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**Mixed Messages: Understanding the Strategy of Gray Zone
Competition Through Signaling**

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Abstract: In the wake of Russian aggression in Ukraine and Chinese encroachments in East Asia, conflict that occurs in the “gray zone” between peace and war is increasingly common. Characterized by a high level of ambiguity, gray zone campaigns utilize tactics outside of the conventional military realm to impart gradual changes to the status quo while remaining below the thresholds of overt conflict. While existing research has preliminarily explored the rationale for why states operate in the gray zone, much of the current treatment lacks sufficient explanation for the vast variation in intensity and breadth of gray zone campaigns. Therefore, by presenting a novel theory of how states use the variation inherent within the gray zone to signal, this paper seeks to answer that question. Specifically, the paper presents a model of how the continuum of strategies encompassed within the gray zone allows actors to send targeted signals along a continuum of resolve and restraint; higher intensity tactics that approach the bounded limits of the gray zone signal stronger resolve while lower intensity tactics signal stronger restraint. By carefully modulating the ratio of resolve and restraint signaled, gray zone operator states can impose changes to the status quo while still managing escalation risks. Using a contemporary case study of Chinese gray zone aggression in the Senkaku Islands, the paper provides empirical support for the theory, ultimately demonstrating the important role of signaling considerations in gray zone campaigns. These conclusions have important implications for understanding gray zone conflict and how both academics and policymakers alike should interpret the behavior of states that operate in this realm.

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Introduction

In 1955, then Harvard Professor Henry Kissinger warned against emerging Soviet aggression in “grey areas.” He argued that this type of subtle aggression would undermine the influence of the United States “by gradually eroding the peripheral areas, which will imperceptibly shift the balance of power against us without ever presenting us with a clear-cut challenge.”¹

While the geopolitical landscape has shifted considerably in the six decades since, Kissinger’s Cold War musings have garnered increased relevance in recent years. Beginning in February 2014, the world watched in alarm as unmarked “little green men” swarmed the Crimean Peninsula. Two months later, despite repeated Russian denials of any involvement, the peninsula was securely under Russian control and sections of Eastern Ukraine appeared on the brink of succession.² Across the world in the East Asia, a parallel development has taken place. The “little blue men” of the Chinese maritime militia have repeatedly harassed the vessels of the U.S., the Philippines, Japan, and others. Although seemingly civilian in nature, swarms of militia fishing boats have actively played a role in defending expansionary Chinese maritime claims, even going as far as to ram Vietnamese Coast Guard ships in May 2014.³

When considered with other coercive tactics used in each conflict, both Russia’s aggression in Ukraine and China’s maritime provocations demonstrate an intriguing

¹ Henry A. Kissinger, “Military Policy and Defense of the ‘Grey Areas’” 33 (April 1955): 416–28.

² Andrew Higgins, Michael R. Gordon, and Andrew E. Kramer, “Photos Link Masked Men in East Ukraine to Russia,” *The New York Times*, April 21, 2014, sec. World, <https://www.nytimes.com/2014/04/21/world/europe/photos-link-masked-men-in-east-ukraine-to-russia.html>.

³ Simon Tisdall, “Little Blue Men: The Maritime Militias Pushing China’s Claims,” *The Guardian*, May 16, 2016, sec. World news, <https://www.theguardian.com/world/2016/may/16/little-blue-men-the-maritime-militias-pushing-chinas-claims-in-south-china-sea>; Derek Grossman and Logan Ma, “A Short History of China’s Fishing Militia and What It May Tell Us,” April 6, 2020, <https://www.rand.org/blog/2020/04/a-short-history-of-chinas-fishing-militia-and-what.html>.

phenomenon. Despite the extensive conventional military capabilities of Russia and China (ranking 4th and 2nd in terms of global military expenditures respectively), both states are choosing to challenge the status quo in low intensity and deniable ways.⁴ Observers of these actions have increasingly characterized these states as operating in the “gray zone”, which can be understood as using a range of diplomatic, economic, and military tools to coerce in the “ambiguous no-man’s land between peace and war.”⁵ While the use of the tactics themselves is not novel, their resurgent use by powerful states that possess alternatives is notable. The occurrence goes against the conventional rationalist wisdom that states with immense capabilities should use them to convey the most public and credible forms of resolve available.⁶ Thus, this project first asks the following broader question: Why do states operate in the gray zone?

Key to understanding this broader question is through an assessment of the differing ways that states operate within the gray zone. While seemingly in pursuit of the same goal of reestablishing their sphere of influence, Russian and Chinese gray zone campaigns have varied unpredictably in intensity and scale. Therefore, this paper explores the following second question that has been largely undertheorized by current literature on the gray zone: What explains variation in intensity and breadth of state activity within the gray zone?⁷

⁴ Nan Tian et al., “Trends in World Military Expenditure, 2019” (Stockholm International Peace Research Institute, April 2020), https://www.sipri.org/sites/default/files/2020-04/fs_2020_04_milex_0.pdf.

⁵ Michael J. Mazarr and Douglas C. Lovelace Jr., *Mastering the Gray Zone: Understanding a Changing Era of Conflict*, ed. Strategic Studies Institute and Army War College (Carlisle Barracks, PA: Department of the Army, 2016), 2.

⁶ James D. Fearon, “Signaling Foreign Policy Interests: Tying Hands versus Sinking Costs,” *The Journal of Conflict Resolution* 41, no. 1 (February 1, 1997): 68–90.

⁷ Similar questions explored in the following working paper: J Andres Gannon et al., “The Shadow of Deterrence: Why Capable Actors Engage in Conflict Short of War,” *Working Paper*, January 11, 2021, 1–38.

Building upon the literature of signaling and theorizations of limited war, this paper presents a model of how the continuum of strategies encompassed within the gray zone can allow actors to send targeted signals along a continuum of resolve and restraint. Higher intensity gray zone tactics that approach the bounded limits of the gray zone send stronger signals of resolve while lower intensity tactics send stronger signals of restraint. The balance of these signals enables gray zone operator states to gradually impose changes to the status quo while managing escalation risk and deterring outside intervention.⁸ This theory is empirically tested using a case study of temporal variation in Chinese gray zone strategies. By presenting a model of gray zone conflict that demonstrates the communicative value of the range of tactics and demonstrating how this influences the construction of gray zone strategies, this paper proposes a novel theoretical contribution to the literature surrounding the significant, but murky concept of gray zone conflict.

The rest of this paper follows in six sections. The first section gives a brief overview of the literature on bargaining and the usefulness of signaling. The second section defines the gray zone and elaborates on the tactics used by drawing on the body of existing literature on the topic. The third section theorizes how differing levels of resolve and restraint can be sent in the gray zone and how this shapes gray zone tactic choice. The fourth section outlines a brief methodology and justification for the case study selection. The fifth section employs an in-depth case study of temporal variation in Chinese gray zone strategies in the East China Sea. Finally, the sixth section will conclude with a brief discussion on the applicability of the theory to Russian gray zone operations, and future areas of research.

⁸ In the context of this paper, violations of the status quo primarily refer to changes in long standing territorial or normative precedents.

Literature Review

Bargaining Models and the Basic Logic of Signaling

In the field of international relations, the most widely recognized model of war is the bargaining model. Within this rationalist conception, conflict is an exchange between two actors during which both trade rhetoric and actions to coerce the other.⁹ Ideally, as influentially argued by Fearon, the costly nature of war implies that states should be able to reach bargained solutions that result in better outcomes for both parties; however, due to the private nature or incentives to misrepresent information about resolve, states often find themselves involved in undesirable escalations to war.¹⁰

The concept of signaling has emerged as a solution to the information problems associated with bargaining in conflict. In his work, Schelling describes the act of signaling as a means for parties to overcome coordination and communication problems through the mutual recognition of “some unique signal that coordinates their expectations of each other.”¹¹ In the context of foreign policy, signaling is intended to strategically reveal information about intent, resolve, or capability to another actor with the objective of influencing their decision-making process.¹²

Inherent to signaling is the notion that it must impose some type of cost on the state sending it to be credible to the receiver. Without such costs, the rhetoric or action is simply

⁹ Thomas C. Schelling, *Arms and Influence*, [2008 ed.]. (New Haven: Yale University Press, 1966); James D. Fearon, “Rationalist Explanations for War,” *International Organization* 49, no. 3 (1995): 379–414.

¹⁰ Fearon, “Rationalist Explanations for War.” Fearon’s work also highlights the inability to commit as a second cause of war, however, commitment problems are beyond the primary concern of this paper.

¹¹ Thomas C. Schelling, *The Strategy of Conflict* (Cambridge: Harvard University Press, 1960), 54, <http://pi.lib.uchicago.edu/1001/cat/bib/396641>.

¹² Erik A. Gartzke et al., “Signaling in Foreign Policy,” in *Oxford Research Encyclopedia of Politics*, by Erik A. Gartzke et al. (Oxford University Press, 2017), <https://doi.org/10.1093/acrefore/9780190228637.013.481>.

“cheap talk.”¹³ According to Fearon, using sinking costs, or *ex ante* cost associated with taking an action, is a way to signal credibly.¹⁴ In particular, existing literature highlights how the sinking costs associated with military action can generate greater signals of resolve to pursue in an interest; likewise, weak actions can generate assessments of lack of determination that impact the future credibility of threats.¹⁵ Importantly, in the case of the military action, signaling is inherent to the military action itself. Thus, these actions can serve the dual functions of both achieving an operational goal and communicating intentions during the bargaining process.¹⁶

Based on the conclusions of previous signaling literature, it is clear that the military policies of states can be used to communicate information to an adversary during times of conflict. However, as is evident through the gray zone, states often use sub-military tactics to coerce, calling into question how signaling considerations influence their use. Nevertheless, before exploring this idea in greater depth, the next section of this paper engages the existing literature on the gray zone to define the scope of a murky concept.

Defining the “Gray Zone”

Often defined colloquially as “the space between peace and war”¹⁷, the gray zone concept emerged in the policymaking lexicon in the mid-2010s. Since then, it has become a frequently used term, particularly within the U.S. Department of Defense. In a 2015 speech, when describing the challenges of emerging threats, Deputy Secretary of Defense Bob Work

¹³ Joseph Farrell and Matthew Rabin, “Cheap Talk,” *The Journal of Economic Perspectives* 10, no. 3 (July 1, 1996): 103–18.

¹⁴ Fearon, “Signaling Foreign Policy Interests.”

¹⁵ Charles L. Glaser, “Political Consequences of Military Strategy: Expanding and Refining the Spiral and Deterrence Models,” *World Politics* 44, no. 4 (1992): 499, <https://doi.org/10.2307/2010486>.

¹⁶ This distinction is reinforced by Schelling in Chapter 4, *Arms and Influence*.

¹⁷ George Popp and Sarah Canina, *The Characterization and Conditions of the Gray Zone* (Arlington, VA: Strategic Multi-layer Assessment (SMA), 2016), 2, Strategic Multi-layer Assessment (SMA <https://nsiteam.com/the-characterization-and-conditions-of-the-gray-zone-a-virtual-think-tank-analysis-vitta/>).

referenced “non-linear adversaries” operating in the gray zone as “using agents, paramilitaries, deception, infiltration, and persistent denial to make those avenues of approach very hard to detect.”¹⁸ Likewise, military brass has also embraced the concept; when testifying before the House Armed Services Committee in 2015, U.S. Special Operations Command Commander (USSOCOM) General Joseph L. Votel stated that “Actors taking a ‘gray zone’ approach seek to secure their objectives while minimizing the scope and scale of actual fighting...In this gray zone, we are confronted with ambiguity on the nature of the conflict, the parties involved, and the validity of the legal and political claims at stake.”¹⁹²⁰

Importantly, to observers of international security, many characteristics and tactics of the gray zone are not novel. As exemplified by Kissinger’s analysis in the opening paragraph, actors, both state and nonstate, have long sought to avoid conventional conflict by resorting to gray zone strategies that fall between the “thresholds” that provoke large-scale conventional war.²¹ Given the risks posed by escalation in the nuclear era, states during the Cold War often turned to forms of military engagement that emphasized secrecy to further political goals, such as covert forms of intervention and regime change.²² Beyond military force, the use of propaganda and political warfare to influence has long been a tool of coercive statecraft,

¹⁸ Bob Work, “Deputy Secretary of Defense Speech: Army War College Strategy Conference” (U.S. Army War College, Carlisle, PA, April 8, 2015), <https://www.defense.gov/Newsroom/Speeches/Speech/Article/606661/army-war-college-strategy-conference/>.

¹⁹ Chuck Oldham, “SOCOM: Navigating the Gray Zone,” Defense Media Network, accessed February 21, 2021, <https://www.defensemedianetwork.com/stories/socom-navigating-the-gray-zone/2/>.

²⁰ The concept has gained enough prevalence to facilitate the writing of multiple dedicated strategic “white papers.” See U.S. Army Special Operations Command White Papers entitled “Perceiving Gray Zone Indications,” March 15, 2016, <https://www.soc.mil/Files/PerceivingGrayZoneIndicationsWP.pdf> and “Counter-Unconventional Warfare,” September, 26, 2014, <https://www.soc.mil/Files/Counter-UnconventionalWarfareWP.pdf>

²¹ Schelling, *Arms and Influence*, 135.

²² Austin Carson, *Secret Wars: Covert Conflict in International Politics* (Princeton University Press, 2018), <https://doi.org/10.2307/j.ctv346p45>; Lindsey A. O’Rourke, “The Strategic Logic of Covert Regime Change: US-Backed Regime Change Campaigns during the Cold War,” *Security Studies* 29, no. 1 (January 1, 2020): 92–127, <https://doi.org/10.1080/09636412.2020.1693620>.

exemplified by Soviet active measures campaigns.²³ Following the Cold War, irregular warfare emerged as the playbook of insurgency, with non-state terrorist groups seeking to combat U.S. conventional military strength in unconventional ways.²⁴ Most recently, the concept of hybrid warfare has been discussed as a fusion of conventional military tactics with irregular means in pursuit of an identified political objective.²⁵

Understandably, the wide proliferation of terminology leads to confusion about what constitutes the gray zone, and why it is a useful concept. In accordance with the existing literature, this paper does not contend that the gray zone is independent of other forms of non-military or unconventional military engagement. Nor does it claim that it is a historically novel concept without precedent; as elucidated in the previous paragraph, states have been utilizing gray zone strategies for decades. However, in the 21st century, the use of gray zone strategies as a coordinated suite of action to achieve a political goal is notable, and worthy of exploration in a setting isolated from historical parallels. Thus, within this paper, the gray zone concept encompasses the tactics of hybrid warfare, covert interventions, and irregular warfare while also including a range of lower end tactics of coercion such as economic and information manipulation.²⁶ Likewise, despite the applicability of the gray zone concept throughout history, for the sake of simplicity and timely relevance, discussion of the gray zone concept will be limited to the 21st century.

²³ David V. Goe, Richard Lovering, and Tyler Pachesny, “The Soviet Legacy of Russian Active Measures: New Vodka from Old Stills?,” *International Journal of Intelligence and CounterIntelligence* 33, no. 3 (July 2, 2020): 514–39, <https://doi.org/10.1080/08850607.2020.1725364>.

²⁴ Frank G. Hoffman, “Complex Irregular Warfare: The Next Revolution in Military Affairs,” *Orbis* 50, no. 3 (June 2006): 395–411, <https://doi.org/10.1016/j.orbis.2006.04.002>.

²⁵ Alexander Lanoszka, “Russian Hybrid Warfare and Extended Deterrence in Eastern Europe,” *International Affairs* 92 (January 1, 2016): 175–95, <https://doi.org/10.1111/1468-2346.12509>.

²⁶ Mazarr and Lovelace Jr., *Mastering the Gray Zone*, 43–46.

This paper will focus primarily on state or state-associated actors who operate in the gray zone. Within the current literature, Russia and China are traditionally considered to be the pioneering actors in the gray zone.²⁷ This list sometimes includes Iran and North Korea, both capable but more minor actors.²⁸ While certain aspects of gray zone strategies are undoubtedly present in the unconventional activities of Hezbollah or Hamas, the non-state nature of these groups suggest that these tactics are used in lieu of more conventional tactics out of strict material necessity rather than as a strategic and communicative choice. Therefore, the scope of cases discussed in this paper will be limited to powerful state actors with capable militaries who have instead chosen to operate within the realm of the gray zone.

Importantly, state actors that choose to operate in the gray zone have focused campaigns on achieving the broader goal of reshaping the status quo in a form of limited-aims revisionism.²⁹ This is a significant point because it highlights that increased use of gray zone strategies are in part linked to the current state of the global power distribution. As the current global order shifts away from the unipolar order that has defined most of the last three decades, there is increasing space for security competition that seeks to alter the status-quo. Gray zone strategies provide a manifestation for revisionist intent that does not rise to the level of revolutionary war to eliminate the current international order.³⁰

Three Pillars of Gray Zone Strategies

²⁷ Mazarr and Lovelace Jr., *Mastering the Gray Zone*; Lyle J. Morris et al., “Gaining Competitive Advantage in the Gray Zone: Response Options for Coercive Aggression Below the Threshold of Major War,” June 27, 2019, https://www.rand.org/pubs/research_reports/RR2942.html.

²⁸ Kathleen Hicks, “By Other Means Part I: Campaigning in the Gray Zone” (CSIS, July 8, 2019), <https://www.csis.org/analysis/other-means-part-i-campaigning-gray-zone>.

²⁹ Mazarr and Lovelace Jr., *Mastering the Gray Zone*, 9–25; Popp and Canna, *The Characterization and Conditions of the Gray Zone*. Note: Mazarr uses the term “measured revisionism” rather than “limited-aims.”

³⁰ Henry Kissinger, *A World Restored. [Europe after Napoleon: The Politics of Conservatism in a Revolutionary Age.]* (New York, 1964), 2–3, <http://hdl.handle.net/2027/mdp.39076005395731>.

The first feature of the gray zone concept is the *ambiguity* or *plausible deniability* of states operating in this manner. This is heavily reflected in the range of tactics that are characterized as gray zone operations, which often include the use of unmarked state or state-sponsored proxy forces, information operations (such as forms of propaganda) to obscure the role of state, and cyber operations that are nearly untraceable in origin.³¹ On the lower end of the spectrum, this ambiguity manifests through the use of political or legal maneuvering tactics that obscure coercive motives by providing thinly veiled justifications for actions.³² By operating under the guise of ambiguity or “cloud attribution”,³³ states can maintain a level of deniability on the global stage that allows them to avoid the direct consequences associated with the violation of international norms and law. However, it is important to note that the ambiguous nature of these tactics does not mean that they are not known to the public audiences. In fact, in many of the most recent instances of gray zone tactics use, the association between the gray zone operator state and the activities in question have been widely reported on by the news media.³⁴ In short, ambiguity in the gray zone often serves as a type of shield from accountability rather than a true attempt at secrecy.

The use of ambiguity to avoid attribution by the global community is heavily linked to the second defining feature of gray zone conflict. The desire to keep competition below certain *defined thresholds* that would provoke an outright military response is a strategy echoed in the existing gray zone literature.³⁵ By eschewing more overt forms of warfare, states can

³¹ Hicks, “By Other Means Part I,” 7.

³² Morris et al., “Gaining Competitive Advantage in the Gray Zone,” June 27, 2019, 10.

³³ Popp and Canna, *The Characterization and Conditions of the Gray Zone*, 2.

³⁴ See examples: Higgins, Gordon, and Kramer, “Photos Link Masked Men in East Ukraine to Russia”; Tisdall, “Little Blue Men.”

³⁵ Mazarr and Lovelace Jr., *Mastering the Gray Zone*, 1; Morris et al., “Gaining Competitive Advantage in the Gray Zone,” June 27, 2019, 8–9.

strategically avoid actions that are well known to be triggers of U.S. Military intervention, such as clear violations of state sovereignty or codified international law. As articulated by Green et al., this aspect of the gray zone mirrors Kahn’s concept of escalation dominance. In a state of escalation dominance, one state has “marked advantages in a given region of the escalation ladder.”³⁶ Because the U.S. generally retains escalation dominance at higher levels of conventional conflict, gray zone operator states seek to limit conflict to levels at which are believed to diminish U.S. advantage, thus making the costs of conflict more manageable.^{37,38} This leads to a manifestation of Jervis’ classic stability-instability paradox during which relative stability at the conventional and nuclear levels of conflict leads dissatisfied states to mount challenges within the gray zone.³⁹

Importantly, despite this paper’s emphasis on gray zone conflict as a form of escalatory behavior, it is possible that the introduction of gray zone operations could be viewed as a de-escalation; for example, if two states are in a protracted conventional war, a shift to gray zone operations would be considered a de-escalation in the intensity of the conflict. In short, classifying gray zone operations as escalatory or de-escalatory actions depends on the relative starting baseline. However, because current geopolitical realities, namely, the current possession of escalation dominance in conventional conflict by the U.S., make a conventional war less likely, gray zone operations are more likely to be escalatory actions in relation to the status quo.

³⁶ Herman Kahn, *On Escalation: Metaphors and Scenarios.*, vol. no. 1, Hudson Institute. Series on National Security and International Order, (New York: Praeger, 1965), 290, <http://pi.lib.uchicago.edu/1001/cat/bib/737784>.

³⁷ Michael J. Green et al., *Countering Coercion in Maritime Asia: The Theory and Practice of Gray Zone Deterrence* (CSIS/ Rowman & Littlefield, 2017), 28, <https://www.csis.org/analysis/countering-coercion-maritime-asia>.

³⁸ Importantly, while it is undeniable that gray zone operators do so in part because of U.S. conventional military dominance, the state operators that are the focus of this paper do possess the capacity to wage a conventional war if necessary, unlike nonstate or less capable state actors.

³⁹ Green et al., *Countering Coercion in Maritime Asia: The Theory and Practice of Gray Zone Deterrence*, 29.

Therefore, this paper will focus on situations where the initiation of a gray zone campaign is escalatory behavior.

Finally, *gradualism* is also a defining characteristic of the gray zone.⁴⁰ Rather than choosing to directly challenge the status quo through rapid military action, states engaging in gray zone tactics typically make small incremental gains throughout a larger campaign of action. This is reminiscent of the “salami slicing” strategy first identified by Thomas Schelling. In such “tactics of erosion”, adversaries employ a gradual but persistent escalation of low-level transgressions to test a target’s credibility to commitments while remaining under the threshold of response.⁴¹

Tactics of the Gray Zone

In addition to understanding the conceptual features of the gray zone, the wide variety of tactics that gray zone actors utilize is an important consideration in the broader explanation of why and how states coerce in the gray zone. These tactics reflect the three previously outlined characteristics of the gray zone in that they are nearly all designed to be ambiguous, fall below the thresholds of overt use of force, and be employed in a bundled manner that seeks to gradually impart change through bundled campaigns rather than the immediate imposition of a new status quo.

Based on observations of current examples of gray zone conflict, Mazarr’s comprehensive analysis of gray zone tactics largely groups them into five categories: economic,

⁴⁰ Mazarr and Lovelace Jr., *Mastering the Gray Zone*, 33; Morris et al., “Gaining Competitive Advantage in the Gray Zone,” June 27, 2019, 9.

⁴¹ Schelling, *Arms and Influence*, 66-67.

military/ clandestine, informational, political, and cyber.⁴² While he acknowledges that this is by no means an exhaustive grouping, his categorization is largely echoed by other recent work on the gray zone.⁴³⁴⁴ In order to provide tangible examples of each category, figure one demonstrates examples from recent Russian and Chinese gray zone strategies that fall within each of the five grouping categories.

Grouping	Tactic Examples	Russian Example Case	Chinese Example Case
Economic	Energy coercion, Imposition of targeted sanctions	Russian induced gas-shortages in Ukraine (2006, 2008, 2014) through manipulation of Gazprom ⁴⁵	Restriction on Philippine fruit exports to punish Philippine defiance of Chinese maritime claims ⁴⁶
Military/ Clandestine	Use of unmarked/ proxy forces, intimidation through military exercises	The use of unmarked Russian special forces in Crimea and the Donbas ⁴⁷	Chinese use of maritime militias to intimidate and provoke U.S. Naval warships ⁴⁸
Informational	Intentional spread of disinformation/ propaganda campaigns,	Russian disinformation campaigns targeting the 2019 EU elections ⁴⁹	“Operation Naval Gazing” disinformation campaign to promote pro-China narratives on social media ⁵⁰

⁴² Other categorizations of gray zone tactics can include Space operations and Lawfare, which is defined as “using law as a weapon with a goal of manipulating the law by changing legal paradigms.” For simplicity, in this paper, lawfare is grouped into the political category. For more, see Bachmann and Mosquera, “Lawfare in Hybrid Wars.”

⁴³ Mazarr and Lovelace Jr., *Mastering the Gray Zone*, 59.

⁴⁴ Hicks, “By Other Means Part I.”

⁴⁵ “Russia’s Gas Fight with Ukraine,” *BBC News*, October 31, 2014, sec. Europe, <https://www.bbc.com/news/world-europe-29521564>.

⁴⁶ Andrew Higgins, “In Philippines, Banana Growers Feel Effect of South China Sea Dispute,” *Washington Post*, June 10, 2012, sec. Asia & Pacific, https://www.washingtonpost.com/world/asia_pacific/in-philippines-banana-growers-feel-effect-of-south-china-sea-dispute/2012/06/10/gJQA47WVTV_story.html.

⁴⁷ Higgins, Gordon, and Kramer, “Photos Link Masked Men in East Ukraine to Russia.”

⁴⁸ Tisdall, “Little Blue Men.”

⁴⁹ Michael Birnbaum and Craig Timberg, “E.U.: Russians Interfered in Our Elections, Too,” *Washington Post*, accessed February 25, 2021, <https://www.washingtonpost.com/technology/2019/06/14/eu-russians-interfered-our-elections-too/>.

⁵⁰ “Graphaika Report: Operation Naval Gazing,” accessed February 28, 2021, <https://graphika.com/reports/operation-naval-gazing/>.

Political/ Diplomatic	Support for divisive political factions, manipulation of contested borders	Russian backing of European far-right political parties ⁵¹	Island building in the East and South China Seas to lend credence to disputed border claims ⁵²
Cyber	Aggressive large-scale cyber-attacks, use of cyber espionage against private firms	2007 Russian denial of service cyber-attacks against Estonia ⁵³	2017 cyber espionage against Vietnamese firms in wake of disputed maritime claims ⁵⁴

Figure One

As demonstrated by the examples highlighted in figure one, over the past two decades, Russia and China have used a wide variety of coercive means to exert influence throughout Eastern Europe and South-East Asia, their respective spheres of influence.

Theory

Exemplified above, the range of coercive tools within the gray zone is expansive. Even when bounded by upper thresholds against the use of force, states have a variety of means to accomplish political goals. However, despite the acknowledgement among both policymakers and scholars that future conflict is likely to resemble gray zone operations, little attention has been paid to what and how these types of coercion signal.⁵⁵ Given the importance of signaling

⁵¹ “Why Putin Is Bolstering Europe’s Far-Right Populism,” NBC News, accessed February 25, 2021, <https://www.nbcnews.com/news/world/europe-s-far-right-enjoys-backing-russia-s-putin-n718926>.

⁵² Derek Watkins, “What China Has Been Building in the South China Sea,” *The New York Times*, July 31, 2015, sec. World, <https://www.nytimes.com/interactive/2015/07/30/world/asia/what-china-has-been-building-in-the-south-china-sea.html>, <https://www.nytimes.com/interactive/2015/07/30/world/asia/what-china-has-been-building-in-the-south-china-sea.html>.

⁵³ “Hackers Take Down the Most Wired Country in Europe,” *Wired*, accessed February 25, 2021, <https://www.wired.com/2007/08/ff-estonia/>.

⁵⁴ Jack Loughran, “Chinese Hackers Target Vietnam as South China Sea Dispute Ramps Up,” August 31, 2017, <https://eandt.theiet.org/content/articles/2017/08/chinese-hackers-target-vietnam-as-south-china-sea-dispute-ramps-up/>.

⁵⁵ A notable exception is work by Zhang, which addresses many of the themes covered in this paper on a more limited scale. Ketian Zhang, “Cautious Bully: Reputation, Resolve, and Beijing’s Use of Coercion in the South China Sea,” *International Security* 44, no. 1 (July 1, 2019): 117–59, https://doi.org/10.1162/isec_a_00354.

explanations in understanding how states bargain during crisis, signaling considerations must be included in discussions about why and how states operate in the gray zone. Notably, although ambiguity and deniability are fundamental parts of gray zone operations, this does not preclude them from intelligibly signaling; given the advanced intelligence apparatus of states involved, it is reasonable to expect (and confirmed by the prominence of reports in mass media) that many attempts to mask gray zone operations are merely a façade for the sake of international reputation.⁵⁶ This idea has been confirmed by statements of U.S. officials about intelligence awareness Russian involvement in Ukraine.⁵⁷

In his work, Schelling characterizes limited war as bounded by thresholds by which both states agree to adhere to for the sake of escalation control. These thresholds are important, because the mere decision to abide by or circumvent them can send differing signals about a state's intentions during conflict.⁵⁸ Building upon these theorizations of limited war, Carson's work on the communication issues of escalation control is salient for a broader understanding of communication in the gray zone. To avoid escalation and limit a conflict, he posits that states must send a set of simultaneous signals; the resolve to defend interests and the restraint to remain below thresholds that would begin a spiraled escalation into major war.⁵⁹ Within the context of his research, Carson proposes covert action as a solution to avoid the communicative dilemma of escalation, as it demonstrates the resolve to act but the restraint of doing so in a covert manner. Within the context of the gray zone, a similar dynamic is present. By intentionally choosing to

⁵⁶ See Austin Carson and Keren Yarhi-Milo, "Covert Communication: The Intelligibility and Credibility of Signaling in Secret," *Security Studies* 26, no. 1 (January 2, 2017): 124–56, <https://doi.org/10.1080/09636412.2017.1243921>. For more in-depth discussions on the intelligibility of covert signaling drawn upon for this paper.

⁵⁷ Josh Rogin Lake Eli, "Kerry: U.S. Taped Moscow's Calls to Its Ukraine Spies," *The Daily Beast*, April 29, 2014, sec. world, <https://www.thedailybeast.com/articles/2014/04/29/kerry-u-s-taped-moscow-s-calls-to-its-ukraine-spies>.

⁵⁸ Schelling, *Arms and Influence*, 135–37.

⁵⁹ Carson, *Secret Wars*, 58–59.

use gray zone strategies that are bounded by thresholds, a state is signaling restraint regarding its revisionist intentions. However, by choosing to employ non-traditional coercive means, a state is signaling resolve about its willingness to challenge the status quo.

Beyond the scope of Carson's theorization, this paper proposes that the range of variation of strategies within the gray zone can best be understood through the lens of signaling resolve and restraint. By modulating the intensity of a particular gray zone campaign, a state can signal varying levels of resolve and restraint on a flexible continuum, allowing for greater control over the types of targeted signals sent. Given that a fundamental goal of states operating in the gray zone is to remain below the threshold of overt military response, this flexible means of signaling enables states to be uniquely communicative about their level of resolve towards a particular region or issue.

While existing gray zone literature has made some attempt to categorize specific gray zone tactics by level of intensity, there has been little consideration of how the cumulative effect of multiple seemingly less intense types of tactics should be considered. Likewise, none of the existing literature has explicitly theorized how differences in gray zone strategies can communicate a different message. Therefore, the primary contribution of this paper is the disaggregation of gray zone strategies into a continuum that demonstrates how gray zone campaigns are constructed to convey differing levels of resolve and restraint. The basic continuum is demonstrated below in figure two.

Gray Zone Strategy Continuum

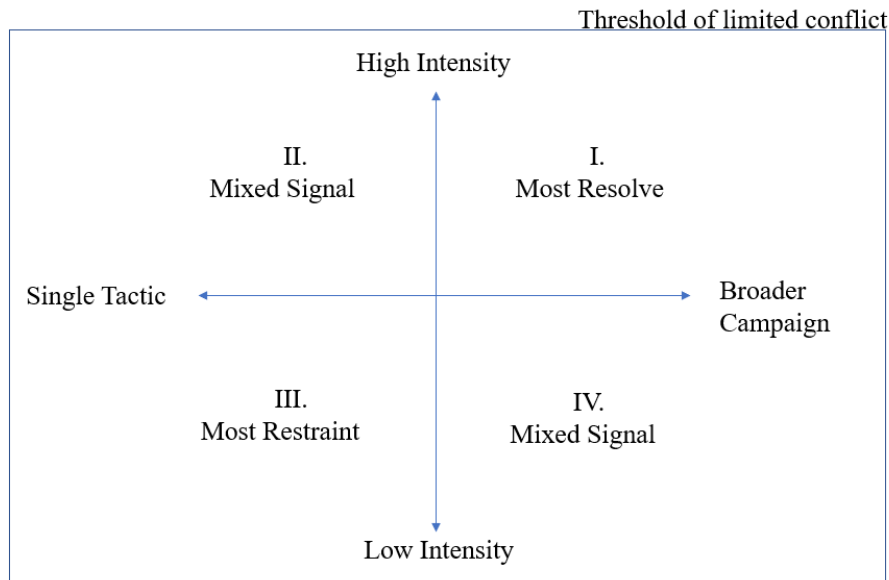


Figure Two

In the above graphic, the gray zone strategies of states can be categorized based on two axes: the relative intensity of specific tactics chosen and the extent to which a state employs a targeted gray zone tactic or a broader campaign encompassing multiple coercive means. In terms of tactic intensity, this paper posits that tactics that approach thresholds on the use of force and the violation of sovereignty should be considered “higher intensity”. Rather than ranking intensity by category of tactic (economic, cyber, etc.), this paper provides a more accurate conception of variation within each category of tactic.⁶⁰ As tactics approach a level of higher intensity, this paper holds that those tactics convey greater resolve of the state to advance its interests. The second axis addresses the need to consider variation in the breadth of gray zone

⁶⁰ For example, information operations that employ propaganda as a legitimization strategy should be viewed as less intense than information operations that approach the violation of sovereignty threshold by attempting to influence internal elections.

strategies. Generally, this paper makes the claim that gray zone strategies that incorporate more fronts of coercion will communicate greater resolve than those that incorporate less.⁶¹

In accordance with the literature, this paper defines resolve as a state's willingness to stand firm on an issue, particularly during a crisis.⁶² While observers use a combination of indicators to assess a state's resolve, forms of costly signaling have long been theorized to play an important role in these assessments.⁶³ Likewise, restraint is defined as a state's willingness to refrain from acting despite having sufficient capacity to do so. Importantly, signals of restraint are only costly if the sender state reasonably has a credible capability to act. As traced out by Kydd in his theory of costly signals of reassurance, observers will attribute restraint to signals if "they are so costly that one would hesitate to send them if one were untrustworthy" meaning that the signal sender is taking a sufficient risk for peace.⁶⁴

Therefore, based on this paper's conceptualization of the gray zone, states that employ strategies that fit into quadrant I, or strategies that integrate high intensity tactics and broader campaign of coercion, convey the highest resolve. Conversely, states that employ strategies that fit into quadrant III, or strategies that integrate low intensity tactics with more limited forms coercion, convey the highest restraint.

⁶¹ For example, a gray zone campaign that utilizes information operations, economic coercion, and cyber operations will communicate more resolve than a campaign that only utilizes one or two of the three.

⁶² Joshua D. Kertzer, *Resolve in International Politics*, 1st ed. (Princeton University Press, 2016), 3, <https://doi.org/10.23943/princeton/9780691171609.001.0001>; Joshua D Kertzer, Jonathan Renshon, and Keren Yarhi-Milo, "How Do Observers Assess Resolve?," *British Journal of Political Science* 51, no. 1 (January 2021): 308–30, <https://doi.org/10.1017/S0007123418000595>.

⁶³ For more discussion of hypotheses on how observers assess resolve through capabilities, interests, leader characteristics, past actions, and current actions, see Kertzer, Renshon, and Yarhi-Milo, "How Do Observers Assess Resolve?," 311.

⁶⁴ Andrew Kydd, "Trust, Reassurance, and Cooperation," *International Organization (00208183)* 54, no. 2 (Spring 2000): 326, <https://doi.org/10.1162/002081800551190>.

While the preceding theory has focused almost entirely on the signal sender, a brief discussion regarding the signal receiver is also warranted. As established by previous work, states are reasonably adept at discerning signals from tactical changes. In their work, Carson and Yarhi-Milo demonstrate how robust intelligence apparatuses of the modern era enabled states during the Cold War to both detect and interpret signals from covert action.⁶⁵ In particular, mutually recognized “focal points and salient thresholds” enabled the formation of a “basic communicative grammar” that ensured reasonably sophisticated signaling through covert action.⁶⁶

During gray zone operations, given that the target state has access to a developed intelligence apparatus, it is fair to assume that a similar communicative grammar exists. The signal receiver state (the target of the gray zone operations) should be able to both detect gray zone operations as signals and interpret gradations as qualitative differences in the strength of signals or resolve or restraint, as proposed by the gray zone continuum. Importantly, this paper is not proposing that all gray zone operations are intended to signal or will be interpreted as signals. It is merely advancing a logic for how gray zone operations can be used as a flexible signaling tool by states, shedding light on a possible reason for their resurgent use.

The Manipulation of Escalation Risks

The disaggregation of gray zone strategies presented in the previous section presents a clear logic for how states can build these strategies to convey differing levels of resolve and restraint. However, more discussion is warranted on the mechanism that links gray zone strategies and the types of signals sent.

⁶⁵ Carson and Yarhi-Milo, “Covert Communication.”

⁶⁶ Carson and Yarhi-Milo, 130–31.

On the continuum outlined in the previous section, each axis broadly represents a type of escalation within the larger bounds of gray zone conflict. The vertical axis, labeled intensity, demonstrates a type of vertical escalation; during vertical escalation in this sense, the tactic used grows more intense as the state willingly approaches established red lines that gray zone strategies are designed to remain under. The horizontal axis, which considers the overall breadth of a gray zone operation, demonstrates a type of horizontal escalation. As a gray zone operator state chooses to expand gray zone activities into the economic, political, or cyber realm, the breadth of the conflict escalates through the employment of coercive measures in different realms.⁶⁷

As initially distinguished by Kahn and later expounded upon by Schelling, escalation (whether horizontal or vertical) can be used as a coercive communication tool.⁶⁸ The decision to escalate in any conflict is generally seen as a stronger signal of resolve. However, in a limited conflict setting, the communicative impact of the decision to escalate is particularly salient. In his work, Schelling details how states can manipulate the risk of escalation in such a way that their adversary will ultimately concede. In essence, because states engaged in limited conflict generally want it to remain limited, threatening escalation or undertaking behavior that is perceived as raising the risk of escalation can convey the seriousness of a state's resolve.⁶⁹ Termed "suggestive escalation" by Morgan et al., this type of escalation is utilized primarily for signaling rather than operational benefits; it "communicate(s) to the opponent that costly

⁶⁷ Forrest E. Morgan et al., "Dangerous Thresholds: Managing Escalation in the 21st Century," July 8, 2008, 18–19, <https://www.rand.org/pubs/monographs/MG614.html>.

⁶⁸ Kahn, *On Escalation*, no. 1:3–4; Schelling, *Arms and Influence*.

⁶⁹ Schelling, *Arms and Influence*, Chapter 3.

escalation will occur in the future in response to the potential behavior to be deterred or in the event that the adversary does not comply with certain demands.”⁷⁰⁷¹

For the gray zone operator state, escalation is both a risk that must be constantly managed and a strategic tool to be utilized.⁷² As outlined in earlier discussion on gray zone conflict, gray zone operator states employ these strategies to avoid triggering known thresholds that would escalate conflict into the conventional realm of U.S. escalation dominance. Therefore, an overall goal of gray zone operators is the avoidance of escalation to a level of conflict dominated by the U.S. and allies. However, in accordance with Shelling, by adopting gray zone strategies that increasingly approach those thresholds, the gray zone operator can appear more willing to incur additional escalation risks, conveying more resolve. Given the reasonable assumption that both regional adversaries who are often the target of gray zone strategies and strategic adversaries like the U.S. are eager to avoid escalation, conveying this resolve can be a useful coercive tactic that allows gray zone operators to gradually alter the current status quo.⁷³

Likewise, consciously choosing gray zone strategies that shy away from these thresholds (particularly when previous provocations approached them) can convey stronger levels of restraint. An observable decision to de-escalate serves as a form “costly reassurance” to an adversary regarding the limited aims of the state, which in turn will dissuade adversaries from feeling obligated to take action to correct gradual status quo adjustments.⁷⁴ Thus, to summarize, the primary causal mechanism that links the intensity of a gray zone campaign and the strength

⁷⁰ Morgan et al., “Dangerous Thresholds,” 31.

⁷¹ The other type of escalation, “instrumental escalation”, would be utilized primarily for the operational gain rather than communicative value.

⁷² For more general discussion on the dual nature of escalation as both a tool and a problem, see Morgan et al., “Dangerous Thresholds,” 9.

⁷³ The mutual desire to avoid escalation is an assumption grounded in recent work on the gray zone. See Gannon et al., “The Shadow of Deterrence: Why Capable Actors Engage in Conflict Short of War.”

⁷⁴ Schelling, *Arms and Influence*, 135–37; Kydd, “Trust, Reassurance, and Cooperation.”

of a credible signal of resolve or restraint is the manipulation of escalation risks by the gray zone operator state.

Conditions for Signals of Resolve or Restraint

While not the primary goal of this paper, a brief discussion on when gray zone operator states seek to send stronger signals of resolve or restraint is useful for a contextualization of how the flexibility of the variation inherent within gray zone is strategically useful for states. This helps answer the broader question of why states operate in the gray zone.

As stated earlier, state send signals to influence the decision-making processes of adversaries. Signals of resolve about an issue can typically function in two ways; they can deter an adversary from taking an action or they can compel an adversary to do something. While deterrence involves a type of passive threat, compellence necessitates action, which imposes a certain amount of pressure until the adversary responds in the desired manner.⁷⁵ Importantly, compellence need not be initiated with an overt attack. A strategy of “imposed pressure” during which continuous signals of resolve are sent until the adversary concedes is a way in which signals of resolve can compel an adversary.⁷⁶

When considering the type of revisionist state that engages in gray zone conflict, the desired outcome of compellence becomes clearer. Signals of resolve are intended to compel the adversary to accept changes to the status quo. Likewise, in line with Zhang’s perspective, the successful compellence of one adversary can deter others by establishing a “reputation for resolve.” If a state is facing repeated security encroachments, it will have a greater desire to

⁷⁵ Schelling, *Arms and Influence*, 69–73.

⁷⁶ Dan Altman, “Advancing without Attacking: The Strategic Game around the Use of Force,” *Security Studies* 27, no. 1 (January 2, 2018): 68–69, <https://doi.org/10.1080/09636412.2017.1360074>.

bolster this reputation to deter future challengers.⁷⁷ Therefore, sending signals of resolve regarding the status quo can serve the dual function of both changing the status quo and deterring future challenges, both of which will benefit the revisionist state.

However, the decision to make unilateral changes to the status quo can undoubtedly have consequences. Regardless of what the revisionist state claims its limited intentions are, the hegemon and other aligned states may perceive the state as a reckless revolutionary that will continue to threaten hegemonic influence in the area. While a revisionist state will typically send stronger signals of resolve in situations where it has a vested interest, these signals could be moderated in situations where the hegemon or aligned states have signaled a willingness to defend the status quo. By consciously choosing not to pursue an interest with the full capability available to it, a revisionist state can send a signal of restraint that is equally communicative, deterring costly interventions that could otherwise end any gradual attempts to shift the status quo.

Hypotheses

Based on the above discussion, this paper posits several hypotheses that are tested using an in-depth case study in the following section. Primarily, as theorized in the previous discussion, despite the ambiguous and deniable nature of gray zone conflict, these strategies are largely attributable to a specific state actor. Thus, in line with previous work on the ability of covert activities to be received as intelligible signals, this paper first hypothesizes that gray zone operations have a signaling value, and that these signals are properly attributed to the gray zone

⁷⁷ Zhang, "Cautious Bully."

operator state.⁷⁸ This is essential, as signals must be received to serve their communicative purpose.⁷⁹

H1: Adversaries will interpret and properly attribute gray zone operations as signals of a gray zone operator state's intentions.

Beyond the establishment that gray zone operations have a signaling component, this paper also presents the general logic for a theory of how differences in gray zone operations can communicate different messages. Specifically, the previously discussed gray zone continuum demonstrates how shifts in both the intensity and breadth of a gray zone operator's strategy lead to discernable differences in the signaled level of resolve and restraint. This leads to the following series of hypotheses:

H2: The location on the gray zone continuum determines the resolve/restraint ratio of the signal.

H2a. The higher in intensity the tactic is on the gray zone continuum, the more resolved and less restrained is the signal sent to the adversary and other observers.

H2b. The lower in intensity the tactic is on the gray zone continuum, the less resolved and more restrained is the signal sent to the adversary and other observers.

Finally, the last hypothesis reflects the proposed mechanism linking the nature of the gray zone strategy employed and the level of resolve or restraint interpreted by the signal receiver. As emphasized in previous discussion, as a gray zone operator approaches the established thresholds that bound gray zone conflict, this should signal a significant escalation and thus demonstrate a willingness to incur greater escalation risks. Accordingly, this acceptance of risk signals greater resolve. Therefore, when looking at the stated intent of a signal sender or interpretation by a

⁷⁸ Carson and Yarhi-Milo, "Covert Communication."

⁷⁹ In-Koo Cho and David M. Kreps, "Signaling Games and Stable Equilibria," *Quarterly Journal of Economics* 102, no. 2 (May 1987): 179–221.

signal receiver, an acknowledgement of the apparent shift in the risk of escalation should be present when discussing signals.

H3: Significant vertical or horizontal escalation (de-escalation) of gray zone operations should credibly signal resolve (restraint) due to the inherent escalation risks in a limited conflict.

Methodology

The series of hypotheses presented above elucidates gray zone conflict in a novel way by employing the use of bargaining theories of war and strategic signaling to shed new light on the communicative value of different gray zone strategies. Collectively, the three hypotheses establish that gray zone tactics have a signaling value and present the logic for how the construction of gray zone strategies can signal differing levels of resolve and restraint. Thus, the dependent variable of the project is the targeted signal sent by the gray zone operator state. The possible values of the dependent variable are represented by the gray zone continuum presented earlier; these values can range from a signal of pure restraint at one extreme to a signal of pure resolve at the other.

Empirically, this paper tests its claims by using a qualitative case study analysis of Chinese gray zone operations in the Senkaku Islands between 2010 and 2014. To test the theory that different gray zone strategies convey different messages, the paper uses a case that demonstrates temporal variation in the independent variable, gray zone strategies, across the previous outlined gray zone continuum. In accordance with the theory, initial predictions are made regarding how the specific tactics chosen, and any escalation or de-escalation over the course of the incident, should signal to the adversary. The case then traces out the variation of the gray zone operator's strategy over time and uses evidence of both the signal sender state's

intentions in using the gray zone operation and signal receiver state's interpretation of those operations to evaluate the predictions.

Importantly, Chinese gray zone operations in the Senkakus present a good test case of the theory because they present a case of sufficient and well-documented variation in gray zone strategy along both the horizontal and vertical axes of the continuum presented in the theory section. This allows for a more comprehensive test of the theory than a limited or isolated use of gray zone tactics. Likewise, an assumption can be made that Chinese interests in the Senkakus is relatively constant over the period studied, thus ruling out the possibility that variations in Chinese gray zone operations are attributable to a marked shift in Chinese interests in the islands.

Because the scope of gray zone operations is limited to the last two decades, finding evidence of the interpreted signals of actions can be difficult. Unlike work that examines more historical instances of conflict, U.S. intelligence assessments on most gray zone operations will remain classified for many years.⁸⁰ Therefore, this paper will gather its primary evidence from secondary sources of observation such as media reporting and unclassified third-party assessments of gray zone activities. While not ideal, these sources often contain secondhand accounts of intelligence or other government affiliated party interpretations of actions from which assessments of the resolve or restraint of adversary actions can be inferred.

Chinese Maritime Aggression in the Senkaku Islands 2010-2014

Overview of Chinese Maritime Gray Zone Operations

Within the past decade, territorial competition in the South China and East China Seas has become increasingly commonplace. Bolstered by growing economic and political influence

⁸⁰ See for examples of intelligence report analysis: Carson and Yarhi-Milo, "Covert Communication."

in the region, China has asserted aggressive maritime claims that frequently conflict with those of regional neighbors such as Japan, the Philippines, Vietnam, and others. While regional maritime competition has occurred in the past, Chinese efforts since 2009 have primarily been sub-conventional, focusing on paramilitary, economic, and diplomatic actions to advance territorial claims. All of these tactics are consistent with this paper's definition of gray zone operations.⁸¹ Within Chinese military doctrine, this shift has been echoed in recent years. A 1999 essay entitled "Unrestricted Warfare" is largely seen as the foundational text for Chinese gray zone operations; authored by two Chinese Colonels, the essay describes the melding of peace and wartime, and advocates for increased incorporation of non-military means of coercion in warfare.⁸² Likewise, the concept of "Three Warfares" (public opinion warfare, psychological warfare, and legal warfare) has been featured prominently in PLA doctrine as a means of coercing the adversary into compliance without resorting to the traditional use of force.⁸³

Fundamental to understanding Chinese maritime gray zone efforts is the disaggregation of the three types of Chinese Naval force projection. The most ambiguous of the three is the People's Armed Forces Maritime Militia (PAFMM). Characterized by observers as China's "little blue men", the ties between the paramilitary group and the Chinese state are easily deniable, making it a valuable instrument for Chinese coercion. In the middle are Chinese Maritime Law Enforcement Forces, otherwise referred to as the Chinese Coast Guard (CGC). While these forces can directly be attributed to the Chinese state, the Chinese use of law

⁸¹ Christopher Yung and Patrick McNulty, "An Empirical Analysis of Claimant Tactics in the South China Sea," *Institute for National Strategic Studies Strategic Forum* 289 (August 2015), <https://inss.ndu.edu/Media/News/Article/699439/an-empirical-analysis-of-claimant-tactics-in-the-south-china-sea/>.

⁸² Qiao Liang and Wang Xiangsui, *Unrestricted Warfare* (Beijing: PLA Literature and Arts Publishing House, 1999).

⁸³ Dean Cheng, "Winning Without Fighting: Chinese Public Opinion Warfare and the Need for a Robust American Response," The Heritage Foundation, accessed March 25, 2021, <https://www.heritage.org/asia/report/winning-without-fighting-chinese-public-opinion-warfare-and-the-need-robust-american>.

enforcement forces to enforce territorial claims is itself an attempt to obfuscate the situation, as maritime law enforcement forces are traditionally not instruments of foreign policy. Finally, in more overt provocations, the traditional gray-hull forces of the People's Liberation Army Navy (PLAN) can be used for direct maneuvers and intimidation measures.⁸⁴ However, PLAN ships are rarely directly involved in disputes, choosing instead to remain over the horizon to avoid crossing a "red line" for all sides involved.⁸⁵ These forces are often used in tandem with one another as a means of imposing a layered form of pressure termed a "cabbage strategy" by Chinese Rear Admiral Zhang Zhaozhong.⁸⁶

In the East China Sea, China has used gray zone tactics in its ongoing disputes with Japan over the Senkaku (Diaoyu) Islands.⁸⁷ Claimed historically by both Chinese and Japanese authorities but traditionally governed by Japan, the Senkaku islands are located 200 nautical miles (nm) east of the Chinese mainland and 200 nm southwest of Okinawa.⁸⁸ In addition to their historical significance, the islands are valuable for both security and economic reasons; they are strategically located and would confer the possessor exclusive rights to both the natural resources and exclusive economic zone (EEZ).⁸⁹ Following the formalization of Japanese control of the islands in 1895, the islands were largely a non-issue. However, after a purported massive oil

⁸⁴ Andrew S. Erickson and Ryan D. Martinson, *China's Maritime Gray Zone Operations* (Naval Institute Press, 2019).

⁸⁵ Dr. Michael D. Swaine, "China's Maritime Disputes in the East and South China Seas," § U.S.-China Economic and Security Review Commission (2013), <https://www.uscc.gov/sites/default/files/transcripts/USCC%20Hearing%20Transcript%20-%20April%204%202013.pdf>.

⁸⁶ Bonnie S. Glaser and Matthew P. Funailoe, "South China Sea: Assessing Chinese Paranaul Behavior within the Nine-Dash Line," in *China's Maritime Gray Zone Operations* (Naval Institute Press, 2019), 156–57.

⁸⁷ While the name of the islands is disputed along Sino-Japanese lines, in accordance with the majority of the literature, this paper refers to the islands as the Senkaku Islands.

⁸⁸ Green et al., *Countering Coercion in Maritime Asia: The Theory and Practice of Gray Zone Deterrence*, 67.

⁸⁹ Zhongqi Pan, "Sino-Japanese Dispute over the Diaoyu/Senkaku Islands: The Pending Controversy from the Chinese Perspective," *Journal of Chinese Political Science* 12, no. 1 (March 2007): 71–72, <https://doi.org/10.1007/s11366-007-9002-6>.

reserve was found in the East China Sea in 1969, the islands became a flashpoint for dispute. Since then, Japanese and Chinese authorities have undergone a series of confrontations and rapprochements regarding the status of the islands, culminating with the broader decision to largely “shelve” the dispute as first suggested by Chinese Chairman Deng Xiaoping.⁹⁰⁹¹

Predictions of Signaling Strategy

Beginning in 2010, the Chinese began using gray zone strategies to coerce Japan and assert territorial claims in the Senkakus. Over the next four years, the Chinese have gradually escalated both the intensity and breadth of gray zone strategies, largely in accordance with two major inflection points: the 2010 trawler incident and the 2012 nationalization crisis. Per the predictions of the gray zone continuum and H2a., following each of the inflection points in Chinese gray zone strategy, there should be a discernable shift in strength of Chinese signals of resolve regarding its willingness to assert territorial claims in the East China. Furthermore, because the 2012 nationalization crisis represented a significant gray zone escalation from the 2010 trawler incident, from a comparative perspective, the strategies of the 2012 nationalization crisis should be expected to convey more resolve and less restraint than those of the 2010 incident. This should be reflected in commentary on both China’s intentions in implementing the gray zone escalations and Japanese/ allied reception and interpretation of the shift in gray zone strategy.

However, while each of the inflection points represents an overall escalation of Chinese gray zone strategy, the pattern is by no means linear; within each period of gray zone escalation,

⁹⁰ Green et al., *Countering Coercion in Maritime Asia: The Theory and Practice of Gray Zone Deterrence*, 67–69.

⁹¹ More recently, the Japanese have contested the claim that the issue was “shelved”, stating that Chinese acting dating back to 1992 demonstrate continual efforts to change the status quo. See “Situation of the Senkaku Islands,” Ministry of Foreign Affairs of Japan, accessed March 23, 2021, https://www.mofa.go.jp/a_o/c_m1/senkaku/page1we_000010.html.

there is considerable variation in intensity of gray zone strategy. This overall pattern underpins the structure of the case study and is summarized in figure three. In accordance with H2b., any notable de-escalations (or conspicuous lack of escalation) in either the intensity of breadth of gray zone strategies should signal increased restraint that will be reflected in commentary on both Chinese intentions and Japanese / allied reception and interpretations of the shift in gray zone strategy.

Consistent with H3, in both cases of upward and downward shifts of Chinese gray zone strategy, a consideration of willingness to incur escalation risks should be present in statements regarding the credibility of signals of resolve or restraint. If present, this validates the manipulation of escalation risk as the primary mechanism that links the intensity of a gray zone strategy and the level of resolve conveyed to the adversary.

Evolution of Chinese Gray Zone Strategy 2010-2014

		Date Range	Summary of Gray Zone Strategy
2010 Trawler Incident	Escalation Phase	September 2010- November 2010	<ul style="list-style-type: none"> • Provocation by Chinese Trawler • Chinese Maritime Law Enforcement patrols in contiguous zone of Senkakus • Detainment of Japanese Businessmen • Reported rare earth metals embargo
	De-Escalation Phase	December 2010- June 2012	<ul style="list-style-type: none"> • Decline in Chinese Maritime Law Enforcement patrols • Resumption of rare earth metals shipments • Resumption of diplomatic activities
2012 Senkaku Nationalization Crisis	Escalation Phase	July 2012- Late 2013	<ul style="list-style-type: none"> • Rapid Increase in Chinese Maritime Law Enforcement patrols in both contiguous zone and territorial waters • Establishment of Chinese “baselines” • Military intimidation exercises • Establishment of ADIZ
	De-Escalation Phase	2014	<ul style="list-style-type: none"> • Stabilization of Chinese 3-3-2 patrol pattern • Gradual détente and resumption of diplomatic activities

Figure Three

2010 Trawler Incident: Initial Escalation Phase

On September 7th, 2010, several Chinese trawlers were detected in the territorial waters off the Senkakus by the Japanese Coast Guard, part of a continuing influx of Chinese fishing presence in the area over the past year. The Japanese Coast Guard sent three ships to the area, who responded by using spotlights and loudspeakers to push the Chinese trawlers out of Japanese territorial waters. However, one trawler, Minjinyu 5179, refused to leave, and subsequently rammed one of the Japanese Coast Guard ships in a blatant show of aggression. Following a pursuit and one more collision, the crew and captain were finally intercepted and arrested.⁹² While Japanese authorities initially stated that there was “no evidence” that the fishermen’s aggression was sanctioned by the Chinese, both Japan officials and international observers at the time did note that the incident fit into a larger pattern of recent Chinese aggression towards the status quo.⁹³ Likewise, even if the catalyst incident itself was not state-directed, observers have noted the readiness of Chinese officials to exploit the situation for strategic gain.⁹⁴ If the incident is included as an intentional gray zone tactic, the civilian nature of the trawler and ambiguous nature of Chinese state involvement shy away from direct use of force thresholds, placing the tactic on the lower end of intensity on the gray zone continuum.⁹⁵

Following the initial incident, the diplomatic backlash to the Japanese detainment of the crew was swift. The Chinese deemed the detainment “ridiculous, illegal and invalid” and threatened to take further action should the Japanese continue their “so-called law enforcement

⁹² Green et al., *Countering Coercion in Maritime Asia: The Theory and Practice of Gray Zone Deterrence*, 71–72.

⁹³ “Getting Their Goat,” *The Economist*, September 16, 2010, <https://www.economist.com/asia/2010/09/16/getting-their-goat>; Sheila A. Smith, “Chinese Fishing Boat Sets Off Sino-Japanese Conflict,” Council on Foreign Relations, September 13, 2010, <https://www.cfr.org/blog/chinese-fishing-boat-sets-sino-japanese-conflict>.

⁹⁴ *The 2010 Senkaku Crisis* (NATO Strategic Communications Center for Excellence, n.d.), <https://www.stratcomcoe.org/download/file/fid/80785>.

⁹⁵ Unlike in 2010, in recent years, there have been clear instances of the Chinese mobilization of civilian trawlers as a gray zone tactic. Most notably, in 2016, over 200 trawlers swarmed the Senkakus in a seemingly coordinated incursion.

activities”.⁹⁶ As Japanese authorities began the investigation into the crew and captain, the Chinese abruptly cut off diplomatic negotiations and increased patrols by maritime law enforcement vessels in the contiguous zone of the Senkakus.⁹⁷⁹⁸ While the boat’s crew was released a few days after the initial incident, Japanese authorities continued to detain the captain for further questioning, prompting more outrage and further threats of retaliation by Chinese officials. Spurred on by a significant anti-Japanese information campaign, Chinese domestic protests of Japanese associated sites frequently occurred during the crisis.⁹⁹ While “small and orderly” protests were allowed by the Chinese government, other attempts by nationalist protestors to rent trawlers and sail to the Senkakus were prevented by Chinese authorities.¹⁰⁰

After several days of stalled negotiations between the Chinese and Japanese authorities and the continual holding of the Chinese captain, China expanded gray zone coercion efforts to the diplomatic and economic realms. Four Japanese businessmen were arrested in China on unspecified charges after allegedly entering a military zone.¹⁰¹ Soon after, on September 21st, Japanese businesses reported an apparent Chinese ban on the exportation of rare earth minerals, a vital component for multiple Japanese manufacturing sectors.¹⁰² Despite staunch public statements of denial by the Chinese officials, the embargo was seen by nearly all observers as a

⁹⁶ “Getting Their Goat”; “China Summons Japanese Ambassador on Boat Interception,” *Global Times*, September 8, 2010, <https://www.globaltimes.cn/content/571253.shtml>.

⁹⁷ “Recent Developments in Japan-China Relations: Basic Facts on Senkaku Islands and Recent Incidents” (Ministry of Foreign Affairs of Japan, October 2010), <https://www.mofa.go.jp/region/asia-paci/china/pdfs/facts1010.pdf>.

⁹⁸ Note: Under the UN Convention on the Law of the Sea (UNCLOS), the contiguous zone begins at 12 nm from the coastline. While operations inside the contiguous zone are deemed provocative, they are not considered as aggressive as those inside the 12nm territorial sea zone.

⁹⁹ *The 2010 Senkaku Crisis*, 186.

¹⁰⁰ Green et al., *Countering Coercion in Maritime Asia: The Theory and Practice of Gray Zone Deterrence*, 74–75.

¹⁰¹ Kyung Lah, “China Arrests 4 Japanese against Backdrop of Diplomatic Battle - CNN.Com,” September 24, 2010, <http://www.cnn.com/2010/WORLD/asiapcf/09/24/china.japanese.arrests/index.html>.

¹⁰² Keith Bradsher, “Amid Tension, China Blocks Vital Exports to Japan,” *The New York Times*, September 23, 2010, sec. Business, <https://www.nytimes.com/2010/09/23/business/global/23rare.html>; “Dirty Business,” *The Economist*, September 30, 2010, <https://www.economist.com/international/2010/09/30/dirty-business>.

retaliatory demonstration of Chinese willingness to employ economic coercion to pressure the Japanese to recognize Chinese territorial claims, and a significant escalation of the crisis.¹⁰³ Likewise, as stated in testimony before the U.S.-China Economic and Security Review Commission, despite the Chinese denial of any connection between the ongoing Senkaku dispute and both the detainment of businessmen and the alleged embargo, both “succeeded in conveying China’s resolve and forcing the captain’s release.”¹⁰⁴ Taken in conjunction, both the attribution of the ambiguous actions to the Chinese state and their clear interpretation as signals of Chinese resolve demonstrates the intelligibility of even lower scale gray zone tactics as signals, supporting H1.

Eventually, Japanese authorities released the trawler captain back into Chinese custody, and tensions began to de-escalate. However, in both the Chinese and Japanese media, the crisis was portrayed as a clear victory for the Chinese. The Chinese had successfully changed the status quo by reigniting a long dormant debate about the ownership of the islands and demonstrating that a significant Chinese presence in the islands was possible. The leader of the Japanese opposition party went as far as to call it a “clear diplomatic defeat for Japan”.¹⁰⁵ The month-long crisis represents the first notable introduction of a gray zone strategy into the Senkaku disputes. As observed in a report by the NATO Strategic Communications Center for Excellence, during the crisis “China used a variety of adversarial measures in a skillful and coordinated fashion...

¹⁰³ James Reilly, “China’s Unilateral Sanctions,” *The Washington Quarterly* 35, no. 4 (October 2012): 121–33, <https://doi.org/10.1080/0163660X.2012.726428>; Jeffrey A. Bader, *Obama and China’s Rise: An Insider’s Account of America’s Asia Strategy* (Washington, D.C.: Brookings Institution Press, 2012), 107–8, <http://pi.lib.uchicago.edu/1001/cat/bib/11148109>.

¹⁰⁴ Dr. Jessica Chen Weiss, “Hearing on ‘China’s Maritime Disputes in the East and South China Seas,’” § Testimony before the U.S.-China Economic and Security Review Commission (2013), 5, <https://www.uscc.gov/sites/default/files/Weiss%20Testimony%2C%20April%204%202013.pdf>.

¹⁰⁵ Martin Fackler and Ian Johnson, “Japan Retreats With Release of Chinese Boat Captain,” *The New York Times*, September 24, 2010, sec. World, <https://www.nytimes.com/2010/09/25/world/asia/25chinajapan.html>.

Beijing demonstrated significant political resolve in pursuing a relatively high level of escalation.”¹⁰⁶ This assessment confirms the predictions made in both H2a and H3. The initiation and subsequent broadening of the Chinese gray zone campaign through the addition of political and economic elements ultimately conveyed a higher level of resolve that was credible (and eventually heeded) because of the perceived willingness of the Chinese to incur escalation risk.¹⁰⁷ This high level of resolve resulted in concessions by the Japanese and the forced acknowledgement by the Japanese of a contested status quo in the Senkakus.

De-Escalation Phase

Despite clear Chinese efforts to convey resolve through gray zone escalations, elements of Chinese conduct during and in the aftermath of the crisis signaled notable restraint and a desire to de-escalate, particularly in comparison to future gray zone provocations discussed in the next section. Although the Chinese demonstrated resolve by conducting “law enforcement” missions near the Senkakus in the initial weeks following the crisis, over the course of the next two years, the presence of Chinese vessels gradually declined to sporadic incursions.¹⁰⁸ Additionally, while still provocative, Chinese law enforcement vessels largely remained in the contiguous zone rather than breaching the territorial seas of the Senkakus, a clear geographic

¹⁰⁶ *The 2010 Senkaku Crisis*, 196.

¹⁰⁷ The NATO STRATCOM assessment echoed this assessment with the following “China’s behaviour was characterised by a significant degree of escalation both vertically (the severity of measures) and horizontally (the number and diversity of measures). Beijing’s response included diplomatic sanctions, detention of Japanese nationals and the disruption of REE supplies. By making such a strong political statement, China signalled a willingness to bear the high political costs resulting from the crisis, forcing Tokyo to reconsider whether the potential pay-off was sufficient to outweigh the punishment and/or risk further escalation by applying its own adversarial measures.” *The 2010 Senkaku Crisis*, 184.

¹⁰⁸ “Trends in Chinese Government and Other Vessels in the Waters Surrounding the Senkaku Islands, and Japan’s Response,” Ministry of Foreign Affairs of Japan, accessed March 24, 2021, https://www.mofa.go.jp/region/page23e_000021.html.

threshold.¹⁰⁹¹¹⁰ While the presence of any Chinese incursions is a departure from the pre-2010 status quo of no Chinese presence, the decline of Chinese vessel presence from the height of the crisis and the thawing of the crisis enabled some normalization of Sino-Japanese relations, culminating with the eventual visit of Japanese Prime Minister Noda to Beijing in late 2011.¹¹¹

While not strictly within the realm of gray zone coercion, other documented forms of Chinese crisis signaling strategies corroborate the trend of signaling restraint through gray zone de-escalations. As documented in the work of Jessica Chen Weiss, Chinese officials often modulate domestic protesting to signal intentions during a crisis.¹¹² During the initial stages of the 2010 trawler incident some protesting was allowed, corresponding with increased escalation in gray zone activities. As noted by international observers, given the general lack of tolerance for domestic protesting in China, the mere willingness of Chinese authorities to tolerate limited protesting was likely a calculated move to signal the threat of escalation to the Japanese.¹¹³ However, as the crisis continued to unfold, evidence from Japanese officials indicates that they received credible reassurances from the Chinese government that the protest were being subdued, likely indicating a conscious effort by the Chinese to signal restraint regarding further escalation that could irreparably damage relations between the two countries.¹¹⁴ As stated by the

¹⁰⁹ Adam P. Liff, “China’s Maritime Gray Zone Operations in the East China Sea and Japan’s Response,” in *China’s Maritime Gray Zone Operations* (Naval Institute Press, 2019), 165; *The 2010 Senkaku Crisis*, 186.

¹¹⁰ According to Japanese record keeping of provocations, there were three instances of Chinese incursion into the territorial waters of the Senkakus in 2010 and 2011, negligible when compared to post 2012 incursions. Source: Trends in Chinese Government and Other Vessels in the Waters Surrounding the Senkaku Islands, and Japan’s Response,” Ministry of Foreign Affairs of Japan.

¹¹¹ “China’s and Japan’s Leaders Meet, Signal a Diplomatic Thaw,” *CNN*, October 5, 2010, <http://www.cnn.com/2010/WORLD/asiapcf/10/05/china.japan.relations/index.html>; Michael Wines, “Japanese Leader to Focus on N. Korea During Visit to China,” *The New York Times*, December 25, 2011, sec. World, <https://www.nytimes.com/2011/12/26/world/asia/prime-minister-yoshihiko-noda-of-japan-visits-beijing.html>.

¹¹² For more in depth discussion, see Jessica Chen Weiss, *Powerful Patriots: Nationalist Protest in China’s Foreign Relations* (New York, NY: Oxford University Press, 2014).

¹¹³ *The 2010 Senkaku Crisis*, 185.

¹¹⁴ Green et al., *Countering Coercion in Maritime Asia: The Theory and Practice of Gray Zone Deterrence*, 94.

Japanese Foreign Minister, “Japan received credible assurances through diplomatic channels that the Chinese government was working to cool off these protests as soon as they began cropping up.”¹¹⁵ Notably, the Chinese strategy to de-escalate rather than escalate the crisis through domestic protest is markedly different than their approach to future situations discussed in the following section.

Taken in conjunction, both de-escalations in gray zone maritime activities and the quelling of domestic protests demonstrate a conscious effort to signal restraint on the part of the Chinese. Given the looming alliance between the U.S. and Japan, which was reaffirmed towards the end of the crisis, the demonstration of relative restraint in Chinese gray zone efforts was rational.¹¹⁶ By sending a signal of *measured* resolve, the Chinese were able to coerce the Japanese into a political defeat while remaining restrained enough to exploit the unwillingness of both Japan and the U.S. to engage in any type of military exchange. Thus, when compared to the gray zone campaign discussed in the coming section, the overall nature of China’s 2010 gray zone strategy falls lower on the gray zone continuum; accordingly, it demonstrated more restraint in line with the predictions of H2b.

2012 Senkaku Nationalization Crisis: Escalation Phase

While the status quo regarding Japanese administration of the Senkakus was undeniably altered during the 2010 incident, Chinese gray zone strategies were limited in the two years after. However, following a series of exchanges in 2012, this changed drastically. Beginning in 2012, the Japanese civilian owner of the Senkakus, Kunioki Kurihara, began initial talks with the governor of Tokyo over the nationalization of the islands. Eventually, the Japanese national

¹¹⁵ Weiss, Hearing on “China’s Maritime Disputes in the East and South China Seas,” 8.

¹¹⁶ “Remarks to the Press,” U.S. Department of State, accessed March 26, 2021, //2009-2017.state.gov/r/pa/prs/ps/2010/09/147836.htm.

government became involved, hoping to “quietly nationalize” the islands as a means of deterring future Chinese aggression against the Senkakus.¹¹⁷ However, with the public announcement made on July 7th, 2012, Chinese officials erupted, calling the islands “sacred territory”, and promising to “continue to take necessary measures to firmly uphold its sovereignty over the Diaoyu island and its affiliated islands.”¹¹⁸

The Japanese decision to nationalize the islands largely served as the catalyst for the imposition of a gray zone campaign noted by observers to be significantly more intense than the one following the 2010 trawler incident.¹¹⁹ As noted by Fravel when comparing Chinese efforts, “If China’s response in 2010 can be viewed as an effort by China to signal resolve to defend its weak claim, China’s actions in 2012 represented an effort to improve the strength of China’s claim without crossing the threshold of armed force.”¹²⁰ In addition to general escalations in both the scale and intensity of information operations and diplomatic rhetoric surrounding the crisis, Chinese gray zone strategies in the aftermath of the nationalization escalated on multiple fronts, clearly and intentionally crossing salient thresholds that had previously indicated restraint in the earlier episode. Primarily, 2012 marked the beginning of routine and increasingly professional patrols by Chinese Law Enforcement vessels that have come to form the basis of regular Chinese gray zone operations in the Senkakus.

Beginning after initial reports of Japanese nationalization efforts and escalating severely following the announcement of the official purchase of the islands by the Japanese government, the trend of Chinese vessel incursions tracked by the Japanese government is demonstrated in the

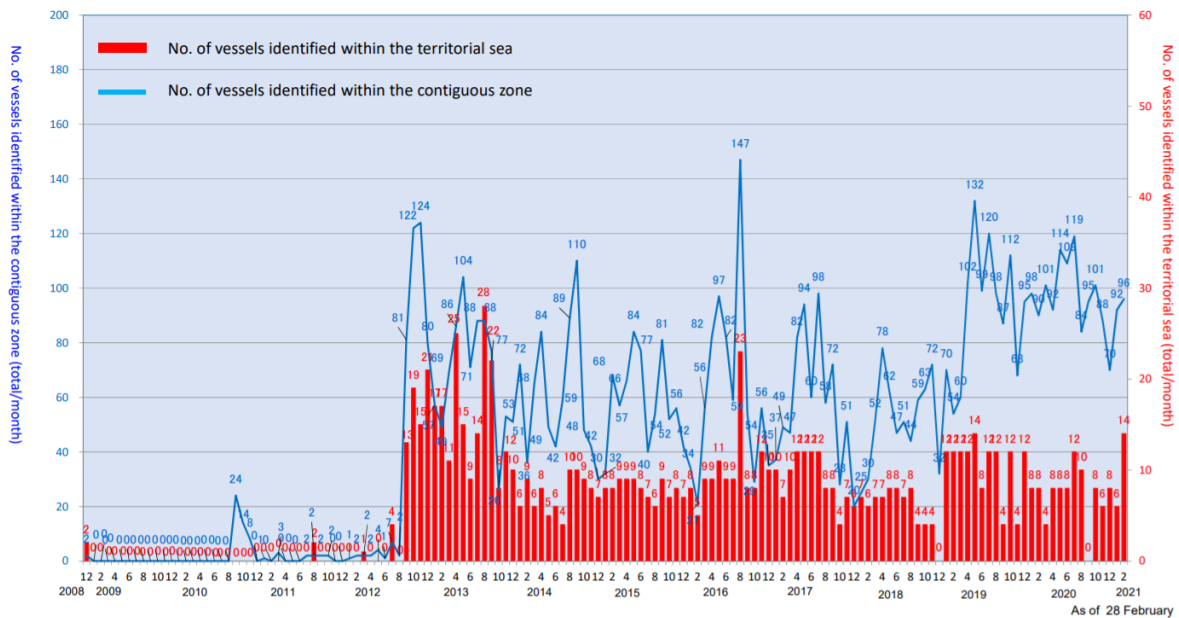
¹¹⁷ Green et al., *Countering Coercion in Maritime Asia: The Theory and Practice of Gray Zone Deterrence*, 128–36.

¹¹⁸ Reuters Staff, “China Dismisses Japan Plan to Buy Disputed Islands,” *Reuters*, July 8, 2012, <https://www.reuters.com/article/us-china-japan-islands-idUSBRE86701A20120708>.

¹¹⁹ *The 2010 Senkaku Crisis*, 205; Liff, “China’s Maritime Gray Zone Operations in the East China Sea and Japan’s Response,” 167.

¹²⁰ M. Taylor Fravel, “Explaining China’s Escalation over the Senkaku (Diaoyu) Islands,” *Global Summitry* 2, no. 1 (June 2016): 30, <https://doi.org/10.1093/global/guw010>.

graph below.¹²¹ Despite early Chinese claims that the vessels were carrying out a “fishery protection mission”, Japanese officials clearly interpreted the move as an act of aggression, summoning the Chinese Ambassador and lodging formal diplomatic complaints.¹²² Notably, these vessels continuously entered the territorial waters of the Senkakus, a significant departure from previous efforts limited primarily to the contiguous zone, and a clear shift in intensity up the gray zone continuum.¹²³ Initial incursions were quickly followed by the September 10th announcement of the establishment of Chinese territorial sea “baselines” around the Senkakus, part of the larger Chinese efforts to display its “strong resolve to uphold state sovereignty and territorial integrity.”¹²⁴



¹²¹ Graph from “Trends in Chinese Government and Other Vessels in the Waters Surrounding the Senkaku Islands, and Japan’s Response.”

¹²² “Japan Protests at Chinese Ships near Disputed Islands,” *BBC News*, July 11, 2012, sec. China, <https://www.bbc.com/news/world-asia-china-18792556>; “MOFA: Mr. Kenichiro Sasae, Vice-Minister for Foreign Affairs, Lodges a Protest against Mr. Cheng Yonghua, Ambassador of the People’s Republic of China to Japan,” Ministry of Foreign Affairs of Japan, accessed March 28, 2021, https://www.mofa.go.jp/announce/announce/2012/7/0711_01.html.

¹²³ M. Taylor Fravel, “China’s Island Strategy: ‘Redefine the Status Quo.’” *The Diplomat*, accessed March 28, 2021, <https://thediplomat.com/2012/11/chinas-island-strategy-redefine-the-status-quo/>.

¹²⁴ “Statement of the Government of the People’s Republic of China on the Baselines of the Territorial Sea of Diaoyu Dao and Its Affiliated Islands” (Ministry of Foreign Affairs of the People’s Republic of China, September 10, 2012), https://www.fmprc.gov.cn/mfa_eng/topics_665678/diaodao_665718/t968769.shtml; “Full Text: Diaoyu Dao, an Inherent Territory of China” (Ministry of Foreign Affairs of the People’s Republic of China, September 26, 2012), https://www.fmprc.gov.cn/mfa_eng/topics_665678/diaodao_665718/t973774.shtml.

Like the escalation in both the increase and nature of Chinese vessel incursions into the waters of the Senkakus, the Chinese tolerance of anti-Japanese protesting in the wake of the nationalization efforts also demonstrates a departure from the strategy following the 2010 crisis. Protest took place in over 200 cities and caused notable destruction to Japanese industrial sites in Chinese provinces.¹²⁵ This protesting was accompanied by a supposedly unofficial boycott of Japanese goods across China. Unlike during the 2010 incident, protesting appeared to be not only allowed, but encouraged by police forces and central government.¹²⁶ In line with the assessment of Weiss, this encouragement of Chinese nationalist movements was another means communicating resolve regarding Chinese claims.¹²⁷ Thus, by modulating domestic nationalist movements, Chinese officials signaled greater resolve than in 2010. This resolve contributed to the eventual recalculation of Japanese willingness to engage over the Senkakus, with Prime Minister Noda admitting that he “miscalculated” the overall scale of Chinese backlash.¹²⁸ As previously discussed, while the modulation of domestic protest to signal resolve is not a gray zone strategy in and of itself, it is consistent with the larger Chinese strategy to signal resolve, thus reinforcing the trend of gray zone signaling through another signaling tool.

Finally, in addition to the significant vertical escalation of gray zone operations by Chinese paramilitary forces, the Chinese gray zone strategy also escalated horizontally through

¹²⁵ Weiss, Hearing on “China’s Maritime Disputes in the East and South China Seas,” 8; Ian Johnson and Thom Shanker, “Beijing Mixes Messages Over Anti-Japan Protests,” *The New York Times*, September 16, 2012, sec. World, <https://www.nytimes.com/2012/09/17/world/asia/anti-japanese-protests-over-disputed-islands-continue-in-china.html>.

¹²⁶ Keith Bradsher, Martin Fackler, and Andrew Jacobs, “Anti-Japan Protests Erupt in China Over Disputed Island,” *The New York Times*, August 19, 2012, sec. World, <https://www.nytimes.com/2012/08/20/world/asia/japanese-activists-display-flag-on-disputed-island.html>; Johnson and Shanker, “Beijing Mixes Messages Over Anti-Japan Protests.”

¹²⁷ Weiss, Hearing on “China’s Maritime Disputes in the East and South China Seas,” 8.

¹²⁸ “Japanese Prime Minister Noda Admits ‘miscalculation’ over Diaoyus,” *South China Morning Post*, September 21, 2012, <https://www.scmp.com/news/china/article/1041878/japanese-prime-minister-noda-admits-miscalculation-over-diaoyus>.

the inclusion of intimidation exercises by conventional Chinese Navy and Airforce units and the establishment of the Air Defense Identification Zone (ADIZ).¹²⁹ On December 13th, 2012, a Chinese plane entered the territorial airspace above the Senkakus, prompting a strong Japanese rebuke. In a position paper on the issue, Japanese officials expressed “deep concern about the escalation of the situation caused unilaterally by China” and stated that “China's intention to topple the status quo concerning Japan's valid control by use of coercion is clear and thorough.”¹³⁰ In a similar manner, the establishment of the ADIZ was received by both Japanese and U.S. officials as a signal of China’s increased willingness to unilaterally change the status quo and risk dangerous escalations resulting from accidents or miscalculations.¹³¹

Considered together, Chinese actions taken in the wake of the 2012 Senkaku nationalization crisis constitute a consistent escalation in the larger Chinese gray zone campaign. Through more intense and regular paramilitary inclusions and the increased involvement of military intimidation exercises, Chinese gray zone strategies increasingly breached Japanese sovereignty and approached salient thresholds on the possible use of force. Consistent with both the gray zone continuum and H2a, this escalation conveyed considerably more resolve than the less intense gray zone strategies in 2010, as echoed in assessments presented at the beginning of the case. Additionally, as demonstrated by both Japanese and U.S. reactions to the imposition of

¹²⁹ Green et al., *Countering Coercion in Maritime Asia: The Theory and Practice of Gray Zone Deterrence*, 143.

¹³⁰ “Position Paper: Japan-China Relations Surrounding the Situation of the Senkaku Islands -In Response to China’s Airspace Incursion-,” Ministry of Foreign Affairs of Japan, accessed March 29, 2021, https://www.mofa.go.jp/region/asia-paci/senkaku/position_paper2_en.html.

¹³¹ Chico Harlan, “China Creates New Air Defense Zone in East China Sea amid Dispute with Japan,” *Washington Post*, November 23, 2013, sec. Asia & Pacific, https://www.washingtonpost.com/world/china-creates-new-air-defense-zone-in-east-china-sea-amid-dispute-with-japan/2013/11/23/c415f1a8-5416-11e3-9ee6-2580086d8254_story.html; “Statement by the Minister for Foreign Affairs on the Announcement on the ‘East China Sea Air Defense Identification Zone’ by the Ministry of National Defense of the People’s Republic of China,” Ministry of Foreign Affairs of Japan, accessed March 28, 2021, https://www.mofa.go.jp/press/release/press4e_000098.html.

the ADIZ and other Chinese actions, the willingness of China to incur additional escalation risk was a key factor in the assessment of credible resolve, corroborating H3.

Given the initial shock with which the Chinese reacted to the Japanese decision to nationalize, it is possible that the increased intensity of gray zone strategies following the nationalization crisis were a response to the perceived failure of actions in 2010 to convey enough resolve to deter future Japanese actions in the islands.¹³² In other maritime disputes, a similar logic of demonstrating resolve to deter future provocations (in both the East and South China Seas) has been articulated by Chinese officials; referencing escalation during the 2012 Scarborough Shoal incident, one Chinese former official stated that the Philippines “had done too much in the past.”¹³³ Likewise, the general necessity of China to “establish resolve” (*li wei*) as a deterrent force is echoed by Chinese policy makers and official Chinese doctrine as a rationale for coercion in the maritime realm.¹³⁴

De-Escalation Phase

In late 2013, relations between Sino-Japanese relations began to thaw following the year and a half long standoff. Correspondingly, Chinese patrols into the territorial waters of the Senkakus began to normalize into a now ubiquitous pattern. Deemed by the Japanese the “3-3-2” pattern, Chinese paramilitary forces adopted a regular schedule of sending three Chinese Coast Guard vessels into Senkaku territorial waters two to three times per month.¹³⁵ For Fravel and Johnston, this relative reduction and stabilization of a regular Chinese patrolling presence in the Senkakus signaled Chinese restraint and a willingness to de-escalate the situation (given no

¹³² Weiss, Hearing on “China’s Maritime Disputes in the East and South China Seas,” 8; Green et al., *Countering Coercion in Maritime Asia: The Theory and Practice of Gray Zone Deterrence*, 147.

¹³³ Drawn from author interview #88 in Zhang, “Cautious Bully,” 150.

¹³⁴ Drawn from author assessment of Chinese military doctrine and author interview #84 Zhang, 138, 150.

¹³⁵ Liff, “China’s Maritime Gray Zone Operations in the East China Sea and Japan’s Response,” 167; Lyle Morris et al., *Gaining Competitive Advantage in the Gray Zone: Response Options for Coercive Aggression Below the Threshold of Major War* (RAND Corporation, 2019), 94, <https://doi.org/10.7249/RR2942>.

further Japanese attempts to reestablish the status quo).¹³⁶ While the authors outline alternative possibilities for the reduction, their primary explanation is that the Chinese shift in behavior “would be consistent with China’s apparent bargaining position that Japanese recognition of a dispute would lead to a de-escalation of Chinese activities around the islands.”¹³⁷ Given the heightened risk of escalation from accidents or misperception, this signal of restraint could have been an important means of reestablishing some aspects of the bilateral relationship and assuring the U.S. that simmering tensions would be kept at bay. Regardless of specific motivations behind the Chinese decision to scale back gray zone activities, the attribution of signals of restraint with this shift supports H2b. Furthermore, the association between the reduction of the gray zone activity and the lessened risk of escalation is cited as a primary reason for inferences of Chinese signals of restraint, supporting H3.

The period of détente did lead to the tenuous reestablishment of diplomatic ties, with Prime Minister Abe and President Xi conducting talks in late 2014.¹³⁸ However, as Fravel and Johnston emphasize, the continual presence of Chinese vessels near the Senkakus served as a continual warning to the Japanese that patrols could surge if the dispute were to intensify again. As seen in later years, this occurred, culminating with a surge of over 200 fishing vessels and multiple Maritime Law Enforcement vessels in late 2016.¹³⁹ While these, and more recent Chinese escalations of their maritime gray zone strategy will not be covered in depth during this case study, they largely mirror the pattern demonstrated from 2010-2014, suggesting that the

¹³⁶ M. Taylor Fravel and Alastair Iain Johnston, “Chinese Signaling in the East China Sea?,” *Washington Post*, sec. Monkey Cage Blog, accessed March 29, 2021, <https://www.washingtonpost.com/news/monkey-cage/wp/2014/04/12/chinese-signaling-in-the-east-china-sea/>.

¹³⁷ Fravel and Johnston.

¹³⁸ Fravel, “Explaining China’s Escalation over the Senkaku (Diaoyu) Islands,” 34.

¹³⁹ Liff, “China’s Maritime Gray Zone Operations in the East China Sea and Japan’s Response,” 163–67.

future of Chinese gray zone operations in the Senkakus will be a series of gradual escalations to maintain a posture of resolve that are tempered by selective demonstrations of restraint.

Discussion and Alternative Explanations

Overall, the temporal variation in Chinese gray zone strategy towards the Senkakus substantiates the hypotheses presented in earlier theory sections. As the intensity and breadth of gray zone strategies increased, stronger signals of resolve were attributed to the Chinese. This was most apparent during the initial escalation of strategy during the 2010 trawler incident and the subsequent escalation following the 2012 Japanese decision to nationalize the islands. Similarly, as the intensity and breadth of gray zone strategies decreased, or was conspicuously moderated, stronger signals of restraint were attributed to the Chinese. This was most apparent when considering the gray zone campaigns of the 2010 trawler incident and the 2012 nationalization crisis from a comparative perspective, and in Chinese behavior in late 2013 to 2014. Importantly, this pattern of Chinese behavior is not isolated to the Senkakus; similar tactics of escalation and de-escalation have been present throughout the South China Sea as well, most notably in the 2012 Scarborough Shoal Incident with the Philippines and in provocations with Vietnam over disputed oil drilling sites.

Although the specific rationale for why the Chinese chose to send stronger signals of resolve or restraint in different situations is not a primary concern of this project, the preliminary findings from this case study support the underlying theory of the paper. The inherent variation present within modes of gray zone operation enabled the Chinese to modulate their strategy to send signals in accordance with desired political goals. For example, when the Japanese decision to nationalize the Senkakus was made public, the Chinese drastically escalated the intensity of their gray zone strategy to convey a higher level of resolve regarding their territorial claims. In

the months following the crisis, the Chinese moderately de-escalated gray zone activities as a means of normalizing relations while still asserting claims about the status quo. Thus, by sending targeted signals through gray zone operations, Chinese decision makers had greater control over the management of escalation, ultimately allowing the pursuit of gradual status-quo changes that would pose too high a risk were more overt or militarized means used. This reading of Chinese behavior generally aligns with the Chinese doctrine of War Control, which emphasizes the importance of political objectives and asserts how the use of force and coercion should be moderated to properly meet these objectives.¹⁴⁰

However, despite the evidence presented for a signaling explanation of the variation in Chinese gray zone activities in the Senkakus, there are plausible alternative explanations for the behavior that merit discussion. Primary amongst these hypotheses is recent work by Gannon et al. suggesting that operational factors, namely the gray zone actor's reactionary response to the credibility of the defender's deterrence threat, drive variation in gray zone activities. Based on their assessment, if a defender state credibly demonstrates a stronger willingness to defend the status quo, the intensity of gray zone operations should decrease proportionally.¹⁴¹

While elements of their theory are certainly applicable to the Senkaku case, it cannot fully explain the pattern of temporal variation demonstrated. Following the 2010 trawler incident and the 2012 Senkaku nationalization crisis, U.S. leaders reiterated the strong defense commitments undergirding the U.S.-Japanese alliance. Particularly in the case of the 2012 crisis, the U.S. response was clear, with Secretary of Defense Panetta publicly reaffirming that the

¹⁴⁰ Morgan et al., "Dangerous Thresholds," 53–54.

¹⁴¹ Gannon et al., "The Shadow of Deterrence: Why Capable Actors Engage in Conflict Short of War."

Senkakus fell under the jurisdiction of the U.S.- Japan security treaty during a visit to China.¹⁴² Per the predictions of Gannon et al., the increasingly firm stance of the U.S. to defend Japan between 2010 and 2014 (and in the years since) should correspond with a de-escalation of Chinese gray zone activities. However, while there were periods of de-escalation following each crisis, the overall Chinese gray zone campaign has only intensified, suggesting that the operational challenges posed by increased deterrence efforts of the U.S. cannot fully explain changes in Chinese gray zone activity.

A second explanation for the pattern questions the overall intentionality the Chinese gray zone campaign itself, thus undermining any signaling based explanations of Chinese behavior. Is the pattern demonstrated by actions in the Senkakus truly the result of a calculated Chinese campaign, or should Chinese actions be viewed as isolated reactions to Japanese provocations? Given the historically contentious relationship between China and Japan, this explanation appears plausible. Likewise, some of the gray zone escalatory tactics outlined in the case have characteristics suggesting that their timing could have been coincidental; for example, despite being much more severe, the decline in REE exports following the alleged 2010 Chinese embargo followed the general trend of declining REE exports to Japan that began prior to the Senkaku trawler incident.¹⁴³

However, while it is possible that some aspects of the Chinese response were reactionary in nature, the overall trend of Chinese actions suggest a more coordinated campaign. Perhaps the most telling illustration of this pattern is the previously discussed graph of Chinese vessel incursions into the waters of the Senkakus. Despite periods of relative de-escalation in gray zone

¹⁴² “Panetta Tells China That Senkakus under Japan-U.S. Security Treaty,” *NamViet News*, September 22, 2012, <https://namvietnews.wordpress.com/2012/09/22/panetta-tells-china-that-senkakus-under-japan-u-s-security-treaty/>.

¹⁴³ Green et al., *Countering Coercion in Maritime Asia: The Theory and Practice of Gray Zone Deterrence*, 89.

operations following the 2010 and 2012 crises, Chinese vessel incursions have never returned to pre-2010 levels. If anything, the patrols have become more regular and professional in the years following the 2012 crisis, suggesting that the Chinese have never intended to fully cease gray zone operations, regardless of Japanese conduct.¹⁴⁴ Furthermore, in coordination with well-publicized instances of similar Chinese tactics in exchanges with the Philippines, Vietnam, and the U.S., it becomes clearer that Chinese behavior is part of a larger effort by the Chinese to expand their maritime sphere of influence. Therefore, because the pattern of Chinese behavior can sufficiently be categorized as an organized campaign rather than isolated responses, theories of gray zone signaling are still viable.

Conclusions and Implications

A Russia Case

Preliminary observations of Russian gray zone strategies, while not discussed in depth in this project, demonstrate the balancing of signals of resolve and restraint. From the onset of Ukrainian ambitions to develop closer ties with both NATO and the EU, Russia has used escalating forms of gray zone coercion to send a clear message of resolve regarding desires to keep Ukraine within its sphere of influence. In one of the first notable instances of gray zone coercion, in the winter of 2006, the state-owned Russian energy giant Gazprom cut off Ukrainian supply under the guise of pricing dispute; however, the act was considered by many observers to be a clear response to the Orange revolution and a warning signal to Ukraine against strengthening ties with the West.¹⁴⁵

¹⁴⁴ Liff, “China’s Maritime Gray Zone Operations in the East China Sea and Japan’s Response,” 165–66.

¹⁴⁵ Mason Richey, “Contemporary Russian Revisionism: Understanding the Kremlin’s Hybrid Warfare and the Strategic and Tactical Deployment of Disinformation,” *Asia Europe Journal* 16, no. 1 (March 2018): 107, <https://doi.org/10.1007/s10308-017-0482-5>.

Following these seemingly smaller initial acts, Russian escalatory behavior prior to and throughout the tenure of the Crimean annexation and subsequent conflict in Eastern Ukraine was interpreted as signaling resolve. During both the initial stages of the crisis in 2014 and in later years, Russian military forces conducted supposedly regularly scheduled military exercises on the Ukrainian border; however, escalations in these exercises frequently corresponded with periods of failing negotiations with Ukraine and the West, leading to observations that these exercises were a form of “saber rattling” utilized by President Vladimir Putin to demonstrate strength.¹⁴⁶ Similarly, escalatory behavior in the cyber realm mirrors this trend. Following 2015 discussions by the Ukrainian parliament to nationalize private Ukrainian power companies (which would affect the newly annexed territory of Crimea), hackers, most likely of Russian origin, attacked the Ukrainian power grid, leaving more than 230,000 Ukrainian residents in the dark for hours. Based on the timing and construction of the attack, investigators concluded that the attack was designed to “send a message” to Ukrainian officials, suggesting that the escalation was yet another means of demonstrating Russian resolve.¹⁴⁷

However, from a comparative perspective, Russian behavior has indicated a notable degree of restraint, symptomatic of an awareness of the red lines imposed by the U.S. and other allies. Despite similar circumstances, unlike in the 2008 Georgian War, Russian officials have largely avoided overtly using conventional Russia military forces, preferring instead to utilize unmarked special forces and provide supplies and training to Ukrainian separatist groups.

¹⁴⁶ Andrew Higgins and Steven Lee Myers, “As Putin Orders Drills in Crimea, Protesters’ Clash Shows Region’s Divide,” *The New York Times*, February 26, 2014, sec. World, <https://www.nytimes.com/2014/02/27/world/europe/russia.html>; Max Fisher, “Signs of Trouble in Ukraine Prompt Question: What’s Vladimir Putin Up To?,” *The New York Times*, August 12, 2016, sec. World, <https://www.nytimes.com/2016/08/12/world/europe/vladimir-putin-crimea-russia.html>.

¹⁴⁷ Kim Zetter, “Inside the Cunning, Unprecedented Hack of Ukraine’s Power Grid,” *Wired*, accessed April 11, 2021, <https://www.wired.com/2016/03/inside-cunning-unprecedented-hack-ukraines-power-grid/>.

Likewise, any Russian assistance has been strictly limited to Crimea and the Donbass, regions where strong separatist movements have taken hold.¹⁴⁸ Given that Russia publicly demonstrated the ability to employ greater military capabilities in the 2008 Georgian War, these careful signals of restraint likely staved off western calls for intervention on behalf of Ukraine.¹⁴⁹

While undoubtedly a coarse analysis, the above overview suggests that signaling considerations have played a role in the construction of Russian gray zone strategies in Ukraine. Further research should focus on analyzing the signaling aspects of Russian gray zone campaigns to illustrate the applicability of the theories presented and tested on Chinese gray zone campaigns in this paper to other cases.

Implications

Throughout its course, this paper has argued that variation in the intensity and breadth of gray zone strategies can be uniquely understood through a signaling lens. By presenting a theory that disaggregates how discernable shifts in gray zone strategies can communicate differing levels of resolve and restraint, this paper makes a novel theoretical injection into the burgeoning and often undertheorized field of research regarding gray zone conflict. For both academics and policymakers alike, a better understanding of states' intended signals in employing these tactics will aid in a broader understanding of how observers should interpret their use.

Furthermore, by using a contemporary case study of the evolving Chinese gray zone strategy in the Senkaku Islands, the paper contributes to the discussion surrounding why seemingly powerful actors would resort to the use of sub-conventional means of coercion. As

¹⁴⁸ Jesse Driscoll and Zachary C. Steinert-Threlkeld, "Social Media and Russian Territorial Irredentism: Some Facts and a Conjecture," *Post-Soviet Affairs* 36, no. 2 (March 2020): 104.

¹⁴⁹ Gannon et al., "The Shadow of Deterrence: Why Capable Actors Engage in Conflict Short of War," 26.

demonstrated in the case, the flexibility inherent in gray zone operations allowed China to send targeted signals along the gray zone continuum by manipulating the escalation risks inherent to the situation. In doing so, the Chinese were able to change the territorial status quo of the Senkakus in their favor while cautiously remaining just below salient thresholds that would invite intervention by the U.S. or escalate the conflict beyond manageable levels. In a world where constant security competition is becoming the new normal, increased insight into how and why states engage in escalatory behavior in the gray zone is essential for the management of conflict.

Beyond the realm of strategic gray zone competition, the findings of this paper contribute to the significant existing body of literature on credible signaling. As demonstrated, despite the presence of ambiguity as a defining feature of gray zone operations, actions taken by gray zone operator states are frequently attributed to the state, and the intentions of the state are interpreted from these actions. Moreover, evidence from the Senkaku case demonstrates that China intended to send signals of resolve or restraint through gray zone, indicating that signaling through the gray zone is both possible and intelligible. Taken in conjunction, these conclusions contribute to the growing literature on credible private signaling, and its efficacy despite the lack of conventional audience costs thought to be necessary.¹⁵⁰ Similarly, given that gray zone forms of coercion fall below the threshold of conventional military force, the findings of this paper expand current conceptions of what types of acts are costly. Despite never rising to the level of conventional military action, the various economic, political, clandestine, and cyber related

¹⁵⁰ For more on private signaling, see Shuhei Kurizaki, "Efficient Secrecy: Public versus Private Threats in Crisis Diplomacy," *American Political Science Review* 101, no. 3 (August 2007): 543–58, <https://doi.org/10.1017/S0003055407070396>; Carson and Yarhi-Milo, "Covert Communication"; Roseanne W. McManus and Keren Yarhi-Milo, "The Logic of 'Offstage' Signaling: Domestic Politics, Regime Type, and Major Power-Protégé Relations," *International Organization* 71, no. 4 (2017): 701–33, <https://doi.org/10.1017/S0020818317000297>.

forms of gray zone coercion can credibly signal resolve and restraint, indicating that they are sufficiently costly.¹⁵¹

As alluded in earlier discussion on the applicability to a Russia case study, the theories advanced in this paper suggest several important areas for future research. First and foremost, the conditions under which gray zone operator states choose to signal resolve or restraint are only briefly discussed in this paper. Thus, for theories of gray zone signaling to have more predictive power, more discussion is needed on the situational conditions that prompt states to modulate the messaging of gray zone strategies. Additionally, this paper largely treats gray zone signaling as a one-sided interaction between the gray zone signal sender and the receiving state. However, as suggested by previous work in covert signaling and recent studies of cyber competition between states, signaling in the sub-conventional realm could occur as an exchange.¹⁵² While certainly not present in all situations, instances in which both the status-quo aggressor state and the status-quo defender state use gray zone strategies could provide a unique instance of signal exchanging through the gray zone.

Given the continued proliferation of technology and the demonstrated success of gray zone operations in recent years, it is likely that their use will become increasingly common in future competition. Therefore, scholars should continue to research the implications- both signaling and otherwise- of gray zone conflict to better understand the coming global security environment.

¹⁵¹ These findings are echoed in Zhang, "Cautious Bully."

¹⁵² Carson and Yarhi-Milo, "Covert Communication."

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