terrorism.

Pakistan's alliance with the U.S. in the War on Terror led to increased militant activities. The Lal Masjid siege in 2007 and subsequent military operations like Zarb-e-Azb (2014) aimed to eliminate militant sanctuaries. Since the incident of 9/11, Pakistan played a key role in the War on Terrorism and is the victim of various terrorist

activities. In the past twenty years, the terrorist targeted indiscriminately schools, religious places, markets, and crowded places Rauf (2019: 25). Pakistan is currently facing a war-like situation, with terrorism as the most significant issue. Pakistan stood at 2nd position out of 163 countries on the terrorism index with an overall score of 8.374 (GTI, 2025). According to this report, Pakistan has an increase in death of 45 percent in the year 2024. The total number of incidents that took place in 2024 were 1099 resulting in 1081 fatalities and 1548 injuries (GTI, 2025).

Terrorism in Khyber Pakhtunkhwa

Khyber Pakhtunkhwa, having a common border with Afghanistan remained a focal area during the era of War on Terror. Along the border Pashtuns socioeconomic, cultural and traditional affinity provided a conducive environment for the Taliban, Al Qaeda and other terrorist group or groups to carry out their terrorist activities (Ahmad, 2008). The total number of killing incidence since 2000 are 17574 in which the number of civilians fatalities were 22147, security forces 9501, 35811 terrorists and other were 3212 having a total of 70671 incidences (SATP, 2025). Khyber Pakhtunkhwa, saw the greatest amount of insurgent assaults and the ensuing casualties in 2023. There were 878 attacks by militants in Khyber Pakhtunkhwa, resulting in 4614 fatalities, 5995 security force members, 3619 civilians and 10439 militants and others 1197 (SATP, 2025). Along with human casualties, government infrastructure and buildings have been targeted and destroyed by the terrorists in Khyber Pakhtunkhwa. Aside from this, education, particularly girls' education, remains an outstanding area that has been negatively impacted by terrorism.

Justification of the Study

According to Pakistan's educational statistics, terrorism has had a double negative impact on female education, making it a neglected area of development. The people of Khyber Pakhtunkhwa, province is going through the hardest times of their lives, particularly those living in the turbulent Swat Valley and the lower districts of the province. Their lives are in danger, their homes are being destroyed, their businesses are being damaged, crops destroyed; and their

livestock is being killed. Due to anticipated unrest, educational institutions were instructed to remain closed. Girls' education suffers significantly, and reports of parents pulling their kids out of school—especially girls—highlight the worries of locals. After 2007 takeover of much of the Khyber Pakhtunkhwa Swat Valley, the Taliban launched an aggressive attempt to prevent girls from attending school resulting in 120,000 girl's ceased attending school, and more than 900 girls schools were forced to close, 80 schools were completely destroyed and roughly 8,000 female educators lost their jobs (KPRA, 2022). Many girls never recovered, and even after the Taliban were driven out by the Pakistani army, many never went back to school. In an incident on October 9, 2012 a young girl named Malala Yousazai was shot by the Taliban for daring to speak out for females' education in Swat Valley. She didn't just survive an assassination attempt, but also transformed her pain into a global wide fight for the girls' education and rights. As a result of the emphasis on girl's education in the region, Non-Government Organizations, who were providing financial as well physical support (infrastructure) suffered from the crisis. Terrorism disrupt access to education for females through factors like fear, displacement, and destruction of infrastructure. Girls may face increased societal restrictions, limiting their ability to attend school, exacerbating gender disparities in education and perpetuating long-term social and economic consequences. Keeping in view these factors the current study is designed to analyze people's perception regarding the effect of terrorism on female education in swat district and to examine the relationship between female education and terrorism in Swat valley.

RESEARCH METHODOLOGY

This chapter focuses on the methods of analysis that will help to find out the possible solution for the research questions. The first section of this chapter focuses on the research study area, followed by methods of data collection and analysis.

Universe of the Study

This research study was carried out in district of Swat, Khyber Pakhtunkhwa, which is the most affected area of terrorism. The Swat region,

located in the Khyber Pakhtunkhwa, province of Pakistan, is renowned for its breathtaking natural beauty, rich cultural heritage, and historical significance. Situated in the foothills of the Hindu Kush Mountain range, Swat Valley is characterized by lush green valleys, meandering rivers, and snow-capped peaks. It spans approximately 5,337 square kilometers and is divided into upper and lower Swat. Swat has a storied history dating back to ancient times (Khattak, 2018). The people of Swat are predominantly Pashtuns, with a rich tapestry of

cultural traditions and customs. Despite its natural beauty and cultural significance, Swat has faced challenges in recent years, including security concerns due to militancy and extremism. However, efforts have been made to restore peace and promote tourism in the region, with significant progress being made in recent years. Overall, Swat Valley remains a jewel of Pakistan, offering a blend of natural splendor, cultural heritage, and warm hospitality to visitors from around the globe (Orakzai, 2011).

Map of Swat Region



Source: Government of Khyber Pakhtunkhwa

Sampling Procedure

This research comprises both primary and secondary data, the former will take in data collected from respondents involved in face-to-face interview whereas the later data is collected from official reports and surveys. The selection process encompasses three stages, during the first stage District Swat from Khyber Pakhtunkhwa is selected intentionally, during the second stage, six villages is selected randomly while the last stage is the selection of necessary sample size. A sample size was selected though Yamani (1967) formula as given below:

Sample Size

$$= \frac{N}{1 + N(e)^2} \dots \dots \dots 1$$

Where N represent total households (1260) in the selected six villages and e (0.05) is the possible error term.

From each selected village the number of required sample size was selected through the proportion allocation technique (Gujrati, 2003).

$$n_i = \frac{N_i}{N} n \dots \dots \dots 2$$

Where, n_i is the total number of sampled households from the i th village, i ranges from 1 to n selected villages, n is total sample size, N_i is the total number of households in the i th village and N represents total number of households in the selected village.

Table 1: Sample Size

S. No.	Villages	Total Number of Households	Sample Size
1	Khakhebanda	225	54
2	Totanu Banda	223	53
3	Kuza Banda	262	63
4	Bar Banda	191	46
5	Morjani	174	42
6	Serbala	185	45
	Total	1260	303

Analytical Framework

Data Analysis

The collected data was analyzed through the use of statistical software like Statistical Package for Social Science (SPSS 20).

Ordered Logistic Regression Model

Ordered Logistic Model is an ordinal regression model for ordinal dependent variables, first introduced by Peter McCullagh. It can be

thought of as an extension of the logistic regression model that applies to dichotomous dependent variables, allowing for more than two (ordered) response categories. Following Bratti and Staffolani (2011), the dependent variable (Perception of Effect on Girls Enrollment) was orderly categorized from strongly disagreed (0) to strongly agreed (4) on a likert scale of 5 ordered options, and the following explanatory variables were used in the Ordered Logistic Model.

Table2: Construction of Data for Ordered Logistic Regression Model

Variables		Category	Likert Scale
Dependent Variable	Perception of Effect on Girls Enrollment	Strongly Disagree	0
		Disagree	1
		Don't Know	2
		Agree	3
		Strongly Agree	4
Independent Variables	Institutional Damage	Partially Damaged,	1
		Fully Damaged	2
	Fear of terrorist attack	strongly agree	1
		Agree	2
		Don't know	3
		Disagree	4
	Lack of proper security	Strongly Agree	1
		Agree	2
		Don't know	3
		Strongly Disagree	4
		Disagree	5
	Threats to Female Education	Strongly Agree	1
		Agree	2
		Don't know	3
		Strongly Disagree	4
		Disagree	5
	Instability in community	Yes	1
		No	0

In Ordered Logistic analysis, an underlying score is estimated as a linear function of the independent variables and a set of cut points

(Gujrati, 2003; Gujrati and Porter 2009). The probability of observing outcome i corresponds to the probability that the estimated linear

function, plus random error, is within the range of the cut points estimated for the outcome (Gujarati & Porter, 2009):

$$\Pr(\text{outcome}_j = i) = \Pr(K_{i-1} < x_j\beta + u \leq K_i) \\ \dots\dots\dots 3.4 \\ = (1 / (1 + \exp(-K_i + x_j\beta))) - (1 / (1 + \exp(-K_{i-1} + x_j\beta)))$$

u_j is assumed to be logistically distributed in ordered logit. In either case, we estimate the coefficients β s together with the cut points K_1, K_2, \dots, K_{k-1} , where k is the number of possible outcomes. The model was estimated using maximum likelihood estimation approach.

Brant Test:

One of the assumptions of ordered logistic regression is that the relationship between each pair of outcome group is the same i.e. the distance between three categories of dependent variable (strongly agree, agree, does not know, strongly disagree, disagree) is same. However, researchers believe that these distances may not be equal i.e. the distance between “strongly agreed” and “agreed” may be shorter or longer than the distance between “disagreed” and “strongly disagreed”. This is termed as parallel regression assumption. Brant test will be conducted to test parallel regression assumption (Brant, 1990; Long and Freese, 2014). When the parallel regression assumption for ordered logit model is violated, then multinomial logistic model is used (O’Connell, 2006). The model and test we proposed in this chapter are applied in detail in the next chapter, discussion and analyses.

RESULTS AND DISCUSSION

Estimation of Ordered Logistic Regression Model

Ordered Logistic Model is an ordinal regression model for ordinal dependent variables, first introduced by Peter McCullagh. It can be thought of as an extension of the logistic regression model that applies to dichotomous dependent variables, allowing for more than two (ordered) response categories. Following Bratti and Staffolani (2011), the dependent variable (Perception of Effect on Girls Enrollment) was orderly categorized from strongly disagreed (0) to strongly agreed (4) on a Likert scale of 5 ordered options, and the explanatory variables used in the

Ordered Logistic Model as outlined in table 1 of the methodology section.

The model was estimated using maximum likelihood estimation approach. Results of the estimated ordered logistic regression model is presented in table 3. The model estimates the likelihood of different level of girls’ enrollment in education based on these predictors. The detailed results of the estimated model shows that the number of respondents were 303 in the study area. The likelihood (LR) chi-square having a value of 36.79 with 5 degree of freedom and with the P-values of 0.000 indicates that the model as a whole is significant, meaning that at least one of the independent variables has a significant effect on the girl’s education. The value of the Pseudo R-square (0.0461) suggests 4.5 percent variance in the dependent variable. The loglikelihood value of -389.64 is used to compare the models, having a lower value indicates a better fit.

The coefficients represent the change in the log-odds of being in higher category of girls’ enrollment for a unit increase in the independent variable, keeping the other variables constant. For example, the statistically significant coefficient of institutional damage (-0.731) suggests a one unit increase in the institutional damage decrease the log-odd of girls’ enrollment by 0.732. The odd ratio having values of 0.480 with 95 percent confidence interval suggests that for every one unit increase in the institutional damage, the odds of being in a higher category of girls’ enrollment are reduced by about 51.10 percent (1-0.480). Giduck (2005) also reported that school buildings were easily targeted by terrorists and result in high losses in female education. The results suggests that female education remained at high threat because the terrorists believe that female education is the prime interest of the government policy and educational buildings and structures are the easy target to perpetrate damage to government resources.

The coefficient of fear of terrorist attack having value of -0.286 shows a significant (at 5 percent level) and inverse relation with girls’ enrollment. Which shows that a one unit increase in fear of terrorist attacks decreases the log-odds of girls’ enrollment by 0.286. While the odds ratio suggests that for every one unit increase in fear of terrorist attack, the odds of being in a higher

category of girls' enrollment are reduced by almost 25 percent (1-0.751). Similarly, the coefficient of lack of security having a significant value of -0.251 suggests that a one unit increase in the lack of security to girls' school decrease the log-odds of girls' enrollment by 0.251. Also, it's odd value having value of 0.778 advocates that for each one unit increase in lack of security the odds of being in a higher category of the dependent variable decreases by almost 22.2 percent i.e 1-0.778. These results clearly indicate that more special measures are need in the form of providing vigilant security personnel in the research area that will contribute toward betterment of female education. The results are also supported by Dyball (2007) who also suggested that a decent partnership between the law enforcement agencies and schools are the dire need of time in order to prevent the schools from the terrorist attack.

The statistically significant coefficient value (-0.465) of threats to female education suggests that a one unit increase in threats to female education decrease the log-odd of girls' education enrollment. While its odd ratios suggest that for every one unit increase in threats to female

education, the odd of being in a higher category of girls' enrollment are reduced by 37.5 percent (1-0.625). The table also elaborate the statistically significant values of the Instability in the community having coefficient value of -0.691 suggests that a one unit increase in instability to in the community decrease the log-odd of girls' enrollment by 0.691. The respective odd ratios suggest that for every one unit increase community instability, the odds of being in a higher category of girls' enrollment are reduced by 49 percent (1-0.502).

These findings highlight that Institutional damage, fear of terrorist attacks, threats to female education and instability in the community, all of these independent variables have statistically negative significant effect on girls' enrollment and are the major barriers to girls' education in the study area. These findings are in line with the results of Weil et al., (2007) and Dyball (2007) who reported that deaths and injuries occurred from terrorist attack on communities that create disturbance in the community and need a strong partnership and interaction between local communities and law enforcement agencies for monitoring terrorism.

Table 3: Ordered Logistic Regression Model

Girls Enrollment	Coefficient	Standard Error	Z-Values	P> Z	95% Conf. Interval	
Institutional Damage	-0.731	0.197	-3.71	0.000	-1.121	-0.343
Fear of Terrorist Attack	-0.286	0.133	-2.15	0.031	-0.543	-0.025
Lack of Security	-0.251	0.087	-0.97	0.003	-0.774	-0.07
Threats to Female education	-0.465	0.156	-2.97	0.003	-0.775	-0.16
Instability in the community	-0.691	0.264	-2.6	0.009	-1.21	-0.171

Number of Observation = 303

LR Chi²(5) = 36.79

Prob> Chi² = 0.000

Loglikelihood = - 389.64

Pseudo R² = 0.0461

Cut1 | -1.944 0.506

Cut2 | -1.431 0.492

Cut3 | -0.764 0.478

Cut4 | 0.401 0.463

Marginal Effects for Perception of Effects on Girl's Enrollment

Marginal effects for the logistic regression are used to interpret the impact of a unit change in the independent variable on the probability of outcome, keeping the other independent

variables constant. For this purpose, the marginal effects are expressed in terms of probability changes. Table 4 shows that the coefficient of institutional damage having value of -0.731 with marginal effect values of -0.143 indicated that a unit increase in the institutional damage will

cause 14.3 percent decrease in the probability of girls' enrollment in the study area. Similarly, the marginal effect value (- 0.057) indicates that the probability of girls' enrollment will decrease by 5.7 percent, when the fear of attack increased by one unit, keeping the other independent variables constant. The marginal effect value of 0.048 for lack of security reveals that a one unit increase in lack of security measures decrease the

probability of girls' enrollment by 4.8 percent. Similarly, holding other variables constant, a one unit increase in threats to female education decrease the probability of girls' enrollment by 9.2 percent. The marginal effect (ME) value of - 0.136 reveals that a one unit increase in community instability will decrease the probability of girls' enrollment by 13.6 percent.

Table 4: Marginal Effects for Perception of Effects on Girl's Enrollment

Variables	Coefficient	Odds Ratio	Marginal Effects (Δ Probability)
Institutional Damage	-0.731	0.48	-0.143
Fear of Terrorist Attack	-0.286	0.751	-0.057
Lack of Security	-0.251	0.778	-0.048
Threats to Female education	-0.465	0.625	-0.092
Instability in the community	-0.691	0.502	-0.136

Source: Authors own estimation from survey.

Estimation of Brant Test

In order to assess the proportional odds assumptions of the ordinal logistic regression Brant test was conducted. Table 5 highlights the overall test result was insignificant having Chi²

value of 6.45 with degree of freedom and P values of 8 and 0.597 respectively suggesting that the assumption of parallel regression lines holds for the model.

Table 5: Test for the Overall Parallel Regression Assumption

Test	Chi ²	Df	P-Value
Brant	6.46	8	0.597

Source: Authors own estimation from survey

Table 6 shows the test for the individual variables of parallel regression assumption and suggest that these assumptions was not violated for any of the independent variables. The result suggests that the effect of these independent variables on effects on girls' enrollment are consistent across all the level of consequence, supporting the use of the ordered logistic regression model. Institutional damage having Chi² value of 3.22 with a P-value of 0.202 indicating that the effect of institutional damage on girls' enrollment is consistent across all the level of outcome and the

proportional odds assumption was not violated. Similarly, the fear of terrorist attack, lack of security, threats to female educational and instability in the community all of the independent variables having Chi² value of 1.88, 2.57, 2.35 and 1.79 with P-values 0.387, 0.279, 0.311 and 0.411 respectively suggests that the proportional odds assumption is not violated and suggests that these independent variables have significant effect on the perception of effect on girls enrollment in the study area.

Table 6: Test for the Individual Variables of Parallel Regression Assumption

Variables	Chi-Square	Df	P-Value
Institutional Damage	3.22	2	0.202
Fear of Terrorist Attack	1.88	2	0.387
Lack of Security	2.57	2	0.279
Threats to Female education	2.35	2	0.311
Instability in the community	1.79	2	0.411

Source: Authors own estimation from survey

Conclusion and Recommendations

The study demonstrates the profound and multifaced impact of terrorism on female education in the research area. Its emphases on the interplay between socioeconomic variables, institutional vulnerabilities and community perception. Results of the ordered logistic regression model, confirmed that fear of terrorist attack, lack of security, institutional damage, threats to girls' education and instability in the community are noteworthy barriers to female education in the study area. Results of the marginal effects for the logistic regression indicate the change in the probability of girls' enrollment is associated with a one unit increase in each independent variable, holding other independent variables constant. The largest negative effect observed for the institutional damage having values of 14.3 percent indicate the probability of girls' enrollment followed by community instability associated with a 13.6 percent decrease in the probability of girls' enrollment. While, threats to female education reveal a decrease in the probability of girls' decrease by 9.2 percent. Lack of security and fear of terrorist attack have the smallest effect, with marginal effect of -4.8 and -5.7 percent respectively. Based on the findings of this study it is recommended that in order to deter terrorists attack and ensure the safety of students, teachers and staff, establishment of strong partnership among the law enforcement agencies, school administration and community needs to be developed for effective security protocols. Foster social cohesion and community led initiatives like engagements of local leaders, religious figures to counter extremist ideologies and build reliance against terrorism. Provide mental health programs counselling services to train teachers to identify and support students experiencing psychological distress and help them cope with the trauma and stress caused by terrorism and establishment of monitoring and evaluation systems to ensure the safety and functionality of school in high-risk areas. Ensuring timely response to security threats.

REFERENCES

- Aadil, M., & Ahmad, J. (2019). Impact of militancy on female dropout in conflict areas of Pakistan: A study of selected secondary schools in District Swat. *Putaj Humanities & Social Sciences*, 26(2), 1-54.
- Adorno, T. W., Frenkel-Brunswik, E., & Levinson, D. J. (1993). *The authoritarian personality*. Norton.
- Ahmad, J. (2016). A shifting enemy: Analysing the BBC's representations of "al-Qaeda" in the aftermath of the September 11th 2001 attacks. *Critical Studies on Terrorism*, 9(3), 433-454. <https://doi.org/10.1080/17539153.2016.1219486>
- Ahmad, S. (2012). *The Taliban and girls' education in Pakistan and Afghanistan: A case study of the Swat District* [Unpublished Thesis].
- Ahmed, K. (2008). Insurgency in tribal areas of Pakistan. *South Asian Journal*, 23(4), 7-17.
- Ahmed, L., & Ali, K. (1992). Women and the rise of Islam. In *Women and gender in Islam: Historical roots of a modern debate* (pp. 1-63). Yale University Press. <https://doi.org/10.2307/j.ctv1g2495f.8>
- Ali, S. (2010). Radicalization in post-9/11 Pakistan: A socio-political analysis. *Conflict and Terrorism Studies*, 33(2), 45-67.
- Aly, A., Taylor, E., & Karnovsky, S. (2014). Moral disengagement and building resilience to violent extremism: An education intervention. *Studies in Conflict & Terrorism*, 37(4), 369-385.
- Bhatia, M. V. (2005). Fighting words: Naming terrorists, bandits, rebels and other violent actors. *Third World Quarterly*, 26(1), 5-22.
- Bonanate, L. (1979). Terrorism and international political analysis. *Studies in Conflict & Terrorism*, 3(1-2), 47-67.
- Borgatti, S. P., Everett, M. G., & Johnson, J. C. (2018). *Analyzing social networks*. SAGE Publications.

- Brant, R. (1990). Assessing proportionality in the proportional odds model for ordinal logistic regression. *Biometrics*, 46(4), 1171-1178. <https://doi.org/10.2307/2532457>
- Bratti, M., & Staffolani, S. (2011). A microeconomic analysis of female labour force participation in Italy. In *Non-standard employment and quality of work: The case of Italy* (pp. 25-37). Physica-Verlag HD.
- Breuer, J., & Elson, M. (2017). *Frustration-aggression theory*. Wiley Blackwell, 1-12.
- Brown, L. (2018). Education as a target: The impact of terrorism on girls' schooling. *Journal of Global Security Studies*, 3(2), 145-160. <https://doi.org/10.1093/jogss/ogy012>
- Chitrali, J. A., Ahmad, I., Hussain, A., Nabahat, S., & Jan, F. (2013). Terrorism and its effect on education and universalization of primary education in Pakistan. *JL & Soc'y*, 44, 125.
- Coady, C. A. J. (2004). Defining terrorism. In I. Primoratz (Ed.), *Terrorism* (pp. 3-14). Palgrave Macmillan. https://doi.org/10.1057/9780230204546_1
- Çınar, B. (2009). The root causes of terrorism. *ODTÜ Gelişme Dergisi*, 36(1), 93-119. <http://www2.feas.metu.edu.tr/metusd/ojs/index.php/metusd/article/view/230>
- Crenshaw, M. (2012). The causes of terrorism. In *Terrorism studies: A reader* (pp. 99-114). Routledge.
- Dolnik, A. (2006). *Tactical and technological innovation in terrorist campaigns* [Doctoral dissertation, University of Melbourne].
- Dorn, C. (2006). *School bus insurgency: A practical analysis with implications for America's schools*. Safe Havens International. <http://www.safehavensinternational.org/schoolBusInsurgency.php>
- Doreen, M. A. (2021). *Statistical methods in terrorism research*. Springer.
- Donno, D. I. (2006). Authoritarianism and female empowerment: What are the linkages? In *Purpose and policy in the global community* (pp. 123-145). Palgrave Macmillan. https://doi.org/10.1007/978-1-137-10058-0_7
- Fischhoff, B., Gonzalez, R. M., Small, D. A., & Lerner, J. S. (2003). Judged terror risk and proximity to the World Trade Center. *Journal of Risk and Uncertainty*, 26(2-3), 137-151.
- Fullerton, C. S., Gifford, R. K., Flynn, B. W., Peterson, K. W., Ahearn, F. M., Donaldson, L. P., & Ursano, R. J. (2009). Disaster medicine & public health preparedness. *Disaster Medicine and Public Health Preparedness*, 3(3), 163-167. <https://doi.org/10.1097/DMP.0b013e3181a9c5b7>
- Global Terrorism Database. (2025). Global Terrorism Database. National Consortium for the Study of Terrorism and Responses to Terrorism. Retrieved April 09, 2025, from <http://www.start.umd.edu/gtd>
- Gaibullov, K., & Sandler, T. (2019). What we have learned about terrorism since 9/11. *Journal of Economic Literature*, 57(2), 275-328. <https://doi.org/10.1257/jel.20181313>
- Ganor, B. (2005). *The counter-terrorism puzzle: A guide for decision makers*. Transaction Publishers.
- Garrison, A. H. (2004). Defining terrorism: Philosophy of the bomb, propaganda by deed and change through fear and violence. *Criminal Justice Studies*, 17(3), 259-279. <https://doi.org/10.1080/1478601042000281105>
- Giduck, J. (2005). *Terror at Beslan: A Russian tragedy with lessons for America's schools*. Archangel Group.
- Gillani, D. (2021). The history of terrorism in Pakistan. In R. English (Ed.), *The Cambridge history of terrorism* (pp. 223-253). Cambridge University Press.
- Gouda, M., & Potrafke, N. (2016). Gender equality in Muslim-majority countries. *Economic Systems*, 40(4), 683-698. <https://doi.org/10.1016/j.ecosys.2016.04.002>

- Gelkopf, M., & Berger, R. (2009). The effectiveness of drama therapy. *Journal of Child Psychology and Psychiatry*, 50(8), 962-971. <https://doi.org/10.1111/j.1469-7610.2009.02070.x>
- Global Partnership for Education. (2020). *Education under attack: Protecting schools and universities from violence and conflict*. Global Partnership for Education.
- Gurr, T. R. (1970). *Why men rebel*. Princeton University Press.
- Gujarati, D. N. (2003). *Basic econometrics* (4th ed.). McGraw-Hill.
- Gujarati, D. N., & Porter, D. C. (2009). *Basic econometrics* (5th ed.). McGraw-Hill.
- Holbrook, D., & Horgan, J. (2019). Terrorism and ideology. *Perspectives on Terrorism*, 13(6), 2-15. <https://doi.org/10.2307/26798840>
- Horgan, J. (2014). *The psychology of terrorism* (2nd ed.). Routledge.
- Huntington, S. P. (1993). The clash of civilizations? *Foreign Affairs*, 72(3), 22-49. <https://doi.org/10.2307/20045621>
- Human Rights Commission of Pakistan. (2015). *Annual report 2015*, 279.
- Human Rights Watch. (2024). *Pakistan: Attacks on schools devastate education* [Report]. <https://www.hrw.org/report/2024/pakistan-attacks-schools-education>
- Hussain, A. (2016). Impact of terrorism on education in Pakistan. *Journal of Professional Research in Social Sciences*, 3(1), 1-30.
- Ide, T. (2020). Teaching terrorism, saving the state? Education and geopolitical imaginations of terrorism in 12 violently challenged states. *Political Geography*, 77, 102125. <https://doi.org/10.1016/j.polgeo.2019.102125>
- Javeid, U., Pratt, S., Li, H., & Zhao, G. (2023). The effect of terrorism on continuing education: Evidence from Pakistan. *Education Economics*, 31(3), 376-396. <https://doi.org/10.1080/09645292.2023.1234567>
- Jones, A. (2019). Terrorism and the targeting of education: A global perspective. *Journal of Conflict Studies*, 40(2), 89-104. <https://doi.org/10.1177/0022343320919098>
- Juergensmeyer, M. (Ed.). (2003). *Global religions: An introduction*. Oxford University Press.
- Kirk, J. (2008). The impact of female teachers on girls' education. *International Journal of Educational Development*, 28(1), 38-44. <https://doi.org/10.1016/j.ijedudev.2007.05.006>
- Khan, F. (2019). Exploring the effect of terrorism on education sector: A case study of Khyber Pakhtunkhwa, Pakistan. *City University Research Journal*, 9(2), 15-37.
- Khan, M., Khan, G., & Muhammad, N. (2022). Barriers to girls' education in Khyber Pakhtunkhwa, Pakistan: A case study of South Waziristan, Tehsil Makeen. *The Discourse*, 8(2), 1-15.
- Khan, S. (2015). Impact of armed conflict on female education in Tehsil Matta, Kabal and Khawaza Khela of District Swat, Pakistan. *International Journal of Humanities and Social Science Invention*, 4(12), 19-31.
- Khattak, S. S. G. (2018). The war on terror is a war on women: The impact of terrorism and counter-terrorism on women's education in Swat, Khyber Pukhtunkhwa (Pakistan). *Journal of International Women's Studies*, 19(6), 157-177.
- Khattak, U. G., & Iqbal, J. (2015). Impact of terrorism on managerial efficiency of heads of secondary schools in Khyber Pakhtunkhwa, Pakistan. *Educational Research and Reviews*, 10(7), 1003-1010. <https://doi.org/10.5897/ERR2015.2204>
- Kohlmann, E. F. (2006). *The Afghan-Bosnian Mujahideen network in Europe* (Report No. 12). Centrum för asymmetrisk hot och terrorismstudier (CATS).
- Krueger, A. B., & Malečková, J. (2003). Education, poverty, and terrorism: Is there a causal connection? *Journal of Economic Perspectives*, 17(4), 119-144. <https://doi.org/10.1257/089533003772034925>

- Kruglanski, A. W., & Fishman, S. (2009). Psychological factors in terrorism and counterterrorism: Individual, group, and organizational levels of analysis. *Social Issues and Policy Review*, 3(1), 1-44. <https://doi.org/10.1111/j.1751-2409.2009.01012.x>
- Kerremans, B. (2016). *Metus Gallicus, tumultus Cimbricus?: The possible promulgation of a tumultus in the Cimbrian War (105-101 BCE)*. *Mnemosyne*, 69(5), 822-841. <https://doi.org/10.1163/1568525X-12342215>
- Ketsemanian, V. (2018). The Hunchakian Revolutionary Party and the assassination attempts against Patriarch Khoren Ashekian and Maksudzade Simon Bey in 1894. *International Journal of Middle East Studies*, 50(4), 735-755. <https://doi.org/10.1017/S0020743818000879>
- Khyber Pakhtunkhwa Rehabilitation Authority [KPRA]. (2022). *Rehabilitating communities affected by terrorism: A framework for sustainable recovery in Khyber Pakhtunkhwa*. KPRA Government Publications.
- Louise, C., Cooper, J., & Lousada, J. (2006). Psychological interventions with survivors of terrorism in Northern Ireland: A review of the literature. *Behavioural and Cognitive Psychotherapy*, 34(3), 353-360.
- Long, J. S., & Freese, J. (2014). *Regression models for categorical dependent variables using Stata* (3rd ed.). Stata Press.
- McCullagh, P. (1980). Regression models for ordinal data. *Journal of the Royal Statistical Society: Series B (Methodological)*, 42(2), 109-142.
- McDermott, R. (2020). The role of gender in political violence. *Current Opinion in Behavioral Sciences*, 34, 1-5. <https://doi.org/10.1016/j.cobeha.2020.01.001>
- Meierrieks, D., & Renner, L. (2023). Islamist terrorism and the status of women. *European Journal of Political Economy*, 78(C), 102364. <https://doi.org/10.1016/j.ejpoleco.2023.102364>
- Muris, P., Mayer, B., Van E., S., & Van D., M. (2008). [Article title]. *Journal of Child & Family Studies*, 17(5), 706-713. <https://doi.org/10.1007/s10826-007-9186-6>
- Muhonza, P. B., Kiriri, P. N., & Njenga, K. M. (2021). Business vision on competitive advantage: A case of firms in the financial services sector in Kenya. *The University Journal*, 3(1), 135-156.
- Nacos, B. L. (2016). *Mass-mediated terrorism: Mainstream and digital media in terrorism and counterterrorism* (3rd ed.). Rowman & Littlefield.
- Nalbandian, L. (1963). *The Armenian revolutionary movement: The development of Armenian political parties through the nineteenth century*. University of California Press.
- Newman, E. (2006). Exploring the "root causes" of terrorism. *Studies in Conflict & Terrorism*, 29(8), 749-772. <https://doi.org/10.1080/10576100600704069>
- O'Connell, A. A. (2006). Logistic regression models for ordinal response variables (pp. 48-54). Sage Publications.
- Obakhedo, N. O., & Igbinovia, M. O. (2020). Terror and terrorism (I): The path of history from Sicarii Zealots to Sons of Liberty. *KIU Journal of Social Sciences*, 6(3), 117-125.
- Orakzai, S. B. (2011). Conflict in the Swat Valley of Pakistan: Pakhtun culture and peacebuilding theory-practice application. *Journal of Peacebuilding & Development*, 6(1), 35-48. <https://www.jstor.org/stable/48603033>
- Piazza, J. A. (2006). Rooted in poverty? Terrorism, poor economic development, and social cleavages. *Terrorism and Political Violence*, 18(1), 159-177. <https://doi.org/10.1080/095465590944578>
- Pilat, J. F. (2009). The causes of terrorism. *Journal of Organisational Transformation & Social Change*, 6(2), 171-182. https://doi.org/10.1386/jots.6.2.171_1

- Pakistan Institute for Conflict and Security Studies. (2023). Report on militants attack [Report].
- Pakistan: Situation report on conflict displacement (2009) (Report No. 12). UN OCHA.
- Primoratz, I. (2002). Michael Walzer's just war theory: Some issues of responsibility. *Ethical Theory and Moral Practice*, 5(2), 221-243. <http://www.jstor.org/stable/27504234>
- Primoratz, I. (2004). Terrorism: The philosophical issues. In *Terrorism: The philosophical issues* (pp. 15-27). Palgrave Macmillan. https://doi.org/10.1057/9780230204546_2
- Rome, S. (2009). The frontier princely states of British India: Swat and the politics of annexation. *Journal of South Asian Studies*, 32(3), 421-439.
- Rauf, S. (2019). Understanding the causes of terrorism in Pakistan. *Stratagem*, 2(2), 1-21.
- Sandler, T., & Enders, W. (2008). Economic consequences of terrorism in developed and developing countries: An overview. In *Terrorism, economic development, and political openness* (pp. 1-43). Cambridge University Press.
- Sandler, T. (2014). The analytical study of terrorism: Taking stock. *Journal of Peace Research*, 51(2), 257-271. <https://doi.org/10.1177/0022343313491277>
- Save the Children. (2018). The hidden impact of terrorism on children's mental health. <https://www.savethechildren.org/reports/hidden-impact-terrorism-childrens-mental-health>
- Said Pace, D. (2021). Probability and non-probability sampling: An entry point for undergraduate researchers. *Journal of Research Methods*, 9(2), 1-15.
- Schuster, M. A., Stein, B. D., Jaycox, L. H., Collins, R. L., Marshall, G. N., Elliott, M. N., Zhou, A. J., Kanouse, D. E., Morrison, J. L., & Berry, S. H. (2001). A national survey of stress reactions after the September 11, 2001, terrorist attacks. *New England Journal of Medicine*, 345(20), 1507-1512.
- Schmid, A. P. (2011). The definition of terrorism. In *The Routledge handbook of terrorism research* (pp. 39-157). Routledge.
- Seabra, C., Reis, P., & Abrantes, J. L. (2020). The influence of terrorism in tourism arrivals: A longitudinal approach in a Mediterranean country. *Annals of Tourism Research*, 80, 102811. <https://doi.org/10.1016/j.annals.2019.102811>
- Simon, J. D., & Benjamin, D. (1997). America and the new terrorism. *Survival*, 39(1), 59-75.
- Singh, R., & Shemyakina, O. N. (2016). Gender-differential effects of terrorism on education: The case of the 1981-1993 Punjab insurgency. *Economics of Education Review*, 54, 185-210. <https://doi.org/10.1016/j.econedurev.2016.02.003>
- Smith, J. (2020). Fear and coercion: The role of terrorism in disrupting education. *International Journal of Educational Development*, 45(3), 123-135. <https://doi.org/10.1016/j.ijedudev.2019.03.005>
- South Asia Terrorism Portal. (2024). Fact sheet: Pakistan - Khyber Pakhtunkhwa. <https://www.satp.org/data-sheet-terrorist-attack/fatalities/pakistan-khyberpakhtunkhwa>
- South Asia Terrorism Portal. (2024). Pakistan country overview. <https://www.satp.org/satporgtp/countries/pakistan>
- United Nations General Assembly & Security Council. (2015). Report of the Secretary-General (A/69/926S/2015/409, para. 242).
- UNESCO. (2017). Education as a tool for preventing violent extremism. UNESCO Publishing.
- UNESCO. (2019). Education under attack: Global report on targeted violence against education. <https://en.unesco.org/gem-report/education-under-attack>
- UNESCO. (2020). Global education monitoring report 2020: Inclusion and education - all means all. <https://en.unesco.org/gem-report/report/2020/inclusion>

- U.S. Department of Justice. (2001). Patterns of global terrorism 2000 (DOJ Publication No. 2001-0449). U.S. Government Printing Office.
- Ullah, K., Jan, A., Rani, M., Ahmad, M., & Khan, I. U. (2021). Factors affecting the female education in the newly merged district Bajaur of Khyber Pakhtunkhwa, Pakistan. *PalArch's Journal of Archaeology of Egypt/Egyptology*, 18(4), 3136-3156.
- Walzer, M. (2002). Five questions about terrorism. *Dissent*, 49(1), 5-16.
- Weine, S. M., Horgan, J., Robertson, C., Loue, S., Mohamed, A., & Noor, S. (2009). Community and family approaches to combating the radicalization and recruitment of Somali-American youth and young adults: A psychosocial perspective. *Dynamics of Asymmetric Conflict*, 2(3), 181-200.
- Weil, J. D., LaFree, G., & Morris, N. A. (2007). Explaining the rise in suicide bombings: Testing the "innovation-diffusion" model. *Terrorism and Political Violence*, 19(4), 545-571.
- Wilkinson, P. (1974). Concepts of terror and terrorism. In *Political terrorism* (pp. 15-27). Palgrave Macmillan. https://doi.org/10.1007/978-1-349-15550-7_1
- World Bank. (2011). World development report 2011. Conflict, security, and development. World Bank Publications.
- World Bank. (2018). World development report 2018: Learning to realize education's promise. <https://www.worldbank.org/en/publication/wdr2018>
- Yamane, T. (1967). *Statistics: An introductory analysis* (2nd ed.). Harper & Row.

