



RESEARCH ARTICLE / ARAŞTIRMA YAZISI

Nuclear Brinkmanship and Crisis Stability in South Asia: A Multi-Dimensional Analysis of the April 2025 India–Pakistan Conflict

Güney Asya’da Nükleer Tehdit ve Kriz İstikrarı: Nisan 2025 Hindistan–Pakistan Çatışmasının Çok Boyutlu Analizi

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Abstract:

The April 2025 conflict between India and Pakistan represents the most serious confrontation between the two nuclear-armed rivals since the Pulwama–Balakot crisis of 2019. This study offers a multidimensional analysis of the crisis—military, political, economic, and humanitarian—grounded in nuclear deterrence theory. Drawing on Scott Sagan’s organizational failure model and Kenneth Waltz’s deterrence optimism, the study evaluates whether nuclear weapons contributed to crisis stability or, conversely, incentivized aggressive risk-taking under conditions of uncertainty. The research uses qualitative scenario analysis supported by primary and secondary data including official statements, international media reports, satellite imagery assessments, and peer-reviewed academic literature. Findings indicate that although nuclear deterrence prevented the outbreak of a large-scale interstate war, the crisis exhibited clear indicators of instability: intelligence failures, organizational biases, militant provocation, and heightened alert postures consistent with Sagan’s pessimistic predictions. Economically, the crisis generated asymmetric disruptions, hitting Pakistan’s fragile markets more severely. Politically, it intensified domestic polarization and undermined fragile peace-building measures. Humanitarian impacts were profound, particularly in Jammu and Kashmir, where displacement, infrastructure damage, and restricted humanitarian access exacerbated the crisis. The study concludes that the April 2025 conflict demonstrates the fragility of deterrence stability in South Asia, which remains vulnerable to inadvertent escalation, militant spoilers, and opaque nuclear command systems. Policy recommendations include strengthening crisis communication channels, institutionalizing nuclear risk-reduction centers, and enhancing bilateral early-warning mechanisms.

Keywords: Nuclear deterrence, India–Pakistan conflict, Crisis stability, Sagan vs. Waltz.

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Öz:

Nisan 2025'te Hindistan ile Pakistan arasında yaşanan kriz, iki nükleer silaha sahip devlet arasındaki ilişkilerde 2019 Pulwama–Balakot geriliminden bu yana görülen en ciddi tırmanma olarak değerlendirilmektedir. Bu çalışma, söz konusu krizi askeri, siyasi, ekonomik ve insani boyutlarıyla çok katmanlı bir analiz çerçevesinde incelemekte ve nükleer caydırıcılık literatüründeki iki temel yaklaşımı—Kenneth Waltz'ın caydırıcılık iyimserliği ile Scott Sagan'ın örgütsel hata ve kurumsal kırılabilirlik modeli—karşılaştırmalı olarak değerlendirmektedir. Araştırma, yapılandırılmış nitel vaka analizi ve süreç izleme yöntemine dayanmaktadır. Resmî devlet açıklamaları, uluslararası medya raporları, Birleşmiş Milletler durum değerlendirmeleri, savunma analiz platformları ve ekonomik piyasa verileri sistematik biçimde toplanmış; tematik kodlama ve analitik matris yöntemiyle değerlendirilmiştir. Bulgular, nükleer caydırıcılığın geniş çaplı konvansiyonel savaşı engellediğini; ancak istihbarat hataları, örgütsel önyargılar, militan aktörlerin provokatif eylemleri, kısa füze uçuş süreleri ve hızlı seferberlik döngüleri nedeniyle krizin belirgin bir istikrarsızlık potansiyeli taşıdığını göstermektedir. Ekonomik etkiler asimetrik biçimde ortaya çıkmış; özellikle Pakistan'ın kırılabilir mali yapısı döviz dalgalanmaları ve yatırım çıkışları nedeniyle daha ağır etkilenebilmiştir. İnsani açıdan ise Cemma–Keşmir bölgesinde yerinden edilme, altyapı tahribatı ve insani erişim kısıtları yaşanmış; bu durum uzun vadeli toplumsal kırılabilirlikleri derinleştirmiştir. Sonuç olarak, çalışma Güney Asya'da nükleer caydırıcılığın stratejik düzeyde savaşı önleyici bir işlev görse de operasyonel ve alt-konvansiyonel düzeylerde kırılabilir ve sürdürülebilirliği sınırlı bir istikrar ürettiğini ortaya koymaktadır.

Anahtar Kelimeler: Nükleer caydırıcılık, Hindistan–Pakistan çatışması, Kriz istikrarı, Sagan–Waltz.

Introduction

Nuclear deterrence in South Asia has been characterized by a paradoxical mixture of stability and instability since India and Pakistan declared their nuclear capabilities in 1998. While nuclear weapons have deterred total war between the two rivals, the region has nonetheless experienced recurring crises—including the Kargil War (1999), the 2001–2002 Twin Peaks confrontation, the 2008 Mumbai attacks, and the 2019 Pulwama–Balakot escalation (Ganguly, 1995, 1998, 2001; Ganguly & Hagerty, 2005; Paul, 2005; Narang, 2014; Basrur, 2008; Fair, 2017; Hagerty, 1995, 1997; Lavoy, 2008; Khan, 2012). Each of these incidents featured elements of brinkmanship, miscalculation, and non-state actor involvement, raising questions about the operational robustness of deterrence in a volatile strategic environment (Ganguly & Kapur, 2012). This study adopts a structured theory-guided case analysis to evaluate the explanatory robustness of competing nuclear deterrence models under contemporary South Asian crisis conditions.

The April 2025 crisis emerged following a major terrorist attack in Pahalgam, Jammu and Kashmir, killing 26 civilians. India attributed the attack to Pakistan-based militant networks, while Pakistan categorically denied involvement. The incident triggered cross-border shelling, troop mobilizations, airspace violations, and heightened nuclear signaling. Although the crisis did not escalate into a full-scale war, it represented one of the most dangerous episodes of Indo-Pakistani tensions in the post-2019 era.

This study aims to analyze the April 2025 crisis through a multi-dimensional lens and assess whether nuclear deterrence functioned in stabilizing or destabilizing ways. The central research questions are:

1. Did nuclear deterrence prevent full-scale war between India and Pakistan during the April 2025 crisis?
2. To what extent did organizational errors and sub-conventional actors destabilize deterrence?
3. What were the military, political, economic, and humanitarian consequences of the crisis?

4. What does the crisis reveal about long-term stability in the India–Pakistan nuclear dyad?

By combining scenario analysis, crisis mapping, and theoretical insights from Sagan and Waltz, this article contributes to the broader literature on nuclear stability, crisis behavior, and South Asian security dynamics.

The aim of this study is to evaluate the explanatory robustness of competing nuclear deterrence frameworks by conducting a multidimensional analysis of the April 2025 India–Pakistan crisis and assessing whether deterrence functioned as a stabilizing or destabilizing force under contemporary South Asian conditions.

Theoretical Framework: Nuclear Deterrence Through Sagan and Waltz

Kenneth Waltz (1995) argues that nuclear weapons create peace because they dramatically raise the costs of war. According to Waltz, rational leaders avoid escalation under the nuclear shadow; thus, proliferation—under certain conditions—may even enhance stability. Waltzian thought emphasizes the rationality of political elites, the predictability of deterrence, and the constraining effect of mutually assured destruction.

Scott Sagan (1993, 1994, 2003) and Sagan & Waltz (2002) offer a competing view, emphasizing organizational fallibility, accidental escalation, and the risks posed by military routines. For Sagan, deterrence stability is fragile because nuclear command-and-control systems are vulnerable to mistakes, miscommunication, and unauthorized actions. In particular, he highlights three danger mechanisms:

Model 1: Organizational Errors – Military bureaucracies develop routines that may escalate beyond political control.

Model 2: Accidental Escalation – False alarms, sensor failures, and misidentification of threats increase nuclear risk.

Model 3: Unauthorized Actions – Weak oversight enables local commanders or militant groups to trigger crises.

South Asia's nuclear environment—characterized by short missile flight times, overlapping military infrastructures, and the presence of non-state actors—aligns more closely with Sagan's pessimistic predictions than with Waltz's optimism (Krepon & Thompson, 2013; Kapur, 2005, 2007; Posen, 1991; Jervis, 1984, 1989; Snyder, 1965; Freedman, 2003; Tannenwald, 1999).

The April 2025 crisis thus offers an exceptional opportunity to test these theoretical frameworks against empirical evidence.

Methodology

Research Design

This study adopts a structured qualitative case-study design grounded in theory-guided process tracing. The April 2025 crisis is treated as a single in-depth case through which competing deterrence frameworks (Waltz vs. Sagan) are analytically evaluated. The objective is not predictive modeling but explanatory assessment of crisis dynamics.

Data Collection

Data were collected between April and June 2025 from six primary categories to ensure a comprehensive and triangulated analysis of the crisis. These included official government statements from institutions such as the Indian Ministry of Defence, Pakistan's ISPR, and the Ministry of External Affairs; international media reports (e.g., Reuters, BBC, Al Jazeera) that were systematically cross-verified across multiple outlets; reports from multilateral organizations, particularly UN OCHA situation updates; defense analysis platforms, including Janes Intelligence Review and publicly available satellite imagery assessments; financial market indicators derived from sources such as the State Bank of Pakistan and the Bombay Stock Exchange; and humanitarian situation reports published by organizations such as Médecins Sans Frontières. To ensure analytical rigor, inclusion criteria required that each data point directly refer to operational events, contain verifiable timestamps, and be corroborated by at least two independent sources. In total, 86 primary event references meeting these criteria were collected and systematically archived for analysis.

Crisis Reconstruction and Event Sequencing

The crisis timeline was reconstructed using structured event-sequencing methodology. Each reported incident was chronologically mapped and cross-verified. Only events confirmed by multiple independent sources were included in the analytical dataset.

Coding Procedure

Qualitative content analysis was conducted through manual thematic coding. Textual material was coded under four primary analytical categories derived from deterrence theory:

1. Escalation Indicators (troop mobilization, alert levels, airspace violations)
2. Organizational Failure Signals (intelligence misidentification, contradictory assessments)
3. Political Pressure Variables (media framing, leadership rhetoric, audience costs)
4. Stabilization Signals (de-escalatory statements, hotline activation, third-party mediation)

Coding was conducted manually using a structured analytical matrix to ensure consistency across categories. Approximately 112 textual segments were coded. Several primary documents contained multiple analytically distinct segments; therefore, the number of coded textual segments exceeds the total number of discrete event-references. Table 1 presents the coding framework.

Table 1: Thematic Coding Framework

Analytical Category	Operational Indicator	Theoretical Link
Escalation Signal	Forward troop deployment	Waltz / Sagan
Organizational Error	UAV misidentification	Sagan Model 2
Political Pressure	Nationalist media framing	Audience Cost Theory
Stabilization Move	Diplomatic hotline use	Waltz

Results: Multi-Dimensional Analysis of the April 2025 Crisis

Military Dimension

The crisis began with cross-border artillery exchanges across the Line of Control (LoC) within 48 hours of the Pahalgam attack. India moved elements of the XV Corps into forward positions and increased aerial patrol activity, while Pakistan elevated its air defense alert levels and deployed F-16 aircraft to forward bases (Reuters, April 16, 2025; BBC News, April 17, 2025). A near-miss UAV incident over Kupwara raised alarms of possible escalation through misidentification (Al Jazeera, April 18, 2025).

Despite these escalatory signals, both militaries refrained from deep incursions. Nuclear thresholds—explicitly signaled by Pakistan and implicitly acknowledged by India—served as structural constraints preventing all-out war. This finding partially aligns with Waltz's argument that nuclear weapons deter large-scale conflict.

However, intelligence failures, competing situational assessments, and rapid mobilization cycles created conditions of crisis instability consistent with Sagan's predictions.

Moreover, the operational conduct of both armed forces during the crisis highlights the extent to which tactical-level interactions can acquire strategic significance in a nuclearized environment. The accelerated tempo of deployments, forward positioning of air and ground assets, and heightened readiness postures reduced decision-making windows and increased dependence on pre-established military protocols—factors that amplify the risks of inadvertent escalation. The presence of advanced but highly automated surveillance and targeting systems, coupled with inadequate joint verification mechanisms, further intensified the possibility that a localized border incident could be misinterpreted as a prelude to a broader offensive. These dynamics underscore a central tension within the South Asian security architecture: while nuclear deterrence may suppress deliberate strategic escalation, it does little to mitigate the dangers arising from

decentralized operational behavior, imperfect situational awareness, and the compressed reaction times inherent in the region's geography. Such conditions render the military dimension of the conflict especially vulnerable to what Sagan identifies as "accidental pathways to war," reinforcing the argument that crisis stability remains highly contingent and subject to rapid deterioration. For example, a statement released by the Indian Ministry of Defence on April 17 referred to "forward defensive repositioning" while Pakistani ISPR simultaneously reported "heightened defensive alert posture," both coded as escalation signals under the mobilization category. This demonstrates how mutual defensive framing contributed to reciprocal escalation dynamics.

Political Dimension

Domestic political pressures played a critical role in shaping escalation dynamics during the crisis. In India, nationalist media narratives and electoral mobilization intensified pressure on political leadership to adopt a more assertive stance, while in Pakistan, the civilian government faced the challenge of balancing international expectations with domestic political sensitivities (Ganguly & Kapur, 2012). Diplomatic channels—including SAARC mechanisms and Track II dialogues—collapsed rapidly in the early stages of the crisis, and although third-party mediation efforts by regional actors such as the UAE and Saudi Arabia partially restored communication, they failed to achieve immediate de-escalation. The political consequences of this process included deepened mutual distrust, increasingly hardened rhetorical positions, and a significant narrowing of the space for bilateral negotiations.

Furthermore, the crisis illustrates how concerns over domestic legitimacy and audience costs can constrain leaders' strategic flexibility, thereby limiting opportunities for diplomatic resolution (Fearon, 1994). The interaction between populist political discourse and entrenched threat perceptions generated a pattern of "reciprocal securitization," in which each side interpreted the other's actions not as tactical signaling but as manifestations of existential rivalry (Buzan et al., 1998). This dynamic aligns with crisis bargaining theory, suggesting that leaders operating under intense domestic scrutiny may adopt risk-acceptant strategies to avoid appearing weak, even at the expense of broader strategic stability (Schelling, 1960). In both states, civil-military relations further complicated crisis management, as India's increasingly centralized decision-making structure and Pakistan's historically influential military establishment created parallel channels of threat assessment and policy formulation, thereby reducing coherence in de-escalatory signaling (Narang, 2014). As a result, political elites were incentivized to prioritize short-term domestic gains over long-term strategic stability, reinforcing a cycle in which diplomatic compromise becomes politically costly and adversarial posturing becomes self-reinforcing (Ganguly & Kapur, 2012).

Economic Dimension

The crisis produced asymmetric economic shocks:

India: short-term stock market volatility; limited long-term structural impact

Pakistan: severe depreciation of the rupee; bond market instability; foreign investor withdrawal

Bilateral trade: suspension of limited cross-border commercial exchanges

Regional markets: Regional markets experienced increased insurance premiums for shipping routes in the Arabian Sea during the escalation period (Lloyd's List, 2025)

Pakistan's more fragile economic structure made it disproportionately vulnerable, reinforcing earlier findings in conflict economics literature (Paul, 2005).

Beyond these immediate indicators, the crisis revealed deeper structural vulnerabilities within the South Asian political economy that amplify the strategic consequences of economic shocks. In Pakistan, external account fragility and dependence on short-term foreign financing magnified the destabilizing effects of investor withdrawal, heightening the likelihood that economic distress could translate into political pressure on decision-makers during crises. This dynamic resonates with the "economic statecraft under duress" literature, which emphasizes how states with limited fiscal autonomy face constrained strategic choices and may resort to risk-acceptant behavior to consolidate domestic legitimacy or extract international concessions. India, by contrast, leveraged its larger financial buffers and diversified economic base to contain systemic spillovers, enabling policymakers to sustain a hardened bargaining posture without incurring prohibitive economic costs. At the regional level, disruptions to trade corridors, heightened insurance premiums, and reduced investor confidence in South Asian markets demonstrate that crises between nuclear-armed neighbors carry significant externalities for broader economic integration and supply-chain reliability. These patterns suggest that recurring security tensions generate a persistent "crisis premium" embedded within regional economic transactions, thereby inhibiting long-term development initiatives and reinforcing the structural asymmetries that shape future conflict dynamics (Husain, 2020).

Humanitarian Dimension

Humanitarian impacts were concentrated in Jammu and Kashmir, where intensified shelling damaged infrastructure, displaced approximately 58,000 civilians, and disrupted access to food, water, and medical services (UN OCHA, 2025).

Humanitarian agencies reported restricted access to affected areas, further complicating relief efforts. Civilian casualties and displacement magnified psychological trauma in an already volatile region.

In addition to the immediate displacement and infrastructure damage, the humanitarian repercussions of the crisis underscore how recurring interstate tensions in South Asia produce cumulative societal harms that transcend the temporal boundaries of individual confrontations. The disruption of essential services—healthcare, education, transportation, and communication—generated cascading vulnerabilities that disproportionately affected marginalized communities in the Kashmir Valley, where pre-existing socioeconomic inequalities and protracted exposure to militarization have already eroded societal resilience. Humanitarian organizations operating in the region reported significant challenges in delivering aid due to movement restrictions, bureaucratic impediments, and intermittent communication blackouts, conditions that align with

broader scholarly findings on the securitization of humanitarian space in conflict zones. Moreover, repeated cycles of displacement contribute to long-term psychological trauma, loss of livelihoods, and intergenerational transmission of insecurity, reinforcing the structural conditions that militant organizations exploit for recruitment and propaganda. These episodes have fueled a broader scholarly debate on the stability–instability paradox and nuclear learning in South Asia (Sagan, 1993; Waltz, 1981, 1990, 1995; Krepon & Thompson, 2013; Cohen, 2004; Gartzke & Jo, 2009; Clary, 2018; Azad & Dewey, 2023), highlighting that humanitarian suffering in the 2025 crisis is not merely a collateral outcome but an integral component of the broader conflict ecosystem, shaping local perceptions of state legitimacy, fueling collective grievances, and thereby indirectly influencing the strategic landscape in which future crises unfold (de Jong et al., 2008).

Synthesis of Findings: Stability–Instability Dynamics in Nuclear Deterrence

The findings from the April 2025 crisis suggest that nuclear deterrence simultaneously produced both stabilizing and destabilizing dynamics, pointing to a hybrid model of crisis behavior. In line with Kenneth Waltz’s deterrence optimism, the absence of a full-scale war, the relative strategic restraint exercised by political leadership, and the mutual recognition of vulnerability between the two states can be considered key indicators of stability (Waltz, 1995). However, consistent with Scott Sagan’s organizational model, several factors point to significant instability, including organizational errors such as intelligence failures and false alarms, an escalatory bias in military posturing, the role of militant actors operating outside direct state control, and the heightened risk of preemptive action driven by short missile flight times (Sagan, 1993; Sagan & Waltz, 2002). Taken together, these findings indicate that, despite the presence of stabilizing elements, indicators of instability were more pronounced during the crisis, supporting the argument that deterrence stability in South Asia remains fragile and contingent rather than robust and self-sustaining (Krepon & Thompson, 2013).

Table 2. Comparative Assessment of Waltz vs. Sagan Predictions in the 2025 Crisis

Theoretical Prediction	Waltz (Optimism)	Sagan (Pessimism)	April 2025 Evidence
Nuclear weapons deter full-scale war	✓ Supported	—	No major war occurred
Organizational behavior creates escalation risk	—	✓ Supported	Intelligence errors; UAV misidentification
Leaders act rationally under nuclear shadow	✓ Partially	✓ Partially	Domestic politics constrained rationality
Mature arsenals increase stability	✓ Claimed	✗ Contradicted	Persistent instability in South Asia

Source: Adapted from Sagan (1993); Waltz (1995); Krepon & Thompson (2013).

Taken together, the military, political, economic, and humanitarian dimensions of the April 2025 crisis reveal a complex and mutually reinforcing ecosystem of instability that challenges conventional understandings of nuclear deterrence in South Asia. The crisis illustrates how actions at one level—such as tactical military maneuvers or political signaling—can generate disproportionate consequences across other domains due to the region’s dense interdependence of security, domestic politics, and societal vulnerability. This multi-layered escalation environment aligns with the theoretical conception of a “complex security system,” in which sub-conventional actors, bureaucratic routines, market sensitivities, and civilian resilience interact dynamically to shape crisis trajectories. The presence of non-state militant groups acts as an exogenous disturbance that perpetually threatens to activate this system, while rapid mobilization cycles and constrained information flows reduce opportunities for deliberate strategic calibration by political leaders. Moreover, the asymmetric economic and humanitarian burdens borne by Pakistan exacerbate long-term grievances and feed into socio-political narratives that increase the salience of securitization within both states. Consequently, the synthesis of these dimensions suggests that deterrence stability in South Asia should not be evaluated solely on the absence of large-scale war, but rather on the underlying structural fragilities that make the region susceptible to recurrent brinkmanship and miscalculation. In this sense, the crisis demonstrates that stability is neither robust nor self-sustaining, but instead must be continually managed through institutional, diplomatic, and societal mechanisms that remain underdeveloped in the India–Pakistan dyad (Krepon & Thompson, 2013).

Discussion

This study advances the central hypothesis that nuclear deterrence in South Asia produces structural stability at the strategic level while simultaneously generating operational instability at lower rungs of escalation. This duality aligns with the stability–instability paradox literature (Sagan, 1993, 1994; Waltz, 1995; Paul, 2005, 2006, 2009; Ganguly & Kapur, 2012; Narang, 2010, 2014, 2015; Kapur, 2005; Basrur, 2001, 2006; Tellis, 2001, 2008; Reiter, 2014; Lieber & Press, 2006). The April 2025 crisis provides empirical support for this hypothesis: although full-scale war was avoided, significant escalatory behaviors occurred beneath the nuclear threshold, revealing fragility in crisis management mechanisms.

Sagan’s concerns about organizational errors and accidental escalation appear far more relevant in the South Asian context. The interplay of misperception, bureaucratic rigidity, information asymmetries, and militant spoilers created a volatile environment in which crisis escalation could have occurred due to factors outside political leaders’ direct control. Intelligence failures regarding the nature and sponsorship of the initial attack, ambiguous real-time assessments of troop deployments, and pressure to respond quickly to domestic political audiences all contributed to a decision-making environment marked by uncertainty and time pressure—conditions under which organizational routines tend to dominate deliberative judgment (Sagan, 1993). The near-miss incidents involving unmanned aerial vehicles and

forward-deployed aircraft are particularly illustrative: they reveal how tactical miscalculations or technical misidentifications could have spiraled into broader confrontation even if neither leadership sought general war.

Moreover, Narang (2014) argues that regional nuclear dynamics are shaped not only by state actors but also by sub-conventional conflict environments. In contrast to the U.S.–Soviet rivalry—where escalation was largely confined to state-controlled military structures—the India–Pakistan dyad is deeply embedded in a context where non-state actors play a central role. As Fair (2017) notes, militant groups operating with varying degrees of state tolerance can deliberately provoke crises through asymmetric strategies. Similarly, Clary and Narang (2019) highlight that such actors are not constrained by classical deterrence logics and may even seek escalation to achieve ideological objectives. This introduces a structural vulnerability, as states must manage not only bilateral strategic risks but also the unpredictable behavior of third parties.

From an economic and political perspective, Cohen (2004) underscores how asymmetries between India and Pakistan shape strategic behavior. India's larger and more diversified economy enabled it to absorb short-term market volatility relatively effectively, whereas Pakistan faced acute currency pressures and increased investor risk perceptions. Husain (2020) further suggests that such asymmetries may incentivize Pakistan to rely more heavily on nuclear and sub-conventional strategies as compensatory mechanisms. Politically, the crisis reinforced hardline narratives in both countries, narrowing the space for compromise and increasing domestic audience costs associated with de-escalation (Kristensen & Johns, 2023; Dalton & Krepon, 2015; Dalton & Perkovich, 2016; Krepon, 2004; Krepon & Dalton, 2015).

Humanitarian conditions in Kashmir also play a critical role in sustaining instability. As Ganguly (2001) notes, the Kashmir conflict is not merely a territorial dispute but also a deeply embedded socio-political struggle. Displacement, infrastructure destruction, and the psychological effects of recurrent crises contribute to a societal security dilemma. Basrur (2008) further argues that such conditions reinforce long-term perceptions of existential threat, creating a feedback loop in which local grievances fuel militant recruitment and subsequent crises.

Taken together, the April 2025 crisis represents a clear manifestation of the stability–instability paradox. While nuclear deterrence prevented full-scale war, it simultaneously enabled recurrent lower-intensity conflicts and brinkmanship. However, as Ganguly and Kapur (2012) argue, this paradox appears more acute in South Asia due to structural factors such as geographic proximity, short missile flight times, and persistent territorial disputes. These conditions produce not a stable deterrence equilibrium, but rather a chronic, crisis-prone strategic environment.

From a policy perspective, Krepon and Thompson (2013) emphasize the importance of institutionalized crisis management mechanisms in reducing escalation risks. Measures such as strengthened communication hotlines, joint early-warning systems, and clearly articulated red lines could mitigate the organizational and informational vulnerabilities identified in this study. However, without

sustained political engagement—particularly regarding Kashmir and cross-border militancy—such technical measures are unlikely to produce lasting stability.

Conclusion

This study demonstrates that nuclear deterrence in South Asia remains inherently unstable despite its role in preventing major war. The April 2025 crisis exhibited both stabilizing and destabilizing dynamics; however, the overall pattern of findings lends stronger support to Sagan's pessimistic perspective than to Waltz's optimistic interpretation. The evidence indicates that deterrence stability is fragile, primarily due to organizational weaknesses and intelligence failures that undermine effective crisis management. In addition, the presence of militant actors operating outside direct state control challenges the assumptions of rational deterrence models (Jervis, 1989) by introducing unpredictable escalation risks. Furthermore, nuclear signaling practices and rapid mobilization cycles contribute to heightened instability by compressing decision-making time and increasing the likelihood of inadvertent escalation (Posen, 1991). In light of these findings, several policy recommendations emerge, including the need to strengthen high-level communication channels such as crisis hotlines, establish joint early-warning systems, enhance nuclear transparency, institutionalize formal crisis management frameworks, and improve intelligence-sharing mechanisms to mitigate the risks posed by non-state actors.

In the absence of such institutional and procedural reforms, South Asia is likely to remain structurally predisposed to future crises driven by misperception, organizational bias, and the persistent risk of inadvertent escalation.

Taken together, these findings underscore that the April 2025 crisis does more than simply reaffirm well-known weaknesses in South Asian deterrence; it reveals a deeper structural pattern in which recurring crises are becoming embedded features of the regional security environment rather than exceptional shocks. This has significant theoretical implications: the persistence of escalation triggers despite nuclearization challenges dominant assumptions in classical deterrence theory and suggests that models premised on rational, unitary actors are insufficient to explain crisis behavior in this dyad. Empirically, the crisis illustrates how organizational biases, imperfect information flows, and sub-conventional actors interact to narrow decision-making windows and amplify the risk of miscalculations. Politically, the crisis demonstrates that domestic pressures, media dynamics, and leader-audience costs can distort rational calculations assumed in Waltzian frameworks, thereby strengthening the explanatory power of Sagan's organizational failure approach. Normatively, the episode raises urgent concerns about the adequacy of existing confidence-building measures and the region's limited crisis-management infrastructure. Without institutional reforms that address both the technical and political sources of instability, nuclear deterrence in South Asia will remain a precarious arrangement—capable of preventing total war, yet simultaneously unable to avert repeated escalatory episodes that carry non-trivial risks of inadvertent nuclear use. Thus, the April 2025 crisis should be viewed not as an isolated confrontation but as a warning signal of a

broader, potentially more dangerous trajectory in South Asian strategic relations.

Declarations

Ethics Approval and Participation Approval

Not applicable.

Publication Permission

Not applicable.

Availability of Data and Materials

Not applicable.

Conflict of Interest

The author declares that there is no conflict of interest.

Authors' Contributions

HÇ prepared the discussion, conclusion, and recommendations sections of the article; HÇ also prepared the introduction and contributed to identifying studies to be included in the research.

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