

**POACHED:
NORMATIVE DRIVERS OF THE
ENDANGERED SPECIES TRADE**

by

Anna Nuzzolese

A dissertation submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Political Science and International Relations

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ABSTRACT

This dissertation aims to understand why wildlife trafficking has emerged as one of the deadliest environmental crimes of our century despite consistent efforts to combat it. Experts estimate that the illicit wildlife market is valued at hundreds of millions of dollars, making it one of the most lucrative illicit markets to date. Some examples of illegal wildlife trade are well known, like the poaching of elephants for ivory or of tigers for their skins and bones, but countless other species are overexploited, ranging from marine turtles to timber trees.

While a variety of social, political, and economic factors shape environmental policy decisions and their subsequent impact, to date, research on the illegal wildlife trafficking market focuses on terms of supply and demand without taking into consideration aspects of gender, culture, and identity. This paper looks to the creation of identity as part of the underlying desire to obtain illicit wildlife products in hopes of understanding how traditional beliefs about wildlife perpetuate the illicit market. When coupled with changes in class, primarily the rise of the middle class across Southeast Asia, these ideas of identity seemingly fuel the illicit market, driving many species to the brink of extinction.

Chapter 1

THE EXTINCTION MARKET

In the sweltering heat of the Golden Triangle—a swath of land where Thailand, Myanmar, Laos, and China meet—tourists and locals alike can be found examining tigers, bears, even pangolins, confined in small cages, destined to be someone’s next meal, or necklace, or medicinal remedy. Perhaps unimaginable to some, this market is hardly one-of-a-kind. Wildlife markets exist in abundance across East Asia and Southeast Asia, a result of ever-expanding demand for animals, plants, and wildlife products. Traditional medicine, culinary delicacies, and exotic rarities have been deeply ingrained within the social traditions of these countries for centuries. While those over-packed markets may seem a world away, their effects have no borders. Planet Earth is amid its sixth mass extinction—its first to coincide with, and be caused by, the existence of humans (Drake, 2015). Up to one million of the eight million plant and animal species on Earth are at risk—many of them within decades—of extinction, according to a 2019 United Nations report (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, 2019). Despite these alarming numbers, wildlife trafficking remains relegated to the second-string of environmental issues for many policymakers, international institutions, and non-governmental organizations—never obtaining the salience that other issues, such as climate change, are subject to.

Yet, wildlife trafficking is more than just an environmental issue; its effects span all areas of policy and life. Diseases linked to wildlife trafficking and the consumption of wild animals have included SARS and Ebola, triggering global pandemics (Kessler, 2018). The flourishing of the illicit wildlife market can also undermine national security, rule of law¹, and efforts to end extreme poverty (Morales, 2014; Felbab-Brown, 2018). Billions of people around the world rely on forests, wildlife, and fisheries for their livelihoods, yet trafficking is causing local, national, and even international economic losses, ultimately manifesting as threats to national security (Masse and Margulies, 2020). Conservation policies currently implemented to preserve species can equally undermine human security if they constrain the access of poor populations to the natural resources on which they depend for their basic livelihoods. The purpose of this dissertation is not like that of its predecessors. We must not settle for solutions that merely displace harm. Instead, this research proposes a new theoretical and empirical framework for acknowledging the complexities of the wildlife market while furiously dismantling it. This new framework must address the blatant truth: any efforts to change the market in wildlife has involved an imposition of Western values, predicated upon injustices of the colonial-era and the imposition of environmental policies at the expense of local peoples.

To advance this framework, and as elaborated upon in more detail further below, this dissertation poses two interrelated research questions. First, how do constructions of social identity shape demand for endangered wildlife species? Second, are norm legitimators—individuals who are a product of a given nation and

¹ Excerpt of speech by then Secretary of State Hillary Clinton at 2012 Partnership Meeting on Wildlife Trafficking.

culture yet align with Western environmental norms—able to successfully transform opinions and behaviors in nation-states where wildlife trafficking is sustained by widely held cultural values and traditions? This dissertation will unpack each question in detail, both theoretically and empirically, from a predominantly consumer (i.e., demand-side) perspective. In what follows, I next provide a broader overview of the motivation, purpose, and plan for this dissertation, before circling back to these research questions in further detail.

Inspired by a feminist methodology, this dissertation and the questions posited above more broadly interact with discussions of intersectionality instead of shying away from them. Aspects of identity, like class or gender, are minimally discussed when it comes to environmental issues, and even then, their existence is relegated to being mere amplifiers to pre-existing effects. Typically, those aspects of identity are rarely acknowledged as the potential drivers of environmental degradation. This dissertation project looks to go beyond the scope of ordinary wildlife trafficking² projects—past the normative frameworks for governance structures like the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), international regulation spearheaded by the International Criminal Police Organization (INTERPOL) or the United Nations (UN), even the poachers themselves—to the individuals sustaining demand for these products. Why do wildlife consumers desire such distinctive products at such exorbitant rates? Why is the demand for certain products tied to specific geographic areas? And most importantly,

² Wildlife trafficking is popularly defined as “the entire journey of an endangered and/or protected animal, plant, or derivative thereof—from being taken in the wild to arrival at its final destination” (South, N. and Wyatt, T. 2011. “Comparing illicit trades in wildlife and drugs: an exploratory study,” *Deviant Behavior*, 32:6, 538–61).

how can local norms be used to understand wildlife trafficking in efforts to ensure the sustainability of species currently on the brink of extinction?

To this end, the purpose and plan for this dissertation research is thus two-fold; the introduction of this project, as well as its theoretical chapters, will reconfigure the wildlife trafficking market to reflect its oft-hidden identity-driven dynamics. The empirical chapters then look to test out my proposed solution to curbing those dynamics within three different wildlife markets. This dissertation in no way means to be a policy prescription focused solely on curbing the means of trade; instead, it looks to expand upon those traditional debates concerning market means to include discussion about values and rights: local versus global, individuals and their communities versus states and global regimes, even human welfare versus animal welfare.³

Finally, it is imperative to note that the goal of this research—and what should be the goal of past, present, and future research on the wildlife market—is to minimize the tradeoffs and sacrifices made among and within these values and rights. As the literature continuously shows, however, there is no easy solution for this—nor for dismantling the wildlife trafficking market. All solutions come with limitations, tradeoffs, and variation in outcome. That is exactly why this project does not put all its eggs in one basket by focusing on a single, narrow solution. The key insight gained from this exercise is that if identity drivers truly dictate the market, what works today in one country may be ineffective tomorrow in the next. The “solution” resting within these pages thus is, at its simplest, an initial guide on how and why to specifically

³ The conceptualization of these debates has been laid out by Vanda Felbab-Brown in her book, *The Extinction Market*, 2017

tailor policies to counter poaching and wildlife trafficking to local contexts, with the understanding that some elements may have global impacts. This path will require time, flexibility, and persistence—there is no “one-size-fits-all” solution waiting for us in the wings. In the subsections immediately below, I next elaborate upon several of the core building blocks and background literatures that this dissertation will subsequently engage with and extend.

1.1 Illicit wildlife trafficking: The fundamentals

The illegal wildlife trade refers to crimes involving wildlife, wildlife products, or their derivatives—both flora and fauna. An estimate of the financial value of the international illicit wildlife trafficking market is difficult to discern, mainly because the trade is illegal. The unreported and unregulated fisheries trade alone is estimated between US\$15.5 billion and US\$36.4 billion per year, while the value of the illegal timber trade is estimated to be around US\$52 billion to US\$157 billion per year. The estimates for illicit wildlife trafficking (excluding fisheries and timber) range between US\$5 billion and US\$23 billion per year (May, 2017 p. xi). Combining all these estimates, illicit wildlife trafficking (including fisheries and timber) is the fourth largest global illegal trade, ranking only behind the trades in narcotics, humans, and counterfeit products (May, p. xi). The wildlife trade, which has disastrous impacts on species conservation, relies on a sophisticated global supply chain spear-headed by organized criminal syndicates (World Wildlife Fund, 2020). The high prices of wildlife products, coupled with low enforcement and difficulties in monitoring illegal activity, have lured a range of participants: from subsistence poachers to transnational criminal networks (May 2017, p. 53). Throughout developing countries, wildlife trafficking diminishes much-needed revenue streams while simultaneously having

negative impacts on the environment, security, and rule of law. A further discussion of the predicaments that developing countries face in these respects follows below.

No matter the country, the most obvious effects of the illicit wildlife trade are reflected in global biodiversity. India, which has historically housed over half the world's tiger population, has seen drastic fluctuation, from 3,642 tigers in 2002, down to 1,411 in 2008, and nearly 3,000 in 2018 (Matias, 2019). The number of African elephants has plunged from 1.2 million in the 1970s to roughly 415,000 today (World Wildlife Fund, 2019a). At the beginning of the 20th century, 500,000 rhinos resided throughout Africa and Asia. Yet, due to persistent poaching and habitat loss, very few survive outside national parks and reserves, making a population census nearly impossible (World Wildlife Fund, 2019b). Ivory and rhino horn make up a generous portion of the market value; per kilo, the retail value for ivory or rhino horn can be equal to or greater than the equivalent amount of cocaine or heroin, yet the legal penalties are considerably more lenient (May 2017, p. 53). In fact, the overwhelming popularity of ivory has already caused irreversible damage, as seen in the case of the West African black rhinoceros. A paper published in 2006 in *Pachyderm* concluded that the last members of the subspecies had most likely been poached sometime in or around 2003. In 2011, after nearly a decade with no sightings, the West African black rhino was officially declared extinct by the International Union for Conservation. The fate of the West African black rhino is hardly an isolated incident; the Javan white rhino in Vietnam was also declared extinct in 2011 (Platt, 2013). Six other species of

rhino⁴ are listed as critically endangered and vulnerable to extinction due to unregulated levels of poaching (Platt, 2013).

Similarly to narcotics, many wildlife products display strong price inelasticity, and the accompanying strong demand emboldens suppliers. The high prices and minimal supply of perceived luxury wildlife products like shark fin soup and tiger parts can attract consumers who are interested in displaying a particular status. High prices can also attract newcomers to the supply-side; if they are willing to accept the risks of an illicit market, they can reap growing rewards. Like other types of trafficking, the value of wildlife products increases exponentially as they move from source to market or destination, and demand, not just price, increases consistently as products become rarer. Table 1 shows a comparison of what a poacher may receive versus the final retail value for popular wildlife products. Given the way the illicit wildlife market is structured, the actors who receive the greatest compensation are intermediaries and retailers in market countries (May 2017, p. 55). Following the profit trail highlights two key points: (1) that “supply” countries are typically developing nations, yet they receive no profit, and (2) that the profit trail helps identify and dismantle trafficking networks, including those responsible for financing and orchestrating the network’s operations.

⁴ The six species are the northern white rhino, the Javan rhino, the Sumatran rhino, and the three remaining black rhino subspecies.

Table 1: Poacher vs. Consumer Prices (US\$)⁵

	Commodity	Poacher Receives	Consumer Pays	Rate of Markup (%)
Live Animal	Macaw	\$2 to \$20	\$600 to \$10,000	29,900% to 49,900%
	Chimpanzee	\$50	\$20,000	39,900%
	Falcon	\$200	\$50,000 to \$100,000	9,900% to 19,900%
Species- derived Product	Pangolin Meat (per kilo)	\$22.50	\$250 to \$350	1,011% to 1,456%
	Bear Gall Bladder (whole)	\$100 to \$150	\$5,000 to \$10,000	4,900% to 6,567%
	Tiger Pelt	\$1,500	\$16,000	967%

As a result of these various challenges, long standing international efforts have struggled to address wildlife trafficking. While the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was created in 1963 as a binding treaty among governments “for the protection of certain species of wild fauna and flora against over-exploitation through international trade” (Nuwer, 2018a p. 153), species like rhinos, pangolins, and even turtles are closer to extinction than ever before (Aguilera, 2019). While the overall trade has, for the most part, declined over the last 30 years, illegal international trade and smuggling have continued and even flourished in places like China and its neighboring states (Ki Mak and Song 2018 p. 373). The seemingly bleak future of the 5,600 animal species listed to CITES is no surprise: wildlife trafficking has emerged as one of the deadliest and most lucrative environmental crimes of our century. This illicit network, worth an estimated 23

⁵ This table has been recreated from Channing May’s 2017 publication, *Transnational Crime in the Developing World* and can be found on pages 112-113.

billion dollars, (World Travel and Tourism Council, 2018) flourishes in part because of weak legal frameworks and lax enforcement throughout states—most of which are members of CITES.⁶

1.1.1 Market dynamics

As a multi-billion-dollar industry, the illegal wildlife market is a complex problem involving different geographic settings, species, and individuals. While it is imperative to highlight that many of the actors in the supply chain partake in the illegal wildlife market for financial gain, consumers are motivated for a plethora of reasons: from the desire to own a luxury status symbol or an exotic pet to the mistaken belief that consuming certain wildlife products will provide medicinal benefits (May, 2017 p. 55). Top markets for the illegal wildlife trade respond to demand for exotic pets, food, traditional medicine, fashion, and status goods. Certain species or products are multi-use—for example, rhino horn is consumed both for its perceived medicinal properties as well as a status symbol, or they can be desired for separate uses, such as pythons, which are sought for both the exotic pet and fashion trades.

Marketable wildlife products can be separated into distinct groups: live and non-live products. Live products refer to living specimens (e.g., parrots or even some reptiles) while non-live refers to products that were either: once alive (e.g., a whole dead tiger), taken from a living species (e.g., the flower of a plant), or are derived from formerly living species (e.g., a rhino horn). A single species can serve multiple purposes and furthermore, a single type of product can be manufactured in ways that

⁶ All member states of the United Nations are party to CITES apart from Andorra, Faroe Islands Democratic People's Republic of Korea, Federated States of Micronesia, Haiti, Kiribati, Marshall Islands, Nauru, South Sudan, East Timor, Tonga, Turkmenistan, Tuvalu, and Vatican City.

serve different purposes (Moreto and Lemieux, 2015). These wildlife products will differ in their monetary worth and symbolic desirability. The symbolic desirability of a product can be best described as its “non-monetary, socio-cultural significance” (Moreto and Lemieux, 2015 p. 307). Unsurprisingly, ascribing monetary value to the symbolic worth of wildlife products is extremely difficult to do, especially as products can have varying domestic and international worth (Vatn and Bromley, 1994; Freese, 1998).

Take, for instance, the surge in one of the most recognizable instances of wildlife trafficking—the poaching of elephants and rhinos. This market is spurred by the intersection of old beliefs and new trends. Ivory—both from elephant and rhino—has long been considered a symbol of status throughout East and Southeast Asia, even (incorrectly) rumored to have medicinal properties (Gao and Clark, 2014; May, 2017; Ong, 2020). Given the recent growth of the middle class in Asia, more individuals now seek to partake in conspicuously displaying their economic status with these products than ever before. As would be expected, the poaching of African elephants and rhinoceroses spiked beginning in 2008, mirroring shifts in economic growth. While the rates for elephant ivory peaked in 2011-2012 and demand has plateaued (albeit still at unsustainable levels), the rates for rhinoceroses are still exorbitant. Poaching trends have mirrored the dramatic surge in demand and the subsequent rise in prices for ivory and rhino horn. For example, in South Africa, which is home to the largest rhino populations on the continent, 13 rhinos were poached in 2007, while 1,175 were poached in 2015: an increase of more than 8,900 percent (Gao and Clark, 2014). While the prices for ivory and rhinoceroses’ horn were traditional based on “practical” uses, like for piano keys, skyrocketing prices now reflect an intrinsic value

ted to cultural significance. As the prices of these products continue to hold steady (or in some cases, increase), wildlife (and their derivatives) gains a sort of “investment value for collectors, akin to the purchase of artwork or real estate”.

These whims—of consumers and collectors—are driving species towards extinction. Given the “investment value” of these products, the illegal wildlife trade relies on an extensive global supply chain. The planning, collecting, and smuggling of large quantities of wildlife (and its derivatives) necessitates complex coordination that is most commonly indicative of well-funded organized crime syndicates. Typically, criminal networks finance poaching by providing weapons (or money for weapons) not by taking part in the actual hunting. Yet the active participation of these networks usually begins after the animal has been poached; brokers and middlemen purchase the goods, launder money, and smuggle products to transit or exit points. The transportation hubs used in the illicit wildlife market, whether air, sea, or land, constitute one of the most vulnerable points in the illicit supply chains. Shell companies are set up by criminal syndicates to receive cargo, making it easier for participants to act in secrecy and avoid detection by law enforcement. Regarding actual shipments, large volumes of illegal wildlife products are often hidden among legal, bulk materials like cashews, soya, and timber (Gao and Clark, 2014).

1.1.2 Developing countries: Unique challenges

While the impact of the illegal wildlife market is wide-ranging, literature shows that illicit wildlife trafficking disproportionately affects developing nations. From a geographic perspective, many developing countries double as range states for some of the most sought-after species, like the African elephant or the pangolin. The ability for individuals to poach in-demand species within the boundaries of these states

introduces a plethora of economic, security, and health predicaments unlike anywhere else. The illicit sale of animals or animal parts is such a lucrative business that it attracts large criminal syndicates as well as armed militia. These dangerous groups provide sophisticated military equipment and tactics to poachers, who ultimately harm or kill under trained and under resourced park rangers tasked with protecting vulnerable species. Often, poachers and syndicates alike have their eyes on an even bigger prize.

This predicament is most observable in the context of the African continent, where numerous militias, armed groups, and insurgent groups are profiting from poaching. During the years of war with Northern Sudan, the Sudan People's Liberation Army poached elephants with grenades and rocket-propelled guns. This scenario is replicated across the continent, in Chad, Kenya, even Somalia. Poachers and smugglers take advantage of nations with failing governance structures to house their operations. War typically acts as the perfect front for poaching and some of the most recognizable groups—the Rwandan Democratic Liberation Forces, the Congolese Army, and the Mozambican National Resistance—have partaken in poaching. African militias play only a small part in the complex global network, which ultimately serves to tie small-time poachers and traders to international terrorist groups affiliated with actors like Al Qaeda.

The inclusion of developing nations in the illicit wildlife market thus sets the stage for a larger, more entangled scenario. At the macro, international level, the illegal wildlife trade has disastrous impacts on the environment, security, and rule of law. Poaching has serious consequences on the health of ecosystems, as well as

species conservation, as it can lead to the removal of keystone species.⁷ As mentioned before regarding security and rule of law, profits from the illegal wildlife trade profit violence, instability, and corruption; ivory has been used by state and non-state actors to fund and sustain conflicts since the 1970s and 1980s (Vira and Ewing, 2014 p. 8). Today, ivory is a favorite currency for armed rebel and militia groups, most notably the Séléka (Central African Republic (CAR)), Janjaweed Militia (Sudan), and the Lord's Resistance Army (CAR, Democratic Republic of the Congo, South Sudan, and Uganda), all of which are actively involved in poaching (Human Rights Watch, 2016). According to reports, at the end of 2015, the sectarian conflict between the Séléka and the Anti-balaka in the CAR had resulted in the deaths of thousands and produced approximately 456,000 refugees and another 447,000 internally displaced persons. Some rebel groups in Myanmar, including the Democratic Karen Buddhist Army and New Mon State Party, have used poaching as an ancillary source of funding for their operations (Oswell, 2010 p. 17).

Wildlife trafficking and corruption have a symbiotic relationship: corruption enables the illegal trade, from poaching to final sale, and in turn, profits from the trade are “reinvested” back into corrupt officials. Small-scale smuggling of an ivory bangle, shahtoosh shawl, or even juvenile turtles, often requires small bribery. Obviously, then, the large-scale movement of wildlife products necessitates a larger bribe—a more institutionalized level of corruption that begins with individual customs agents or wildlife rangers to the upper echelons of government. Since 2013, Tanzania, home to two major ivory export hubs, the ports of Dar es Salaam and Zanzibar, has faced

⁷ According to National Geographic's 2011 article “Keystone Species”, a “keystone species” is an organism that holds ecosystems together. Article available at: <http://nationalgeographic.org/encyclopedia/keystone-species/>.

allegations of grand corruption—from parliamentarians and the army to the Tanzanian Port Authority and Immigration Services Department—which former Natural Resources and Tourism Minister Lazaro Nyalandu says makes it very difficult to fight ivory trafficking (Florence, 2013).

Criminal networks have become increasingly involved within the wildlife trafficking market around the world, most notably at the middle to higher levels. The profit to be made from the illegal wildlife trade has enthralled organized criminal networks, who use their established trafficking routes and sophisticated networks to coordinate shipments of wildlife and wildlife products. Criminal organizations that control trafficking routes tax other smugglers for use of these routes; wildlife traffickers pay a fee to use an established route, lowering the risk of detection. Given that these routes are multi-use, it is also common to see wildlife or wildlife products concealing drug shipments or vice-versa. A particularly notorious example of this occurred in 1993, when United States Drug Enforcement Administration agents at Miami International Airport found 223 boa constrictors containing approximately 80 pounds (36.3 kilo) of packaged cocaine, worth more than US\$3.1 million (Ocker, 1993).

The participation of organized criminal networks has allowed for the illegal wildlife market to flourish in the last 10-15 years yet depends on the existence of “host” nations with failing or failed systems of governance that allow for large scale operations to flourish. Surging demand and skyrocketing retail prices have opened the floodgates for the trade, which until recently was vastly overlooked by most governments. Wildlife trafficking is facilitated by corruption, apathy, ignorance, and weak legislation and enforcement. With no decline in sight, countries around the

world must work to reduce the ease and profitability of the trade. Currently, countries around the world depend on CITES to both monitor trade in wildlife and wildlife products as well as curb the depths of the market.

1.2 A vision: The CITES regime

Before turning to the theoretical underpinnings of the current dissertation, this section next gives additional background and attention to the current international wildlife anti-trafficking regime, as administered under the auspices of CITES, as such, the present section is intended to serve both as a rationale for my dissertation's alternative focus on demand side factors, and as source of background information on the current CITES regime for those who may be unfamiliar with it. I now turn to this background discussion of CITES.

Global environmental politics has advanced significantly since the 1960s when issues of pollution, biodiversity loss, and species conservation first began being extensively discussed at the international level. International regimes and institutions quickly sprung to action, not only inspiring an enormous body of research for scholars, but also sparking global agreements on issues of environmental degradation. CITES, for example, dates to 1963 when attendees at the International Union for Conservation of Nature (IUCN) meeting in Nairobi addressed the detrimental effects of unregulated trade on certain species. The aim of the convention was to save wildlife on the brink of extinction by regulating and restricting international trade. While the idea of a multi-government agreement to regulate trade seemed, at the time, utopian to some, a global treaty was drafted and signed by 21 nation-states in 1973, before finally being ratified and going into effect in July 1975 (Hutton and Dickson, 2000 p. 7). After more than

four decades, CITES remains a cornerstone of species conservation with 183 signatories.

At the crux of CITES was the establishment of import, export, and re-export permits on species listed in three appendices based on species depletion. Appendix I is for species that are threatened with extinction, like the tiger; these species cannot be traded for commercial purposes. Appendix II is for species, like the hippopotamus, that might become threatened with extinction if trade is not controlled; international trade of these species requires export permits or re-export certificates. Appendix III contains species, for instance—walruses, which are subject to regulation within the jurisdiction of a Party and for which the cooperation of other Parties is needed to prevent or restrict their exploitation. Conditions for the issue of permits and certificates require analyzing whether trade will be detrimental to the species' survival, if the species was legally acquired, how live specimens have been prepared for shipment, and in the case of Appendix I species if the importer has suitable facilities to house and care for them (Wijnstekers, 2001 p. 20).

Nation-states hoped that this system would create an internationally accepted system for reducing illegal trade, as “international cooperation is essential for the protection of certain species of wild fauna and flora against over-exploitation through international trade”.⁸ Given that CITES was established primarily as a mechanism for international cooperation, for most of its existence, it has been the international community's most important tool in preventing the loss of species. Today, it boasts 183 signatories and overlooking trade in more than 35,000 species. Nation-states

⁸ Excerpt taken from the CITES Preamble.

register around one million transactions per year to CITES, ranging from a single specimen to hundreds or thousands (Nuwer, 2018a). The scope of trade is staggering—from 2006 to 2015, 1.3 million live animals and plants, 1.5 million skins, and 2,000 tons of meat were legally exported from Africa to Asia alone, according to a 2018 TRAFFIC study. These numbers only pertain to CITES-listed, legally traded species, however. The volume of international trade in animals not listed to CITES is about ten times greater than the trade in listed species, while the domestic trade is ten times greater than that (Nuwer, 2018a). It is no surprise, then, that such high expectations have been placed on CITES.

Such high expectations may be the reason CITES has proven to be such a controversial international environmental convention. A closer look at the legal trade in flora and fauna quickly, illuminates a labyrinth of blurred lines and gray areas. Legally binding rules—like those that govern harvesting quotas or capture methods—are regularly broken with impunity. Thus, illicit wildlife businesses operate “in plain sight”—both because there is no stigma to what they do, and because hardly anyone is ever prosecuted for such a thing. In a way, all wildlife trade has become legal, even if it technically is not. Inherent enforcement challenges undermine CITES’ effectiveness, but the highly detailed—yet complicated—nature of its regulation system seems to have been its true downfall. Permits meant to accompany items along their route are effortlessly forged, illegal products are often smuggled in with legal products, and easily bribed customs officials turn a blind eye when all else fails. Successive Conference of the Parties have included lengthy debates about the most basic assumptions of the convention.

Despite these discussions, amending CITES proves to be challenging. Since scientists and nongovernmental organizations can neither submit CITES proposals, nor vote, decisions are left entirely up to nation-states. Government officials are not only influenced by scientists and nongovernmental organizations, but also from those with commercial and personal interests, and states lobby each other to go along with agendas. In a classic example of *quid pro quo* states trade (or even buy) votes. For instance, the night before the 2010 IUCN vote to list the Bluefin tuna as endangered, Japan hosted a dinner for all states to which it gave financial aid, derailing the vote (Rigney, 2013). Species listing, thus, becomes a highly political process. Additionally, given that much of the remaining biodiversity is in the Global South, and environmental concern is most acute in the North, conflict is inevitable.

It is important to emphasize, however, that CITES' flaws predominantly stem from issues of enforcement—not fundamental issues with the treaty itself. Where CITES has attempted to ban trade, an illegal market has emerged; where trade has been allowed, it is often regulated ineffectively (Hutton and Dickson 2000, p. xvi). Additionally, as mentioned below in greater detail, issues of state capacity and, more generally, the illicit nature of the market make it difficult to control trade. Thus, while CITES' power lies in the fact that it is binding international law, noncompliance is still exceptionally high (Hinsley et al., 2017). The monitoring of trade is an essential tool for achieving the goal of the Convention. Each Party designates a Scientific Authority who monitors export permits granted, as well as a Management Authority, who limits export permits when they deem fit. Unlike domestic wildlife trade agreements, CITES is tasked with ensuring the delivery of trade data from multiple parties for annual reports that all Parties use on an annual basis to assess conservation status. This data,

however, is often inconsistent if it even exists at all. The norm is for data to be spotty across years, and widely unreliable, making the prospect of monitoring trade nearly impossible.

Reporting problems are, however, the least of CITES' worries. Such an extensive membership also requires keeping tabs on permits and general legislation alike. Some CITES representatives have been known to abuse the import-export system that CITES relies on by issuing permits when they should not, selling permits, or even allowing them to be "stolen" from their offices (Nuwer, 2018a). Other states lack the proper legislation to even have a "working" permit system. It should be worth noting while some states desire to be proactive, they frequently lack the necessary resources. At other times, officials impede wildlife officers. Often, however, parties to the treaty simply do not have any legislation enacted to curb the market. While an international system like CITES could be successful, at best it would only address international wildlife markets, leaving domestic markets—a major piece of the puzzle—to flourish and fill in the gap.

In considering the factors which influence the success of CITES, scholars like R.B. Martin distinguishes between institutional and policy factors. Given that CITES is an international agreement, it relies on the Parties to implement its decisions and rulings. Naturally, in states where wildlife control is centralized and efficiently managed, where citizens are given the right to use wildlife as permitted, and, most importantly, where such control is welcomed, CITES seems to be the "best fit". Understandably, CITES is most efficient when it is working alongside states, not against them. While considered the all-encompassing solution to wildlife trade, in reality, CITES is best utilized as an "extra facility under which any Party can invoke

assistance of law enforcement agencies of other Parties in improving the implementation of its own policies” (Martin, 2000 p. 31).

Where these conditions are not satisfied, CITES often shows little to no success. Without state support, no amount of control at the international level can rectify the weaknesses of state agencies. Additionally, CITES even risks being undermined if not all the Parties work together. A perfect example of this is the common misconception that CITES itself provides protection to listed species. Species are protected by the law enforcement agencies and citizens of range states. Thus, CITES is unlikely to work when it is used as a mechanism that enables some (typically Western) states to impose their preferred conservation solutions onto other parties. As the last few paragraphs have shown, there are a handful of factors to consider when discussing the success or failure of CITES. To spare a lengthy discussion of every possible scenario, the remainder of this dissertation’s engagement with CITES will center mostly around three broader “gaps” for which to watch out for. They are:

- ***Legal gaps:*** Given that each Party is mandated to implement CITES, there is no consistency among domestic legislation regarding regulation, leaving holes in legal frameworks for traffickers to pick apart. States may also not enforce legislation that does exist, rendering this legislation useless. When countries sign up to control trafficking, the responsibility for implementation is often allocated to agencies that are already overloaded with work (Wylter and Sheikh, 2013). Enforcement may vary based on the environmental ideals of a given nation, which is ultimately driven by a deeper-seeded socio-cultural identity different to that found in western states.
- ***Capacity/Political will gaps:*** In a perfect world, all states would have strong, competent environmental and regulatory agencies to not only conserve flora and fauna, but to manage any legal (or illegal) trade. Yet, the reality is that even when states have the political desire to tackle unregulated wildlife trade, they lack

sufficient resources to both respond to and prevent it (Wyler and Sheikh, 2013). As seen with many African nations, the same tactics used in one country may prove ineffective elsewhere.

- ***Structural drivers:*** Naturally, the illegal wildlife trade continues its growth because of the socioeconomic and political conditions that are seemingly beyond the controls of any international regulations. As such, the “dynamism” of an illicit business requires that regulators and law enforcement officials co-evolve with the trade, to continue to deal effectively with businesses and their improving technology (Ayling, 2013 p. 72).

Herein lies the fundamental problem that scholars often refer to: CITES has few (some would argue no) real teeth to bite with (Haas, 1982; Mitchell, 1994). Without an international governing body capable of enforcing its mandates, sanctions by member states are the only “real” tool it does possess. Even when “the s-word” is thrown around, the results are mixed. Sanctions are hardly ever passed, and when they are, they almost always skip past the largest players in the illegal trade. Since the Secretariat has no role in deciding who is sanctioned and who is not, these decisions rest entirely with the CITES parties—and too many nations are influenced by powerful nations to ever consider even issuing sanctions against them. These types of enforcement problems are typical of cooperation schemes among international institutions (Fearon, 1998).⁹

Given such nuances, some scholars and professionals alike consider CITES largely ineffective—not only in combating illegal wildlife trade but also in regulating sustainable trade (Sands, 1997; Reeve, 2006; Crook, 2010; Vandegrift, 2013). The communal understanding is that CITES could be the key to making a difference, but without a credible enforcement mechanism, nothing will ever happen. Unfortunately,

⁹ More foundational assumptions about international cooperation can be found in Axelrod 1984; Keohane 1984; Lipson 1984; Oye 1986a; Snidal 1985; and Stein 1982.

though, “CITES, for all its flaws, is the best we’ve got”(Nuwer, 2018a p. 158) Attempting to test the success of CITES is a tricky subject, as the only way to truly test its performance is to look for improvement in the species which it sets out to protect. Unfortunately, the answer is not easily found. Since the inception of CITES, no species’ population has increased so dramatically since being listed that a correlation can be confirmed. Even if such a species case study did exist, it would be necessary to prove that the original depletion of the species had been the fault of overexploitation and trade—and that the CITES regulation of trade turned the tides. Given all the challenges and market dynamics mentioned above, an alternate, non-CITES focused means of combating wildlife trafficking is needed. It is to this re-envisioning that I turn to what scholars call a demand-focused, psychosocial approach in the coming chapters.

While the illicit market in endangered species is fueled by a strong and rapidly expanding demand for wildlife, demands vary drastically: from bush meat—used by communities for whom wildlife meat is a primary source of protein—to affluent individuals who consume exotic meat and pursue other products such as elephant ivory or rhino horns as a luxury good (Felbab-Brown, 2011). Other demand for wildlife is for curios, trophies, accessories, furs, or pets. Throughout much of the world, the consumption or ownership of certain rare animals is often considered a status symbol. In upscale restaurants, wealthy businesspeople and government officials alike partake in exclusive culinary “delicacies” such as pangolin or bear—a phenomenon akin to the consumption of Kobe beef or beluga caviar in the West (Nuwer, 2018b). While in the past such dishes were out of reach for much of the population, recent economic growth in some countries such as China means that more

people can afford these delicacies (Stephens and Southerland, 2018). The rarer the species—i.e., the closer to extinction—the better: the influence and wealth necessary for the acquisition of these rare animals is a status symbol in and of itself. The allure of such status draws in consumers willing to go to the ends of the world (literally), and with that, the extinction market lives to see another day.

1.3 Theoretical underpinnings and layout of the dissertation

With the above theoretical literatures now outlined, this section presents the theoretical underpinnings, and overall layout, of the dissertation to come. Despite over half a century of international efforts to combat the illicit trade in endangered species of flora and fauna, wildlife markets abound throughout the developing and developed world. This persistence, in part, can be attributed to the many traditional medicinal practices, culinary delicacies, and exotic rarities that have been deeply ingrained within the social traditions of cultures and countries for centuries. Yet even the most localized cultural practices and wildlife markets can have profound transnational and global effects. How can political science research address the persistence of global wildlife trafficking considering these current trends?

Finding answers to these questions is imperative, lest we risk ecological catastrophe. Examining the social aspect of wildlife demand provides a unique angle with which to understand why illegal wildlife trade is still such a rampant problem despite governmental regulations. The commercialization and use of biological resources as remedies and commodities encompass cultural and social aspects and bear important implications for conservation, especially in relation to the most heavily exploited species. A comprehensive understanding of how cultural identities are constructed and impact environmental degradation issues like species conservation is

crucial for examining the complex socioeconomic conditions in which consumers, traders, poachers, and their families live. These understandings, however, are predicated upon socially and culturally constructed and ascribed roles and responsibilities of men and women. What it means to be masculine, feminine, or even the “ideal citizen” in and of itself varies, and thus, it can be said that relationships between masculinity, femininity, and national identity and the environment differ based on the society and culture in which they are based.

Yet, identity as a causal driver for demand of certain wildlife products is exactly what is overlooked and missing from academic and policy understandings of the illicit wildlife market. Instead, anti-trafficking campaigns push an overarching message of “global environmental sustainability”, expecting recipients of this message to behave in a prosocial manner—but at the expense of their national or local identity. Norms determine how individuals react to specific matters, as actors are concerned about how they can be perceived within society if they resist widely accepted standards (Wendt, 1992; Ruggie, 1998; Finnemore and Sikkink, 1998; Wendt, 1999). For individuals to willingly replace one norm with another, the new norm must be considered legitimate—in other words, norm compliance is derived from a sense of obligation, not a cost-benefit analysis. Perhaps who delivers the message of changing norms may have a great effect on how well the norms are accepted, so that even if individuals hold their cultural values to be highly important, they will conform to the new cultural identity if their fellow country people are seen shifting their ideology.

At the most general level, this research builds upon the basic recognition that while the anti-wildlife trafficking legislative body, the Convention on International Trade in Endangered Species (CITES), does everything it was intended to do—

including manage imports, track exports, and disperse permits—wildlife trafficking has continued to ravage wildlife populations, despite a nearly global CITES membership with 183 signatories and strong NGO partnerships. Thus, discussions of noncompliance typical of the wildlife trafficking field fail to acknowledge the social aspect of wildlife demand. Likewise, this dissertation extends the burgeoning literature on the political psychology of international relations (Abdelal et al., 2009; Hopf, 2010; Wilson, 2011; Thaler, 2016; Bayram, 2017) to the previously overlooked arena of individual demands for transnational illicit wildlife products. In this manner, this dissertation looks past questions of compliance to take a substantive look at the norms that drive demand. Literature shows us that under the right circumstances, norms can and do stick, as the last 40+ years have seen the introduction of and commitment to environmental legislation like CITES (1975), but also the Endangered Species Act (1973), the Kyoto Protocol (2005), and even the Paris Agreement (2016).¹⁰ Thus, as noted further above, I ask the following research questions:

1. How do constructions of social identity shape demand for endangered wildlife species?
2. Are norm legitimators able to successfully transform opinions and behaviors in nation-states where wildlife trafficking is sustained by widely held cultural values and traditions?

Of course, answering these questions necessitates a thorough understanding of the inner workings of the illicit wildlife market. Yet at the crux of this problem are questions which go beyond simple market forces, leading to my focus on the ideas and norms which drive demand. This dissertation hopes to build upon sources of

¹⁰ A discussion about the success of international environmental regimes can be found in Haas (1989), Breitmeier et al. (2011) and Young (2011).

inspiration within other conservation efforts to develop a psychosocial approach to reducing the demand for wildlife products.¹¹

A deeper understanding of the factors that fuel desire for wildlife products will illuminate a more intimate understanding of the consumers maintaining this deadly market. In search of that intimate understanding, this dissertation is organized as follows.

Chapter 2, “Performing Identity”, delves into the plethora of identities that are “created” by the use or consumption of wildlife products throughout various cultures. The crux of this chapter lays the beginnings of a foundation to explain desire; namely, that aspects of identity, like gender, race, or class, are performative and that in turn, certain illicit wildlife products are the props to these performances. Following this explanation, **Chapter 3**, “The Missing Link”, presents a new lens with which to examine conservation campaigns and their targeted audiences. In this chapter, a “psychosocial” approach—one that accounts for the complex psychological, neuroscientific, emotional, social, and cultural dimensions of wildlife consumption—is introduced. This psychosocial approach is meant to support efforts that address the illicit wildlife market, not replace it, in hopes of reaching the hardest to reach consumers and amplifying current efforts’ effectiveness.

Chapters 4 & 5 take the psychosocial approach and apply it to three wildlife markets: tiger parts, shark fins, and pangolin scales. To this end, **Chapter 4** does so via a detailed qualitative case-based analysis of these wildlife markets, whereas **Chapter 5** does so via an online survey experiment and corresponding quantitative

¹¹ To date, the only psychosocial approach applied to wildlife conservation is recorded in a WWF guide to reduce ivory consumption. Even then, the approach is a mere theoretical formulation, and was not applied to campaigns.

assessment. **Chapter 6**, the conclusion, pieces together findings from chapters 4-5 in effort to construct a versatile yet universal method with which to conduct anti-trafficking campaigns and elicit lasting changes towards conservation.

Chapter 2

PERFORMING IDENTITY: HIDDEN DRIVERS OF THE MARKET

2.1 Overview

In China, shark fin soup is meant to be a symbol of wealth and good luck, often served at weddings as well wishes to the new couple. In Vietnam, pangolin scales are given to new mothers as a lactation supplement. Throughout various countries and cultures, strong and powerful animals like tigers, rhinos, or bears are sought after so that the consumer may mimic the bravery and strength of these animals. Despite the popularity of these wildlife products, international wildlife trafficking legislation often ignores these symbolic drivers, thereby leaving out an important part of the illegal wildlife trade: the “why”. These are important questions. Indeed, while there are various factors that threaten wildlife species—including habitat loss, which accounts for much of species depletion—excessive commercial exploitation accounts for a smaller, yet significant, proportion of losses (Sas-Rolfes, 2000).

This chapter engages in a discussion of the entrenched Western influence of many colonial era preservationist approaches and how they often fail to account for both consumers and producers within the wildlife market. In analyzing these “traditional” approaches, it becomes evident that including consumers within these legislative frameworks necessitates an understanding of not only “*how*” consumers gain access to these products but also “*why*” consumers may want or need these

products. Answering this question means taking a deeper look into the uses of illicit wildlife products and the significance and tradition they hold within various cultures. This chapter looks to begin setting the stage to answer the “*why*” by deconstructing the traditional structure of environmental legislation to introduce a means by which to respond to consumer demand more effectively across all countries, not just those who align with a western sense of preservation.

2.2 Deconstructing traditional environmental legislation

Like other environmental issues, wildlife trafficking is inherently global in nature. Yet, no one single institution, set of rules, or overarching social contract or framework of cultural values through which to coordinate a response. A transnational advocacy network consisting of research and advocacy groups, local social movements, the media, intergovernmental organizations, and even governments exists within this issue area, yet the nature of illicit wildlife trafficking presents a challenge to the efficacy of this network (Keck and Sikkink 1998). States can act unilaterally, and the trans-boundary character of environmental issues means that collective action through transnational advocacy networks is almost always required to address them. Unfortunately, this means that public opinion and the scientific community drive much of the international change that is observed; without backing from these groups, states often do not address issues.

Grounding my own theory loosely in the work of Acharya (2004) and Michael (2013), I strive to understand just how to strengthen anti-trafficking norms, predominantly in states where endangered species are still considered a costly delicacy. By introducing “norm legitimators”, a concept discussed in full later, I seek to understand how new norms come to be accepted, even when they go against widely

held cultural values. Reminiscent of foundational pieces of constructivist literature, like Arlene Tickner's 2003 "Seeing IR Differently: Notes from the Third World", this chapter begins with a question about perspective. How do features like culture and everyday life change the way in which we see things? In this instance, how do they drive demand for specific products? Why do policies that work in terms of one market fall flat for another? The commercialization and use of biological resources as remedies encompass cultural, social, and economic aspects and bear important implications for conservation, especially in relation to the most heavily exploited species.

Often, legislation combating illicit wildlife trafficking intends to protect species threatened by excessive commercial exploitation by focusing on a very narrow aspect of commercial exploitation—that which takes place across international borders. Thus, in no way do these regimes attempt to account for issues like supply mechanisms, domestic trading regimes, or consumer demands. Legislation like CITES a) only accounts for a specific portion of threats to wildlife, b) fails to create any mechanisms that would directly control the supply of wildlife, and c) has no direct means to influence demand, therefore acting as predominantly restrictive mechanisms (Sas-Rolfes, 2000). While CITES may be considered the most important and influential conservation treaty currently enforced, the intention was to have the legislation supplement, not replace, effective control of wildlife species via field protection at both the state and regional levels.

In essence, CITES attempts to sustainably regulate international trade in endangered species by focusing only on supply and international transactions that can be traced to this supply. Given that issues of noncompliance limit CITES'

effectiveness, perhaps it is worth questioning if instituting demand-side policies would produce a more efficient regime. In this way, legislation would tackle both supply and demand simultaneously in hopes of constraining the market. It is important to note that given the finite populations of some species, focusing solely on limiting supply may, in the simplest of terms, nail the extinction coffin shut.

Primary interest in CITES originally came from the cultural values of Western society, which profoundly affected the way in which the convention was drafted. Today, however, states of the Global South have begun pushing back on the ideas of yesterday. Southern African countries, for example, have begun distancing themselves from the preservationist approach of the colonial era—instead, striving for a conservation method in which those that live near and off the land can benefit from the environment (Hutton and Dickson, 2000). After all, international trade regulation regimes like CITES can only work if they consider both the consumer and the producer. Without equal consideration, either side may feel that they have little incentive to adhere to the regulations laid out in the treaty. Thus, trade regulation created “only from the perspective of one side of the exchange is doomed to failure” (Swanson, 2000 p. 135). When accounting for the producer, legislation must take into consideration the economic conditions that lead an individual to poach and smuggle endangered wildlife. Yet, simultaneously, legislation must account for the cultural conditions that lead consumers to demand and purchase these endangered wildlife products. This intricately woven dance between producers and consumers, implies that there is no “one size fits all” answer to this issue. Instead, a solution must be dynamic, changing with each ebb and flow of the market.

If legislation like CITES currently works to supplement regulation for the supply of wildlife products, then questions of demand are left unanswered. While species protection may be a legitimate norm in some parts of the world, it still has not yet been sufficiently socialized in others. If demand for these wildlife products continues to exist, or even increases, no amount of supply regulation will save these endangered species. How then, can states accommodate the transnational norm of wildlife conservation into their domestic frameworks? While ideas, values, and norms play an important role in governance, they are especially important in combating issues, like wildlife trafficking, that are perpetuated by cultural practices. As mentioned above, often demand for wildlife products is intricately tied to practices that are deeply embedded into traditional belief systems. By shaping policy to reflect these practices and beliefs, transnational advocacy networks ensure mutual benefit and inclusion for all actors, capitalizing on commonalities in terms of norms, actors, and scale. In turn, these commonalities promote a stronger possibility of environmental sustainability, with the hope of eventually serving as a platform for more conducive global environmental governance.

2.3 Constructing a theoretical framework

In hopes of introducing the importance of identity within environmental legislation, I borrow from literature by Acharya (2004) and Michael (2013) that sheds light on the entrenched norms of a region and efforts to shape new norms via “grafting” and “pruning”. The “cognitive prior” literature by Acharya gives an understanding of the differing dynamics of regionalism, representing the interaction of political, material, institutional and identity factors that dictate a bilateral or multilateral approach. Once the “cognitive prior” of a region is thoroughly assessed,

the norm localization literature, specifically by Michael, offers an analysis of how “grafting and pruning”—that is, linking existing ideas with new ideas can provide the foundation for a more tailored environmental governance initiative. This idea of “grafting and pruning” will be central in the case study analysis, allowing this research to understand how anti-trafficking and/or biodiversity norms are re-framed to fit alongside the pre-existing norms of the region.

According to Martha Finnemore and Kathryn Sikkink (1998), norms are the standards of appropriate behavior for actors with a given identity. While codified in either hard or soft laws, norms generally refer to a society’s values, sustained by its members’ approval or disapproval. For instance, norms associated with issues of human rights, military intervention, trade, or the environment not only regulate what actors do, they also constitute social identities. Given the social influence of norms, actors only accept norms when they find them to be legitimate out of concern for how they are viewed in the social or international arena (Ki Mak and Song 2018). This notion is integral in understanding and explaining the diffusion of norms. Since local norms and customs are often central parts of pre-existing legitimate normative orders, they condition the acceptance of any future norms.

Given the use of wildlife products in many traditional customs and rituals, a localization approach to norms stresses the role of social identity in a unique manner. According to Acharya, “localization” offers a promising framework because it does not require “wholesale acceptance or rejection” to settle normative disputes (2004, p. 239). Instead, it stresses the agency role of norm-takers situated within the dynamic process of “congruence building” between international norms and local practices. This process necessitates the reconstruction of outside norms to provide a better fit

with pre-existing local norms and social identities. In this way, international norms that are originally deemed “incompatible” with pre-existing norms and beliefs are integrated into local norms. Localization thus entails the “active construction” of foreign norms through the means of local actors (Acharya, 2004 p. 245). I hypothesize that if such localization were to take hold within communities that demand illicit wildlife products, we would see the potential collapse of the supply chain which delivers these illicit goods worldwide.

However, the localization of norms may only take place when local agents adapt their surroundings to *accommodate* outside norms. Accommodating a foreign norm is more likely to happen than localizing a norm when adopting or modifying an idea is impossible; for example, when an idea is perceived as legitimate or is vastly popular among domestic agents (Ki Mak and Song, 2018 p. 376). This type of norm accommodation differs from what scholars call “norm displacement” in that the former does not involve the alteration of the existing norm, but simply the accommodation of a norm within pre-existing beliefs and practices.¹² Like localization, norm accommodation is motivated by political change within the domestic arena with credible “insider proponents” (Acharya, 2004 p. 247).

Once accommodated, foreign norms and pre-existing local normative orders establish a “constitutive relationship” like norm localization (Acharya, 2004 p. 252). Resulting behaviors can be understood in terms of the pre-existing normative order than of the foreign idea; however, it can only be completely understood by combining

¹² Norm localization and accommodation are both similar in that they differ from socialization; norm diffusion is viewed as adaptive behavior in which local practices and foreign norms are adjusted to match each other.

the two (Ki Mak and Song, 2018 p. 376). Accommodation is neither static nor regressive; instead, it is a progressive form of norm diffusion. Foreign ideas and beliefs are simultaneously fused into existing local practices, transforming, and shaping behavior. The conceptual framework underlying norm transformation sheds light not only on the possible adoption of the conservation norms embodied in CITES by states and individuals, but also its policy consequences.

2.3.1 The missing link: How identity fuels demand

A critical understanding of how social identity impacts environmental degradation issues like wildlife trafficking is crucial for examining the complex socioeconomic conditions in which consumers and producers of trafficked wildlife live. Identity is a concept with broad meaning, traditionally intertwined with beliefs about who we are and who we want to be. Identity is also considered, however, to be a product of social appraisal. We forge a sense of ourselves based on the information we receive about ourselves from others. Identity can also be defined as the socially and culturally constructed and ascribed roles and responsibilities of men and women and their interaction within a given society, thus while the constitutive aspects of social identity vary throughout the world, gender and sexuality play a big part in creating and maintaining these identities. For instance, what it means to be masculine or feminine in and of itself varies in definition, and thus, it can be said that relationships between those masculinities and femininities and the environment differ based on the society and culture in which they are based.

Notions about the consumption of wildlife products are often gendered, but data to corroborate those claims are often hard to come by. CNBC reports that contrary to public perception, men—not women—make up the bulk of consumers

buying luxury goods—both legal and illegal—across southeast Asia (Jetley, 2011). One survey of consumption done in 2,000 households in Hanoi, Vietnam showed that 45 percent of households admitted to using wild animal products as meat, medicine, and jewelry among other purposes. Within those households, 60 percent of male respondents had used animal products, while only 34 percent of females did (McElwee, 2012). What was most interesting to note among the survey, however, was that the type of animal produce used by men and women differed greatly; women often found their consumption of wildlife being ornamental products, like pearl necklaces, tortoise shell combs, or coral bracelets, while men consumed wild meats and traditional medicines. While most illegal wildlife-based medicinal products are aimed at men, animal-based products used for non-gendered medical remedies, such as bear bile, are used equally by men and women (Food and Agriculture Organization, 2016). This stratification in desired products and their intended uses reflects the understanding that in today's China, "hegemonic masculinity" defines masculinity primarily in terms of "virility, power, and wealth" (Song and Lee, 2010). To these men, their masculinity essentially entails others realizing their identities as "not female" (Kheel, 2008).

Given the conservation status of many species sold for medicinal use¹³, the ecological, social, and public health implications associated with their use warrant discussion. An increased understanding of the various facets involved in the medicinal uses of animals is central in analyzing how they impact species populations, and to explore ways through which conservation and management initiatives can improve

¹³ Pangolins, the most trafficked mammal in the world, are frequently used in Traditional Chinese Medicine. Their scales are ground up into powder or paste in hopes of relieving ailments like arthritis, and even to promote lactation (J. Actman, 2016).

dialog with resource users and traders (Nóbrega Alves et al., 2013). A poststructuralist¹⁴ approach exploring the dimensions and interactions of social markers like gender, power, class, ethnicity, and race is needed. The interactions of these identity-constituting factors contribute to making social identity a real and lived experience that shapes all aspects of the illicit wildlife trade.

Ample evidence suggests that medical and cultural factors are the key drivers for demand for endangered species products across the contemporary world. Often, the symbolism associated with a product is valued more than the quality; interviews with Chinese nationals illustrate that while shark fin soup is often seen as a symbol of wealth and status, most find it to be bland and tasteless (Mahr, 2010; Gold, 2011). Thus, the perpetuation of the trafficking and consumption of wildlife parts rests on socially constructed notions of value. While seen as providing health, sexual prowess and other desirable traits like bravery, the consumption of wildlife, specifically among young East and Southeast Asian males with high incomes and advanced education, continues to be a key sign of added social status (Felbab-Brown, 2011). Being in possession of these illicit goods is a way for consumers to show off in front of friends or business clients. In fact, men participating in the Hanoi survey claimed that consuming wildlife to cement a business deal was an important cultural practice—“Wildlife restaurant are most crowded after the work hours of offices and agencies. People go to wildlife restaurants when they have something to celebrate, to shed their bad luck, and to find good fortune” (Felbab-Brown, 2011). The survey went on to show that most respondents did not eat wild meat alone, but as a social activity;

¹⁴ As stated in Harcourt’s 2007 article “An Answer to the Question: ‘What is Post Structuralism?’” a post-structuralist approach argues that to understand an object (e.g., a text), it is necessary to study both the object itself and the systems of knowledge that produced the object.

businessmen and government officials had the highest wild animal consumption rates among all the respondents, as “eating wild animals was strongly linked to occupational and social peer pressures” (Felbab-Brown, 2011). If gender, affluence, and social status are all variables in explaining animal consumption, then it goes without saying that these variables need to be considered in enforcement efforts and other policy efforts that aim to curb wildlife trafficking.

This makes sense, as many scholars note that the complexity of the wildlife trade in Asia predominantly stems from traditional uses and the cultural values assigned to wildlife and its products (Mainka and Mills, 1995; Donovan, 2004; Chen et al., 2009; Nijman, 2009). Surveys have shown that a large amount of animal species are traded for medicinal purposes in urban areas worldwide, especially in African, Asian, and Latin American countries (Bolze et al., 1998; Marshall, 1998). The variety of animal species sold in local markets have been attributed to several factors, among them the idea that market expansion encourages people to make greater use of wild animals for traditional medicine, especially in developed nations of Asia and the Pacific (Bolze et al., 1998; Marshall, 1998).

Unlike the wildlife trade in African nations, wildlife trade throughout Southeast Asia is predominantly attributed to wealth and status, not poverty, as urban consumers drive demand for wildlife products (Blair et al., 2017). However, some studies do show that wildlife is still traded locally throughout Asia’s rural regions, adding an additional layer of complexity when it comes to which consumers to focus on and how to address their demands. There are diverse actors with multiple cultural backgrounds along trade chains in southeast Asia, and their actions are shaped by factors that vary from place to place, like financial gain, social esteem, cultural

identity, and customs. The reasons for consumption of wildlife are complex and integrate economic, cultural, and social reasons; the rise of the middle class in developed Southeast Asian nations like China, and long-standing ideas of masculinity may intersect to become a primary driver of the wildlife trade. Thus, policy incentives and interventions will only be effective at various points along the trade route and in varying locales if research does not take the spatial and cultural heterogeneity of these potential trade drivers into account.

As several of the above points allude to, production, social reproduction, and consumption patterns are each integral to understanding the perpetuation of the illicit wildlife market. For instance, the social reproduction of households and communities, specifically in Asia and Latin America where the illicit wildlife trade runs rampant, are not only interconnected to culturally constructed ideas of gender, but to the processes that shape citizen's chances at a productive livelihood (McElwee, 2012). While the hunting of wild animals is often seen as a "man's profession" because of its perceived dangerousness, and because of the extended time needed away from the family, women are left to handle and prepare wildlife for consumption (Food and Agriculture Organization, 2016). Understandably, men are seen to dominate the wildlife trade, despite the integral role of women in the process. Smuggling products across state boundaries and in and out of preserves necessitates bribing officials to turn a blind eye and since government rangers, officials, or inspectors are more likely to be men, it is believed that men have an easier time dealing with other men (McElwee, 2012). The consumption of wildlife is equally as gendered, as specific products are tied to traditional knowledge about masculinity and sexual prowess, or sociality and prestige.

Dealing with wildlife trafficking as a social issue, whether at the local or global level, necessitates the inclusion of all facets of identity, including but not limited to gender, race, religion, sexuality, and age. In a perfect scenario, an analysis of these varying identities in environmental problems would outline the culturally prescribed roles of both men and women, highlighting the areas in which there is strong stratification between these various facets. Social and cultural elements like these are often neglected in studies that integrate ecological and economic factors for participation in wildlife trafficking, but it is evident that embedded social, cultural, and political contexts can play significant roles in supporting or preventing wildlife trade¹⁵. Understanding why and when individuals participate in trade—what socio-cultural norms drive the hunting, use, and trade of wildlife products, such as valuing of rarity or connection to identity—is crucial to sustainable management and situated governance.

2.3.2 Identity and the market: The creation of “Virtual Economies”

Understanding the social, cultural, and gender-based factors that compel individuals to purchase and consume wildlife products begins to inform us about how value is assigned to specific products. The aestheticization of everyday life is linked to the growing significance of aesthetic perceptions within consumption. More and more,

¹⁵ For instance, although tigers, from nose to tail, are valuable to TCM remedies, there is one specific membrane—the penis—that is demanded solely by and for males. TCM claims that tiger penis can help a man gain sexual prowess in bed. The use of tiger penis ranges from images of tigers strewn across tiger-free virility pills to restaurants emerging in places like Hong Kong that only serve animal penises—including those of endangered species for those whose wallets are deep enough. Locales like this are popular for occasions like business deals and bachelor parties, as they exude masculinity and camaraderie. Likewise, TCM encourages women to eat plenty of deer meat, as it is said to make women more docile and thus make it easier for them to find a husband (McElwee, 2012). Photos available in Richard Ellis’ *Tiger Bone and Rhino Horn* (Island Press, 2005).

aspects of the everyday are subject to principles of art and beauty, so that even the most mundane, or in this case illicit, forms of consumption can be seen as expressive and playful (Southerton, 2011). Within virtual economies, the aestheticized consumerism of an “economy of signs” refers to the production and consumption of ever-changing tastes, desires, fashions, or styles (Peterson, 2006). Essentially, this means that the value of products is assigned by society, for society on an ever-changing basis. For instance, consider the disparity between Apple products and other laptops or phones. While the electronics may very well all share the same capabilities, there is a certain status symbol about having the newest iPhone that thousands of people line up for. The consumer economy inherent in modern society involves the creation of a ‘social imagery’ of particular tastes and desires, and the extensive commodification of tastes, pleasure, and leisure, producing a market culture.

In the case of commodities situated in virtual markets, like wildlife products, the commodities themselves do not have value in and of themselves, instead only getting ascribed value as a function of the social codes and context within which they have significance. Essentially, emerging cultural values and understandings are what give wildlife products their desirability and hence value—in any other context, a rhino horn is just a rhino horn, and a shark fin is just a shark fin. In fact, in other cultures, those products could even be ascribed a negative value, one of remorse or regret, based on the cultural-environmental context of the society.

The ascribed value of wildlife products in traditional medicinal practices to create social identities thus contributes to the understanding that certain wildlife products are valuable—even priceless. The rarity of a species does not protect it from being poached—in fact, it makes it even more valuable. The market then reacts as

traditional markets do. Demand dictates supply, decimating animal populations, and in turn, the prices continue to rise as the supply becomes reduced. As species become rare and difficult to find, species gain a higher commercial value as specialty food, trophies, medicines, or pets. For example, a live Myanmar star tortoise could be worth more than its weight in gold in Thailand or Japan, and a live elephant calf could be worth the price of a condominium in Laos. Yet, these species would fetch far less on the streets of Canada or Sweden, given that they are not infinitely demanded there. As the species dwindles in the wild, rangers are driven to sleep on top of their cages at night to guard them against being stolen from breeding facilities (Butler, 2016). Poachers have even gone as far as traveling to European states for wildlife products, as seen in the case of the 2017 break in at a Paris Zoo where a rhino was shot dead in the middle of the night, his horn cut off with a chainsaw (Forster, 2017).

The level of difficulty in obtaining those animal products projects a sense of authority and/or inclusion upon those who do attain them working twofold—to both increase the value of the animal as well as intensifying any existing cultural demand. Their peers will naturally think them to be in high standing or importance because *they obtained the unobtainable*. The more this happens, the more people will a) be compelled to take risks to obtain certain wildlife products or b) spend an inconceivable amount of money for those products. Even individuals unlikely to buy wildlife products for consumption are likely to enter the market at this point, buying tiger bone, rhino horn and ivory as investment assets, just like one would rare art. Either way, the cycle continues to perpetuate itself until a species is completely extinct. While in some instances this would signify the end of both the species and the global trafficking problem, surveys have shown that consumers of wildlife merely move on

to the “next best thing”. For instance, earlier this year it was found that with tigers (and their parts) becoming scarcer, a market is opening for other big cats, like lions (Nuwer, 2018). In less than a year, officials estimate that over 100 jaguars, a species whose numbers are already dwindling due to deforestation, have been killed to supply a trade for its fangs in China.¹⁶ In 2017, there were more than 50 seizures of packages headed to Asia that contained jaguar parts in Brazil, which has major Chinese communities (McKie, 2018). Waiting on the extinction of a species is not an option, then, not only for the ecological and biodiversity implications, but because it does nothing to address the fundamental understandings and drivers of the market.

This market—this “economy of signs”—is less about commodities being exchanged and more about the signals given off and the value invested in the commodity as a symbol. Research reveals that there is a strong link between positive attitude towards cultural change and consumption of “luxury” goods (Dubois and Duquesne, 1993). This indicates that many people buy goods for what they symbolize. This understanding is consistent with the hedonic consumption and extended self-personality models¹⁷, where purchasing luxury goods represents an extreme form of expressing one’s values (Dubois and Duquesne, 1993). Aesthetics figure prominently in this economy, as it is the creation of a social imaginary of particular tastes and desires, coupled with the commodification of tastes, pleasures, and leisure that secure its existence. The product of this economy of signs is not only the growing chase after

¹⁶ While the jaguar is not indigenous to China, a burgeoning Chinese population throughout South American countries like Bolivia has created a market for jaguar’s teeth, which are often worn on a necklace or attached to a key ring as a status symbol (Agence France-Presse, 2018).

¹⁷ Hedonic consumption and extended self-personality models are defined as the multisensory, fantasy, and emotional aspects of consumers’ interactions with products. It involves the use of a product to fulfill fantasies and satisfy emotions.

products as mentioned above, but also a discussion on how power operates through symbols and signs to determine meaning of value (of both the product and the consumer).

Consumers are active agents in wielding influence, constructing social power, and perpetuating ideas of what it means to be a given social identity. An interpretive approach¹⁸ is necessary to understand that all meaning depends on codes, and that each code and its assigned value/meaning “depends upon its relational position within a system of codification/ signification” (Peterson, 2006 p. 141). Based on cultural understandings, specific wildlife parts can signify a cure for cancer, ward off curses, or even replenish different parts of the human body (Stromberg and Zielinski, 2011; Connor, 2013). Products that signify a new lease on life to cancer patients and their families, or a new sense of masculinity to various men in a certain culture (in the instances of these examples, various Asian cultures) may very well mean nothing to Western cultures.

In either case, reactions to the consumption of these products are informed by our understanding of what it means to be masculine, feminine, sustainable or any other characteristic. Symbolic interaction theory best explains consumer attitudes in this way. Symbolic interactionism “creates novel appearances as well as new ways to see, interpret, and understand these appearances” (Zhang and Kim, 2012). In the case of illicit wildlife products, possession determines the nature of an individual’s attitude

¹⁸ In political science, an interpretive approach is defined as focusing on the meanings that shape actions and institutions, and the ways in which they do so. The interpretive paradigm is concerned with understanding the world as it is from the subjective experiences of individuals. The approach uses meaning (versus measurement) oriented methodologies, including interviews and participant observation that rely on a subjective relationship between the researcher and subjects (Bevir & Rhodes, 2002).

towards him/herself as well as the behavior of others. Products convey the identity of the consumer, simultaneously announcing the social status to observers within a certain social setting. While these identities are to an extent culturally constructed, each man's sense of masculinity is an individual creation dictating what they do (Kheel, 2008 p. 48).

The perpetuation of this consumption within social settings encourages consumers to believe that a) the consumption of these products is natural, b) that they are partaking in a certain aesthetic recognized by all and c) they must participate to be "authentic" (Peterson, 2006 p. 142). This commodification of culture shapes identities, expectations, and everyday lives, affecting how people think, what resources they have, and in the case of poachers, what work they do. A decline in wildlife poaching will not happen until a relational understanding of power dynamics, structural processes, and the material effects of "economics" are considered, revealing their embeddedness in symbolic/cultural systems and the values they represent.

2.4 Conclusion

Taking into consideration the dynamism of the socially constructed and perpetuated markets for wildlife products, I argue that a one size fits all solution may not be enough. Thus, the theory I propose in the coming chapter builds upon the idea that the morphing normative values that fuel demand around the world matter more than the traditional supply and demand models that many environmental regimes base their legislation on. Although the demand for wildlife has occurred for thousands of years, human population growth and increases in disposable income have had a noticeable effect on wildlife and wildlife trafficking, and thus should be considered when creating policies (Mainka and Mills, 1995). Understanding the nuances

influencing consumption can help create culturally appropriate and effective campaigns against illegal wildlife products. To date, the environmental advocacy network fails to engage with the consumption of wildlife in a way that reduces the social status of the behavior and essentially works to counter peer pressure. The extensive consumptive use of wildlife in the context of a modern-day economy requires the development of conservation strategies that (1) go beyond existing laws that are seldom enforced, and (2) foster dialog among different stakeholders to address issues such as the need for elimination of the illicit aspects of the trade, and the development of some form of collaborative resource management.

The illicit wildlife trade will likely only be solved by a mixed variety of methods and approaches. To this end, regulations, enforcement, market solutions and campaigns to reduce consumer demand all play an important role in the puzzle. Regardless of where the solution begins, however, aspects of social identity will need to be included within these efforts to ensure a sustainable, long-lasting solution. Analyses have shown that illicit wildlife products encompass specific values, primarily for male consumers, that justify purchases. Each product bought and sold has a specific set of values, making them more appropriate in certain situations than their counterparts. Knowing these differences can be an important starting point in designing appropriate and effective marketing campaigns. An identity lens thus helps us understand the meaningful cultural and social context within which the individuals within the illicit wildlife market make decisions. When we pay attention to such aspects of social identity, endangered species management becomes a more attainable goal. The next chapter will begin a thorough analysis of consumer desire for these products to provide not only a basic understanding of consumer behavior but also a

detailed roadmap for organizational and experimental design, which will be used in Chapters 4 and 5 to test my hypotheses.

Chapter 3

THE MISSING LINK: A PSYCHOSOCIAL APPROACH

3.1 Overview

The previous chapter initiated an analysis on the dynamism of the socially constructed and perpetuated markets for wildlife products. As a next step in this analysis, this chapter will discuss the facets that an anti-wildlife trafficking campaign needs to address these nuances of consumer identity. Personal identity emerges in a social context, emphasizing cultural aspects of identity and social interdependence (Clayton and Opatow, 2003 p. 5). In this context, identity is not stagnant or stable; instead, it is layered and complex, changing as is negotiated in social interactions. One's social and cultural environment can transform social identity, increasingly playing a larger role in one's sense of self and the world. As such, it is important not only to understand a particular environmental context but also the ways people respond in that context. Therefore, attempts to change behavior while ignoring people's underlying social identities may have only a short-term effect; thus, campaign design necessitates a clear understanding of the connections between environmental issues and identity.

When creating anti-wildlife trafficking campaigns, conservationists tend to draw from a mixture of approaches, but often do not pause to assess how or why these components complement each other. Using the concept of "Quadrants of Engagement" (Lertzman, 2015), this chapter aims to demonstrate that, to maximize effectiveness of

campaigns, organizations must employ tools not only from one or two quadrants, but from all four. What is important to note, however, is that this dissertation is in no way attempting to be a “how to” manual for current and future wildlife campaigns. Instead, its purpose is to spark ideas about the application of these concepts and theories, as well as to establish a more general/generalizable theoretical understanding of the linkages between (1) different tactics of campaign engagement with stakeholders and (2) changes in behavior with respect to individuals' consumption of wildlife products.

3.2 The meaning behind a psychosocial approach

The term “psychosocial” first emerged in the 1890s, although the notion of a “mutually constitutive connection” between personality and social life existed well throughout the nineteenth century (Hayward, 2012). A broad swathe of cultural commentators during this time agreed that working practices and social relationships were fundamental to the creation of human personality, although they differed over the nature of this creation (Burkitt, 1991). Thus, the term “psychosocial” is meant to refer to the complex interplay between our individual psychology and the sociocultural contexts in which we live. Given the intricacy of this interaction, a psychosocial approach examines the surface level motivations which drive actions and choices. Therefore, a key feature of the psychosocial approach is its emphasis on *affect*, which serves as the key underpinning of desire. The hope of this dissertation is that by understanding affect, the theoretical underpinnings of consumer desire for illicit wildlife products will come to light.

3.2.1 Demand versus desire

If we closely examine consumer demand for illicit wildlife products, we see that it is largely a function of desire. As discussed in Chapter 2, demand for illicit wildlife products can often arise from a desire so deeply rooted that even the consumer themselves cannot fully explain it. These desires may be embedded in a love of one's country, a longing to achieve economic security in the face of rapid global economic change, or even a yearning to be connected to the attributes of their mighty ancestors. Whatever they may be, desires can often be difficult to process or comprehend when viewed from an external lens, separate from the society in which they are cultivated. Herein lies one of the fundamental problems with many anti-wildlife trafficking campaigns; this disconnect will be detailed at length later in this chapter when discussing the four quadrants needed to create and maintain an effective campaign.

Desires, whatever they may be for, are complex drives that elicit certain behaviors. At their core, desires are an expression of “affect”, and are both socially influenced and personally experienced. “Affect” is akin to emotion, but the primary differentiation is that affect is under the surface of awareness. It can be understood as an assessment of circumstances to be either punishing or rewarding (Brader and Marcus, 2013). Simply put, it is the feeling associated with a specific memory, location, or even person that is “felt” before thought; in essence, affect happens unconsciously and instantaneously (World Wildlife Fund, 2016 p. 3). We strive to satisfy these deep-seated desires through certain behaviors, often without fully understanding *why*. Affect can show up as a desire for or attraction to a specific object. Think, for instance, of the example of “emotional eating”. Whether we are searching for a need to feel calm, reassured, or loved, it is translated into a desire for food,

typically a particular type (Viladrich and Tagliaferro, 2016). People are drawn to certain foods that evoke strong, positive emotions—like a family recipe.

Often, affect is not a feeling processed on a rational level; it is a “gut feeling”, a craving (Viladrich and Tagliaferro, 2016). People do not typically buy an illicit wildlife product for its beauty or practicality, but what it represents and how it meets unspoken needs. These needs can range from feeling powerful, safe, valued, respected, even connected to history or a cultural heritage.¹⁹ Typically, these needs are socially influenced, hence the term “psychosocial”. When these desires become deeply entrenched and popularized, they can often be taken as societal “norms”. Redirecting these desires—whether they are the norm or not—therefore necessitates a two-pronged approach: first, acknowledging these desires, and then meeting these same needs through other means (World Wildlife Fund, 2016 p. 4). For instance, if the need is to show power, an advocacy campaign must identify opportunities or manners by which target individuals or groups can show power through some other frame. At this point in time, many wildlife trafficking campaigns target consumers with a message attempting to dismantle the wildlife market with the termination of a specific action or tradition (Lertzman, 2016). Without providing a sustainable substitute material²⁰, campaigns that merely impart a negative connotation upon certain actions or traditions do not entice consumers into making lasting changes. Thus, the psychosocial approach

¹⁹ The Nature Conservancy’s 2016 “Curbing Ivory Consumption in China” and National Geographic Society and Globescan’s 2015 “Reducing Demand for Ivory” surveys show that even when people realize how consumption threatens species’ survival, their purchase tendencies may remain unchanged.

²⁰ By this I mean, providing consumers with a viable alternative that provides them with the same feelings of security, connection, or even power. For instance, without a sustainable alternative, the clamp down on tiger bones has resulted in lion bones being used as a substitute, creating a new threat to lion populations. For more information, see Williams, Vivienne, 2015. “Tiger-bone trade could threaten lions”, *Nature* 523-290.

would posit that, to successfully reduce demand for wildlife products, a wildlife trafficking campaign must incorporate the following basic elements:

- *Identify* the unconscious, core needs consumers are trying to meet by buying illicit wildlife products.
- *Acknowledge* these needs in campaign messaging in a non-judgmental way.
- *Redirect* consumers to an alternative way to meet their needs (World Wildlife Fund, 2016 p. 4).

Each step in this approach is essential. Skipping one renders an anti-wildlife campaign as incomplete with respect to its potential effectiveness. Traditional campaigns overlook the second step completely. Without fully integrating these psychosocial insights, campaigns fail to change consumer behavior at a scale that makes a difference for endangered species. Merely using the potential damage and danger to wildlife populations usually is not enough to change behavior; campaigns must address the complex psychosocial factors that often influence desire (Lertzman, 2016). Many wildlife campaigns now rely on mass media public awareness techniques to reduce demand for illicit products.²¹ These approaches emphasize behavioral economics and social marketing by both using trusted messengers (i.e., celebrities) and using sentimental “heart strings” tactics to elicit guilt, shame, or conflict. While non-governmental organizations have educated the public about endangered species conservation and dissuaded some potential buyers, the illicit wildlife product market

²¹ WWF is known for their show-stopping visual campaigns that range from minimalistic billboards to complex holograms in places like St. Paul’s in London. WildAid is known for their high value television advertisements which operate on a massive scale in part thanks to nearly \$218 million worth of donated media placement each year.

persists. Moreover, survey results²² show that even when people know how detrimental wildlife consumption is, their attachment to a specific product and the inclination to buy it remains unchanged. Therefore, the approaches currently used by wildlife campaigns may not reach the powerful, latent motivations that drive desire.

On the other hand, a psychosocial approach looks to change these behaviors, to reconstruct these norms; it fundamentally differs from most current methods due to its ability to target three underlying drivers: desire, affect, and attachments. Doing so allows the psychosocial approach to surpass two major roadblocks: the use of “blame and shame” and the absence of a redirect (Lertzman, 2016). According to Alcorn (2013), the use of shame and blame triggers an emotional response that often blocks people from processing what campaign messages are saying. Given that the use of illicit wildlife products often coincides with a display or creation of identity, the ability of the psychosocial approach to acknowledge desire without blame or judgement is of the utmost importance. The brain struggles to process information it deems threatening to our identity, which means blaming and shaming hinders the possibility of change. More than just allowing for change, however, a psychosocial approach also offers a redirect. A redirect is new behavior that replaces the old behavior but serves the same fundamental purpose (World Wildlife Fund, 2016 p. 7).

As compelling as the psychosocial approach may be, it still constitutes just one piece of the puzzle that is campaign design. If we were to imagine the perfect campaign to combat illicit wildlife trafficking, the use of the “Quadrants of Engagement” (Lertzman, 2016) would be beneficial. The Quadrants represent the

²² Results and data taken from The Nature Conservancy (2016), National Geographic Society, and Globescan (2015).

whole toolbox of approaches to changing consumer behavior. Typically, campaigns only employ tools and methods from one or two quadrants, whereas maximum effectiveness requires an integrated approach incorporating tactics from all four. While individual quadrants can and do overlap, for the sake of simplicity they are characterized by their dominant feature; the quadrants are: (1) Regulatory, (2) Culture, (3) Behavioral Economics, and (4) Desire. A brief explanation of each quadrant follows.

As could be assumed, the Regulatory Quadrant consists of mechanisms developed by governments, corporate actors, or intergovernmental bodies that regulate an activity—like buying illicit wildlife products through restrictions and bans, upholding sanctions, and fines for violators. The most prolific examples of the Regulatory Quadrant when it comes to wildlife trafficking include the Convention on International Trade in Endangered Species (CITES), national legislation, national agencies that execute and enforce legislation, interstate commerce laws, customs services, and border control agencies (World Wildlife Fund, 2016 p. 10) Campaigns centered predominantly in the Regulatory Quadrant dedicate their energies to ensuring the effective implementation of wildlife protection laws, as they believe regulation via international agreements will create change.

The Culture Quadrant focuses on influencing cultural perceptions and societal norms through messages that grab people’s attention and incite petitions, donations, or any other form of action. These messages often aim to shock, surprise, incentivize, or intrigue audiences through the unique design and framing of a message (World Wildlife Fund, 2016 p. 11). Take, for instance, one of WildAid’s inaugural shark fin soup public service announcements with Yao Ming. The commercial sets the scene by

showing consumers of shark fin soup what really happens to create this famous “delicacy”.²³ Campaigns situated in the Culture Quadrant focus on appealing to consumer values and beliefs to persuade them to reject environmentally damaging behaviors. To ensure maximum efficacy in this quadrant, campaigners focus on crafting the most compelling message to both raise awareness and influence behavioral change. Strategies may include saturating media outlets and using trusted messengers to deliver a call to action.

Some of the most prominent approaches to decreasing demand for wildlife products is reflected within the Behavioral Economics Quadrant (World Wildlife Fund, 2016 p. 12). This quadrant is predicated upon understandings of behavioral economics, “social marketing”, and social psychology. Tactics like pledges, competitions or challenges, and social norming and influence strive to remove barriers and increase motivation, making it easier for target audiences to do or stop doing specific behaviors. These tactics are very popular when it comes to making changes to single-use plastic, as can be seen with the popular Plastic Free July.²⁴ Much like the Culture Quadrant, the Behavioral Economics Quadrant leverages the use of influential celebrities or spokespeople as role models for influencing others. Given the inherently social nature of humans, survival is bound in acceptance, meaning both social rewards and stigma can instigate new behaviors. Campaigns in this quadrant leverage social marketing tactics to create an “in-crowd” association with a desired behavior; these

²³ The English-translated version of this campaign public service announcement can be found on WildAid’s official YouTube page. It is entitled “WildAid PSA- Yao Ming: Shark Fin Soup”.

²⁴ Plastic Free July® is a key initiative of the Plastic Free Foundation that allows us to work towards our vision of seeing a world free of plastic waste.

tactics are thought to be the most effective way to shift demand reduction and behavioral changes.

The final quadrant, the Desire Quadrant, is one of the most complicated to understand, and because of that is one of the least used tactics in current campaigns. This quadrant taps into the underlying psychological needs and motivations that fuel consumer demand. What is the consumer experience? What are they trying to express through their consumption of a specific product? Answering these questions entails the use of a cross disciplinary blend of neuroscience, psychology, and anthropology/ethnography. This eclectic constitution allows for campaigns to trace the hidden forces that attract consumers to specific products by analyzing people's relationships with what they buy and how identity and self-image factor into these purchases (World Wildlife Fund, 2016 p. 13). The hope is that by addressing these hidden forces and underlying core desires, behavioral changes and demand reduction may be possible.

While the Desire Quadrant is the most underused in campaigns, it can (and does) serve and support the other quadrants. It is not meant to be a stand-alone approach, but a set of questions and guidelines to consider when developing messaging, social marketing, and social media tactics. Often, the perspectives illuminated by the Desire Quadrant are either missing or greatly underdeveloped in campaign strategies. The remainder of this chapter will discuss in detail the role of desire. In this vein, specific attention will be given to its incorporation into anti-wildlife trafficking campaigns through the role of norm legitimators, with corresponding discussion of the potentially enhanced effectiveness of campaigns that

do so. Several of these contentions will then be empirically evaluated in the ensuing two chapters.

3.3 Toward a psychosocial approach

To understand a psychosocial approach, one must pay attention to its three pillars: desire, relationships, and conflict. Incorporating desires into any external effort to change an individual or group's behavior with relation to wildlife trafficking goes beyond simply “pulling on heartstrings” to create a support group for endangered animals. As noted above, the desires that tend to drive consumer demand of illicit wildlife products are typically deep-seated and, in some instances, inexplicable to outsiders. Those desires typically relate to satisfying a specific need such as the need to be ascribed social or economic recognition.

By and large, wildlife trafficking campaigns that seek to engage with desire try to dismantle desire before it is turned into action by urging people to stop and think about the consequences of their behavior. This approach, at its simplest, is reminiscent of a naming and shaming technique common with transnational advocacy networks. (Keck and Sikkink, 1998; Lebovic and Voeten, 2006; Hafner-Burton, 2008). While at times successful, naming and shaming does nothing to address the core needs that fuel consumers to desire for these illicit wildlife products in the first place. In fact, naming and shaming may dissuade consumers initially, but there is no guarantee that such change is long-lasting. Instead, efforts to change individual or group behaviors with respect to wildlife trafficking must dig deeper, striving to understand the emotional associations to these products that have been constructed by history, culture, and social interactions over millennia (World Wildlife Fund, 2016 p. 19).

The relationships discussed in a psychosocial approach consist of three types: a) our relationship to the natural world, b) our relationship with one another, and c) our relationship with ourselves and what we hold to be important. Each of these relationships shapes consumer desires, especially when it comes to fulfilling the social needs of the latter two relationships. Redirecting desire to a more sustainable activity or product that still satisfies these social needs is thus imperative for wildlife products to lose their value and consequently, for demand to decline. In recent years, conservation organizations have started inspecting human components more systematically, including understanding how to influence human behavior (St. John et al., 2010; Milner-Gulland, 2012).

Within these designs, however, the third pillar, conflict, is often the most overlooked. Survey data often shows stark contradictions can exist between what people say and what they do.²⁵ At times, people know that something is wrong, yet they do it anyway; other times, people have incongruous feelings that coexist, known frequently as “cognitive dissonance”. Examples of cognitive dissonance in relations to environmentalism can be as simple as “why do environmentalists eat meat?” (Scott et al., 2019). Such paradoxical feelings can cause internal conflict; sometimes, despite knowing what the “right” thing to do is, we still want to have or do the things we desire. For instance, we know we know straws end up in the ocean, but we use them when given to us; we know that flying in an airplane or driving everywhere contributes to climate change, but we still fly and drive; we are told some seafood is

²⁵ As mentioned above, The Nature Conservancy’s 2016 “Curbing Ivory Consumption in China” and National Geographic Society and Globescan’s 2015 “Reducing Demand for Ivory” surveys show that even when people realize how consumption threatens species’ survival, their inclination to buy illicit products may remain unchanged.

overfished, but we continue to eat it. With these examples, and countless others, we lead ourselves to believe that we have “no choice” due to social or economic pressures, but the truth is we admit to them because we are merely ambivalent about these causes.

In the context of pointing out harmful behavior to consumers who may not consciously realize the harm they are causing; the social psychology literature implies that advocates must also be prepared for their negative reactions and defense mechanisms. These mechanisms can help people cope with adverse feelings like feeling guilt or shame when information clashes with their identity. While these two emotions are often used interchangeably, research suggests that two distinct processes are at work (Tangney et al., 2007). Shame can be triggered when negative self-evaluation is aimed at the whole self (i.e., “I am a bad person”) while guilt is triggered when negative self-evaluation is aimed at a specific behavior (i.e., I did a bad thing”). The consequences of these two emotions are equally as distinct. Shame causes feelings of powerlessness and worthlessness, even a desire to hide or deny the situation, while guilt elicits feelings of remorse and motivates not only reparative actions but a desire to improve future behavior (Brader and Marcus, 2013).

These factors hold true in the context of anti-wildlife campaigns as well. When campaigns instruct consumers not to consume, say, elephant ivory because it is “wrong” and it harms elephants, that message can backfire because no one wants to be told they’re a “bad person”, nor do they want to be denied something they feel an abiding attachment to. Instead of abstaining from purchasing or consuming ivory, a consumer’s defense mechanisms kick in, leading to denial, disavowal, and rationalizing. Denial is indicative of self-image being threatened; telling someone they

are causing harm can cause feelings of shame and guilt, at which point their brains are rendered incapable of accepting the reality of the situation. In the scope of international relations, threats to or the denial of an identity are pivotal in the escalation of conflict and render issues “nonnegotiable” further entrenching the driving norms (Northup, 1989; Kelman, 2001; Fisher et al., 2013). With disavowal, people simply choose to remain unaware of a problem; this mechanism is a common response when it comes to issues of environmental degradation (Trunnell and Holt, 1974). Rationalizing allows for people to distance themselves emotionally from a problem and justify continuing the behavior (Aviram et al., 2006).

From a social science measurement perspective, it can be easy to confuse denial, disavowal, and rationalizing for apathy or carelessness and not realize they are defenses that cover up more complex conflicts people struggle to articulate. For this reason, some qualitative research methods are needed to target conflicts and identify plausible redirects and their success. Anecdotal information is also widely used, particularly, for informal pretesting of messages; including using reactions observed at workshops or during interviews to identify which messages provoked the desired reaction, something that may not be apparent with a sole reliance on quantitative data, as argued in more detail below.

3.3.1 Mastering the “redirect”

Understanding the pillars of the psychosocial approach and being able to identify defense mechanisms are futile unless they are coupled with a *redirect*. According to the World Wildlife Fund, a redirect is the “process of shifting people’s attachments and desires away from [a wildlife product] onto a set of new, safe ways to fulfill them” (World Wildlife Fund 2016, p. 25). Redirecting is less about replacing

desire for one product with another, and more about replacing the feeling that someone gets or the needs it fills. The concept of the redirect is based on neuroscience and psychology insights which look at how neural pathways direct behavior (World Wildlife Fund, 2016 p. 25). Since neural pathways are fashioned by things like habit, life experiences, and socio-cultural influences, people can assimilate new information and behaviors easier when they link up with existing pathways. Simply put, persuading people to make a change entails meeting them where they are. Redirecting them to a new way of thinking and acting is most successful when it is built upon a pre-existing foundation.

Redirecting consumers to new behaviors—in its simplest form—necessitates these three steps, mentioned above:

- Identify the underlying core needs being expressed through the purchase of wildlife products.
- Acknowledge the validity of these core needs and that the desire itself is not wrong—it is the damaging consequences that cause problems. Engage with consumers to explore other ways to satisfy these desires.
- Identify alternatives that are as good or better at fulfilling these needs in more enduring and powerful ways (World Wildlife Fund, 2016 p. 25).

One of the most powerful ways to apply the redirect is by referencing the core needs or desires that drive consumers within a campaign or messaging and showing how it can (and is) achieved through other means (Post, 2013). Such techniques will be the driving factor within all the case studies in the coming chapters. The remainder of this chapter will go into detail about how the redirect will be utilized within each case, as well as introduce the concept of a “norm legitimator” who will be the pivotal

piece in ensuring these redirects are successful. Given that the norms in question are deeply entrenched not only into each society, but in the lives of individuals, a norm legitimator will ensure that redirects are seen as a natural progression that respects the values behind these norms, instead of a foreign imposition. In this way, the redirects are more likely to not only happen, but cause lasting behavioral change.

3.4 Why methods matter: Building the “Norm Legitimator” theory

The methods we use in our research are indications of what constitutes knowledge, data, and how we frame our investigations (Lertzman, 2015 p. 41). Examining social norms that individuals ascribe to provides a unique angle with which to understand why illegal wildlife trade continues to be a rampant problem despite governmental regulations. To date, research on wildlife trafficking predominantly focuses on concepts of supply and demand without taking into consideration aspects of gender, culture, and identity (Schneider, 2008; Drury, 2009; Silva Reguiera and Bernard, 2012; Chen, 2015). The commercialization and use of biological resources as remedies and commodities encompass cultural and social aspects and bear important implications for conservation, especially in relation to the most heavily exploited species.

A comprehensive understanding of how cultural identities are constructed and impact environmental degradation issues like species conservation is crucial for examining the complex socioeconomic conditions in which consumers, traders, poachers, and their families live. These understandings, however, are predicated upon socially and culturally constructed values, as well as upon culturally ascribed roles and responsibilities of men and women. What it means to be masculine, feminine, or even the “ideal citizen” in and of itself varies, and thus, it can be said that relationships

between masculinity, femininity, and national identity and the environment differ based on the society and culture in which they are based.

Yet, these unique drivers of demand are exactly what is overlooked and missing from present-day attempts to stifle the illicit wildlife market. Instead, campaigns push an overarching message of “global environmental sustainability”, expecting individuals to behave in a prosocial manner—but at the expense of their national or local identity. Norms determine how individuals react to specific matters, as actors are concerned about how they can be perceived within society if they resist widely accepted standards (Finnemore and Sikkink, 1998; Acharya, 2004). For individuals to willingly replace one norm with another the new norm must be considered legitimate—in other words, norm compliance is derived from a sense of obligation, not a cost-benefit analysis. In efforts to validate anti-wildlife trafficking norms, this project introduces the concept of “norm legitimators” to consider the role and importance of normative and cultural transformations through social learning.

Unlike an ordinary campaign spokesperson, a norm legitimator is a prominent social figure that is culturally “in the know”, has visibility, and gives the perception of being involved because they care. Unlike governmental officials, there is no power or notoriety associated with norm translators’ actions, so they are less likely to be perceived as pursuing the cause for personal gain. I hypothesize that shifting attitudes concerning wildlife trafficking will be the result of individuals updating their opinions to better align with the preferences of people they respect and/or identify with in some way. In simpler terms, norm legitimators control the redirection of desire for these illicit wildlife products in a context that still respects the traditions and values which initially produced these desires.

At the most general level, this dissertation builds upon the basic understanding that while CITES does everything it was intended to do—including manage imports, track exports, and disperse permits—wildlife trafficking has continued to ravage wildlife populations, despite a nearly global CITES membership with 183 signatories and strong NGO partnerships. Thus, discussions of noncompliance typical of the wildlife trafficking field fail to acknowledge the social aspect of wildlife demand. This dissertation, instead of following in the footsteps of its scarce predecessors, therefore looks past questions of compliance to take a substantive look at the norms that drive demand. Literature shows us that under the right circumstances, norms can and do stick, as the last 40+ years have seen the introduction of and commitment to environmental legislation like CITES (1975), but also the Kyoto Protocol (2005), the Endangered Species Act (1973), and even the Paris Agreement (2016).

Given that at the nature of this discussion are aspects of identity, a psychosocial approach allows us to examine how culture contributes to individual growth (Newman and Newman, 2018). In this instance, not only does culture influence individuals to act upon their desire to purchase illicit wildlife products for a specific purpose, but culture is also used to *redirect* these desires towards a more environmentally friendly alternative. Of course, answering these questions necessitates a thorough understanding of the inner workings of the illicit wildlife market. Yet at the crux of this problem are questions which go beyond simple market forces, making this discussion centered on the desires and norms which drive demand. While supply side anti-poaching legislation like CITES, aims to increase the cost of poaching and reduce supply, recent research suggests that people place higher value on wildlife products when they are considered rare or uncommon (Gault et, al, 2008; Angulo et, al, 2009;

Johnson et al., 2010; Lyons and Natusch, 2013). Therefore, demand for wildlife products may be subject to what scholars call “the snob effect” –the less common these products are, the higher the demand, and the more people are willing to pay to obtain them (Chen, 2015). A significant consequence of the snob effect is it weakens any supply side anti-poaching policies, like policing and enforcement, or even incentivizing local communities to participate in conservation efforts. While demand for rarity cannot completely offset the effects of these supply-side policies, any reduction in the amount of poaching could be negligible when people are willing to pay more for rare wildlife products. Such a conundrum calls into question whether directly targeting the supply side of the market for poaching are the most effective options for protecting endangered species affected by poaching and illegal trading.

In sum, the prior sections have argued that demand for trafficked wildlife products is a deep-seated psychological, social, and cultural phenomenon. Such drivers of demand are unlikely to be solved by current international regimes and more general anti-wildlife trafficking campaigns thereof. Rather, a more holistic, psychosocial approach is necessary for affecting wildlife product demand across countries and cultures. Given the need to tailor this multi-faceted approach to specific cultural contexts, norm legitimators will be uniquely able to affect change in demand for trafficked wildlife products at individual and societal levels. This line of thinking accordingly leads to the following testable hypotheses that will be explored in the empirical chapters of this dissertation:

- Hypothesis 1 (H1): Campaigns employing norm legitimators will be more effective in reducing wildlife trafficking at the individual and societal levels, relative to campaigns that do not employ such individuals.

- Hypothesis 2 (H2): The reason for the enhanced effectiveness of norm legitimators will be at least partly due to these actors' unique ability to communicate anti-trafficking campaigns in a culturally relevant, and culturally understandable, manner.

Facets of these two hypotheses will be tested empirically in the ensuing two chapters. To do so, I will first evaluate these expectations qualitatively, at the societal level, via the case studies considered in Chapter 4. I then experimentally evaluate these expectations quantitatively, at the individual level, in Chapter 5. In both cases, I assess my hypotheses across multiple countries and hence cultures, and across multiple animal species, in the interest of external validity and generalizability. The section immediately below highlights these latter elements under a general research design overview. Chapters 4 and 5 then provide more specific details on my qualitative- and quantitative-specific research designs, cases, and data.

3.5 Research design

As mentioned previously, most strategies currently utilized to combat illicit wildlife trade have proven to be ineffective on the international, domestic, and individual levels. It seems impossible for a global regime to be efficient enough to combat all the problems of the international community and variations therein. Here lies the modern paradox: resources are primarily situated at the state level, while problems are transnational, regional, or global. In hopes of confirming the success of these “tailored” campaigns led by norm legitimators, this research takes advantage of multiple methods to track public responses and consumer data for three wildlife markets. The purpose of having multiple methods is to counteract the many inconsistencies in data availability within the realm of wildlife trafficking. By combining the analysis of “real-time” campaigns with a constructed social experiment,

this project obtains a more robust understanding of the question at hand. As will be detailed below, both parts of the research design will offer contextualization for, and will endeavor to assess, each of the hypotheses posited above.

Since wildlife trafficking is inherently illicit, data collection and assessment within extant projects is primarily comprised of surveys and research published by government agencies and nonstate organizations. Even so, it is to be expected that the data collected will not mirror the true numbers of the trade. WildAid, a conservation organization headquartered in San Francisco, California, is well known for “localizing” campaigns by using renowned individuals as the vehicles for their movements (Olmedo et al., 2018). By using a prominent figure as the pinnacle of their campaigns, WildAid avoids the risk of being a seemingly imposing western imposition; instead, campaign messages are better received because they derive from individuals who have previously lived by and agreed with their country’s cognitive prior.²⁶

These individuals act as norm legitimators, as they, as a product of their nation, are well versed in the cognitive prior and can balance the international responsibilities of a sustainable global citizen and their own cultural identity. This “juggling act” allows legitimators to maintain the value of a cultural tradition while also ascribing to a larger global international regulation. The key contention is that these norm legitimators, as a product of a specific culture, will be more well-received by their counterparts than a western demanded regime would be and thus be less likely to

²⁶ While many outstanding organizations run campaigns to counter wildlife trafficking, WildAid provides a perfect unit of analysis for my research as their video, print and online campaigns have focused on increasing awareness about poaching to prompt changes in attitudes and behavior by focusing on cultural values.

incite feelings of guilt or shame. Individuals, even if not personally committed to a certain ideal, may conform to norms (Klotz, 1995).

In my empirical analysis, I posit that who delivers the message of changing norms (otherwise known as “the redirect”) may have a great effect on how well the norms are accepted, and that even if individuals hold their cultural values to be highly important, they will conform to the new cultural identity if their fellow country people are seen shifting their ideology. A culturally driven model opens opportunity for both discussion and experimentation, allowing nations to fill the gaps they disagree with in current legislation. The construction of a multilayered governance network could “establish a genuine global rule of law” by producing partnerships between state, regional, and global levels of organizations (Thakur and van Langenhove, 2006).

Furthermore, a more culturally sensitive international wildlife trafficking regime introduces the opportunity for multiple pathways of knowledge, information, and values to be integrated into a framework; it would, in essence, bolster the intent of a psychosocial approach: to understand how societal contexts not only impact psychological development but how they can be used to further developmental progression. The idea of both norm translators and norm osmosis argues the stance of a “bottom-up” approach, which will flow from multiple “unheard” nations and reinforce a consensus for an effective and manageable conservation framework. Norm creation constitutes a bottom-up approach (Weinert, 2016), which combats the present trend of the West and its larger powers imposing their norms onto the rest of the global community. This bottom-up approach provides detail into individual demand and societal trends that perpetuate the market, unlike CITES or other governance-level analysis which focus solely on nation states and the international community.

The first part of my analysis, as presented in the qualitative case studies contained within Chapter 4, looks to “real-time” wildlife campaigns with various degrees of a norm legitimator where the dependent variable is the effectiveness of campaigns using norm legitimators. Variation in norm legitimators, the independent variable of these campaigns, consists of a campaign *with* a norm legitimator, a campaign with a spokesperson who does not comply with any or all the specifications to be a legitimator, a campaign with the animal species in question, and a control campaign. The purpose of tracking norm legitimators is to tap into that desire quadrant discussed earlier in this chapter. As mentioned earlier, the tactics in the desire quadrant are not standalone, but rather a set of questions and guidelines to consider when developing campaign messaging. One caveat for this analysis is that campaigns will need to be running at different times to isolate the “effectiveness” of each. Effectiveness will be rated on a spectrum instead of on a binary basis of “success/failure”. Species health, CITES listing, and market value will all be considered when determining the effectiveness of each campaign within my qualitative case studies.

For Chapter 4, information has been collected predominantly from WildAid’s summary reports, CITES’ website (which records permits and transactions), annual country reports issued to CITES, TRAFFIC, and international news reports. This qualitative analysis contributes external validity despite lacking internal validity, as generalizations can be derived from real time behavior. For each campaign they conduct, WildAid publishes extensive reports which include both pre-campaign data (about seizures, species population, and consumption) as well as extensive entry and exit surveys conducted by third party organizations like iResearch. Data compiled by

WildAid before a campaign's initiation will serve as the baseline for all measurements from which to compare any future success/lack thereof to. Chapter 4 goes into further detail about the case study analyses for the three markets of shark fin, pangolin scale, and tiger parts. Entry surveys conducted by WildAid provide information with which to distinguish whether trade is driven by normative understandings, as participants are asked why they use "product x". In this way, the driving desire behind each consumer's demand can confirm or deny whether the construction of social identities plays a role in shaping trade. Exit surveys, on the other hand, (often conducted by WildAid immediately after the campaign's commencement *and* several years later), not only track any changes in normative behavior and demand, but also a) allow responders to pinpoint WildAid campaigns as the source of their normative change and b) in the case of the "follow-up" survey, allow for any substantive change to be recorded and noted. Where this data is not available from WildAid directly, it is supplemented from organizations like CITES or TRAFFIC, or even research universities like the Sociology Department at Peking University.

Since data concerning population sizes and seizures at multiple points in time for each campaign is used, multiple sources like international organizations and state reports will be utilized. Given the illicit nature of the market, consistent data can be hard to find, so the idea is to supplement information from reliable sources to get a consistent reading over a successive number of years. Any gap in that time frame may decrease the validity of this project. First, pre-campaign baseline data on consumer demand, supply, and state compliance was collected. Further data was collected at the initiation of each campaign, and final data points collected when the campaign ended. In the case that the campaign is ongoing, the most recent data available is used. A

further caveat to the data collection is to find campaigns that ran sometime in the early 2000s to allow for at least two to three years of no campaign running to test if the campaign had a coerced effect in the moment or made lasting change in the norms it attempted to diffuse.

The second part of this dissertation's empirical analysis, as presented in Chapter 5, looks to supplement the first by assessing the cause-and-effect relationship of campaigns utilizing norm legitimators with respect to my two previously stated hypotheses. This dissertation chapter relies on a series of online, individual-level experiments to test for and identify the causal mechanisms that underlie the proposed linkages between norm legitimators and campaign effectiveness. By exposing people to campaign messages through the platform Lucid, 1,620 respondents across three countries were targeted to provide secondary data for causal evidence via survey responses.²⁷ Lucid resembles the Amazon Turk online platform but has the unique ability to target specific countries outside of the US, and to further target specific demographics within these countries. Given that such a critical component of this analysis will be the normative structure of a specific society or culture, it is imperative to have participants from those designated areas.

As briefly mentioned before, the purpose of this experiment is to gauge the success of campaigns intending to redirect the desire for illicit wildlife trafficking

²⁷ Crowdsourcing, the use of the Internet to outsource work to a large number of people, has witnessed a dramatic growth over the past decade. One popular crowdsourcing option, Amazon Mechanical Turk (MTurk), is now commonly used to sample participants for psychological research. Further research can be found in Strickland, J. C., & Stoops, W. W. (2019). The use of crowdsourcing in addiction science research: Amazon Mechanical Turk. *Experimental and Clinical Psychopharmacology*, 27(1), 1–18 and Bentley, Frank, Daskalova, Nediya, and Brooke White, 2017. "Comparing the Reliability of Amazon Mechanical Turk and Survey Monkey to Traditional Market Research Surveys". In Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA '17). Association for Computing Machinery, New York, NY, USA, 1092–1099.

using “Norm Legitimators”, and the reasons for that success, if evident. As noted previously in this dissertation, norm legitimators are prominent social figures that are culturally “in the know”, have visibility, and give the perception of being involved because they care. I hypothesized above that a successful redirect (and hence behavioral change) concerning wildlife trafficking will be the result of individuals updating their opinions to better align with the preferences of people they respect and/or identify with on a cultural level. In the interest of assessing this in a rigorous manner, there will be four treatments considered within my experimental design (i.e., campaign ads with norm legitimators, lacking norm legitimators but with a spokesperson, with no spokesperson but the animal species, and a control group) with 540 respondents per treatment.

The experimental subjects and target countries conform to anticipated experimental power under potential post-stratification by country. Participants are asked to supply both their demographics prior to viewing the treatment image. Participants are then shown campaign videos and other media pieces from both tailored campaigns with norm legitimators, like WildAid’s, as well as more general global campaigns run by organizations like WWF. Prior to and after the media messages, participants are prompted to share their baseline opinions and post-visual opinions about the pursuit and use of illicit wildlife products. This enables me to evaluate whether my relevant treatments affected individual demand for wildlife products (Hypothesis 1). Additional post-treatment questions ask respondents to indicate their emotional responses to the viewed campaign ad (and hence treatment), as well as to provide their assessment on how understanding the ad was from an

individual and cultural perspective. This allows me to at least partly assess the second hypothesis stated above.

Together, this experimental evaluation helps to offset some of the inferential and data challenges that underlie my qualitative analysis. Here, it is worth reemphasizing that, given the fundamentally illicit nature of this wildlife problem, data from the case studies component of my dissertation will be missing at certain periods of time given the capacity and structural gaps of both state governments and international committees like those working on behalf of CITES. This may mean that campaigns, and subsequently the data collected pre-, during, and post-campaign may come from a different range of years to provide equal data points. Consequently, data for these case studies may need to come from a range of sources—both surveys conducted by NGOs and government officials, as well as data from environmental organizations and the offices of government agencies. The varying forms of data will be made uniform upon final analysis to be as consistent as possible. Given that the second half of the analysis sources its data directly from the respondents' participation on Lucid, data inconsistency does not affect those calculations, thereby offsetting the observational data problems evident in my case studies.

Given that this is a two-part design, the idea of focusing on the same animal product was considered, as it could offer a more unique foundation upon which to test my claims. Yet, focusing solely on one species, even across various cultures and societies, may ultimately resemble one large case study. Many species of wildlife are used in unique ways within every culture, so focusing on a variety of products not only asserts that a dynamic solution is needed, but it also directly responds to my previous assertion that what works well in terms of one market may not for another.

The same wildlife products can be tied to vastly different values and norms despite the populations involved at times being mere miles apart. Additionally, instead of focusing entirely on what the literature terms “charismatic species”—i.e., elephants, rhinos, monkeys, my hope is to focus on species that, while well known, may not strike people as a typical victim of wildlife trafficking. Focusing on these prominent charismatic species also means that there are a plethora of conservation campaigns going on simultaneously, making it difficult to disentangle any individual campaign’s effect.

To increase the options for possible case studies (and corresponding experimental assessments at a cross-national level), I focus on wildlife (or derivatives thereof) that are used in various cultures to represent a certain aspect of identity—gender, class, even cultural spirituality. These instances are proven to be more ingrained into the normative framework of a society given the desire of individuals to appear to be “the most”: the most masculine, the ideal woman, the richest, etc. These deeply seeded, almost inexplicable desires are driven by widely held beliefs that one action will result in a certain attitude or lifestyle. A brief synopsis of each market and their importance in sustaining identity follows.

3.5.1 Shark fin: Performing class

Shark fin soup is a traditional soup or stewed dish which originated with the Ming dynasty and made popular both because of its rarity and the finesse needed to prepare it. Given its history of being the meal of the elite, demand for shark fin soup rose in the late 18th and early 19th centuries as standards of living began to improve. Likewise, consumption of shark fin soup doubled within 1985 and 2001, reflecting the growth of the middle class. The rarity of the soup means it is a costly delicacy, so its

consumption is usually reserved for special occasions like weddings or important business meetings to communicate wealth, prestige, and power as well to show honor and gratitude to guests. WildAid estimates that up to 73 million sharks are killed per year to keep up with the demand for shark fin soup.

3.5.2 Tiger parts: Performing gender

For centuries, cultures have worshipped tigers, bestowing them with powers far beyond the earthly realm. Tigers have become gods—and healers. Medicine men have ascribed medicinal properties to them, making the cat a universal apothecary. Many believe that by ingesting parts of the tiger, they absorb an animal’s strength and attributes. Highly customary across cultures in Asia is the belief that products derived from the tiger acts as a medicinal aphrodisiac, which can improve one's sexual performance or virility, or even cure impotence. This belief drives men to consume various parts of the tiger in hopes of becoming the “ideal” male partner. With only 3,890 tigers left in the wild, breeding facilities, also known as tiger farms, continue to fuel the illegal trade of tigers and their parts (World Wildlife Fund, 2019c).

3.5.3 Pangolin scales: Performing tradition

It comes as a surprise to many that the world’s most illegally traded mammal—surpassing the rates of elephants, rhinos, and other high-profile species—is a solitary, nocturnal, scale-covered creature commonly known as a “scaly anteater”: the pangolin. As slow-moving creatures, pangolins are easy targets for poachers who can pick them up and drop them into a bag before moving to the next one. The African Wildlife Foundation claims poachers kill as many as 2.7 million pangolins a year. The pangolin’s protected species status gave rise to a thriving black market for pangolin

meat and especially scales, which account for nearly 20 percent of a pangolin's body weight (Conciatore, 2019). Pangolin scales are believed to “cure” ailments ranging from rheumatism to cancer, and even promote lactation and virility. To date, no scientific backing exists for these claims, as pangolin scales are made of keratin—the same material in human fingernails.

While analyses of illicit wildlife markets have been conducted before, never has a project looked to conduct the same research across multiple markets and countries—and levels of analysis—to test a demand-side approach for anti-wildlife trafficking campaign design and development. In analyzing the arguably most popularly sought after, and purchased products, within each nation, this research tackles some of the most intrinsically valued cultural norms to still exist today. However, by focusing each case on various Asian countries, this research design also ensures that broader regional trends and factors are held constant in assessing the effects of each campaign. While wildlife trafficking exists far beyond the realms of the Asian continent, to assume the same trends and factors would be identical across different regions would negate the core theoretical basis of this work.

3.6 Conclusion

If an anti-wildlife trafficking campaign aims to influence consumer behavior, the behavior (and more intrinsically, the demand and desire driving this behavior) must be understood as comprehensively as possible (St. John et al., 2010; McKenzie-Mohr, 2011). Understandably, this requires pre-intervention research, which can establish not only the campaign's different target audiences but their motivations for consumptions. Unfortunately, conservation efforts are known to suffer from a lack of proper design and evaluation, resulting in an ineffective use of resources and impacts

that cannot be accurately measured. In some cases, these campaigns are seen as raising awareness, which could in turn be a pathway to changing behavior, *however*, behaviors are not just influenced by awareness, but also by the psychosocial: the societal context and the political and cultural forces that shape our desires and identities (Drury, 2009). Centering these campaigns on a behavior change model ensures target audiences will be open to receiving the message and not unconsciously disregard it or even adapt it to previous beliefs which can be severely detrimental in the case of wildlife consumption (Cramphorn, 2004). Chapter 4 will look to three unique case study analyses of campaigns conducted by WildAid and centered around a behavior change model in Singapore, China, and Vietnam for tiger parts, shark fins, and pangolin scales, respectively. Chapter 5, on the other hand, will detail a novel online survey experiment within those same countries and markets to causally evaluate whether the ‘norm legitimator’ model used by WildAid and other organizations is at the core for any behavioral change, and demand reduction, in terms of illicit wildlife consumption.

Chapter 4

THE WILDAID EFFECT PART 1: CASE STUDY ANALYSIS

4.1 Overview

In providing a detailed understanding of the various approaches that conservationists use to design campaigns, the previous chapter proposed a theory and a series of hypotheses concerning the components needed to improve the efficacy of anti-wildlife trafficking campaigns. The intention of this chapter is to conduct a detailed qualitative analysis of three campaigns that use the components introduced in the previous chapter, and to analyze their effectiveness considering my aforementioned hypotheses. These three unique case study analyses will focus on campaigns conducted by WildAid and centered around a behavioral change model in Singapore, China, and Vietnam for tiger parts, shark fins, and pangolin scales, respectively. These assessments hence allow me to evaluate my hypotheses at a more societal, rather than solely individual, level of analysis. Chapter 5 will then assess these same hypotheses at a more individual level, using my own self-constructed campaign ads, as opposed to considering WildAid's already administered campaigns. Before turning to my case analysis, some justification for my focus on WildAid in this qualitative chapter is warranted.

WildAid is the only organization with a mission focused on reducing the demand for these products, with the strong and simple message: When the buying stops, the killing can too. The organization works with hundreds of Asian and Western

celebrities, business leaders, athletes, and political figures, including the Duke of Cambridge, Yao Ming, Jackie Chan, Li Bingbing, Tony Jaa and Sir Richard Branson, to dissuade people from purchasing endangered wildlife products. WildAid's public service messages and educational initiatives reach hundreds of millions of people per week in Asia through donated media space. WildAid focuses on reducing the demand for endangered species products by specifically targeting consumers with engaging public service announcements and education initiatives. In the same way that corporations might employ celebrities and athletes to promote their products, WildAid²⁸ enlists popular celebrities and athletes to dissuade consumers from purchasing wildlife products. Their communications campaigns focus on key consuming markets, although with a heavy focus on China, whom WildAid pinpoints as one of the largest consumers of wildlife parts and products (WildAid, 2021). By maintaining my qualitative case study analysis to solely WildAid campaigns, I can hold the operating organization constant across all my cases, to better isolate unique campaign-level effects.

As previously mentioned, given the illicit nature of the wildlife trafficking market, data for these case studies was aggregated from a variety of sources to ensure consistency. However, it is worth noting that given the length of time each campaign has run, the country in which it was shown, and matters of funding, each campaign is unique and despite their similarities, may have varying success.

²⁸ WildAid, headquartered in San Francisco, California, was originally called "Global Survival Network" (GSN) when first created in 1995. In 2005, four colleagues rebranded GSN to be "WildAid" before splitting up to form four different organizations with different areas of focus. WildAid continues its original mission by working predominantly in the United States, the United Kingdom, Canada, China, Indonesia, India, and Ecuador. Over the years the organization has worked with countless governments, celebrities, and organizations, most recently merging with Shark Savers, a non-profit committed to the conservation of sharks in 2014.

In the sake of offering the most consistent image of each market and its respective campaign, each section presented in this chapter is divided into three parts. The first serves as a background on the animal species and the illicit market for their derivatives, the second focuses on the work and coordinating research done by WildAid to cease consumption of products, and the third and final section analyzes each campaign against the four Quadrants of Engagement discussed at length in Chapter 3, with specific consideration given to Hypotheses 1 and 2. This chapter will first analyze one of WildAid's inaugural campaigns, their 2006 shark-fin conservation campaign with Yao Ming launched in China, before moving on to analyze the tiger conservation campaign launched that same year in both China and India. The chapter will conclude with an analysis of their most recent campaign, the pangolin conservation campaign in Vietnam. While these campaigns vary in location, species, and even success, what remains constant is the behavioral change model employed by WildAid. The overwhelming success of the shark fin campaign, as well as inkling of success within the pangolin and tiger campaigns, warrants a closer in-depth analysis of not only WildAid's campaign strategy, but of the application of behavioral change models by conservation organizations around the world.

4.2 Performing class: The lucrative market for shark fins

4.2.1 Background

Fins from up to 73 million sharks are used in shark fin soup each year, necessitating the red listing of 181 shark species as vulnerable, endangered, or critically endangered by the IUCN (WildAid, 2020). Currently, over 25% of sharks are threatened with extinction and overfishing is classified as the largest threat to shark

populations (Dulvy et al., 2014). The process of “finning”, popularized by the demand for shark fin soup, is where the first dorsal, pectorals, and lower lobes of the tail fin are sliced off and the still-living shark is tossed back into the ocean, where it sinks and unable to swim and pass water over its gills, suffocates, dies of blood loss, or gets eaten by other predators (Ellis, 2005; Fobar, 2019). Shark finning is a popular practice worldwide; each country with a coastline is responsible for laws and regulations pertaining to fishing in their waters. While some countries have anti-shark-finning legislation, as of 2021, 48 countries, as well as the European Union and 12 states in the USA have some sort of shark-finning legislation (Animal Welfare Institute and WildAid, 2021). Much of this legislation stipulates that fins must arrive in a 5 percent weight ratio of the shark carcasses onboard, yet only a few countries demand that sharks arrive in port with their fins attached. According to the IUCN Shark Specialist Group, the easiest way to implement a ban is to require that shark carcasses be landed with fins attached; the possession of fins alone on vessels would thus be illegal (IUCN Shark Specialist Group, 2003).

Shark fin has been exalted as one of the four treasures of Chinese cuisine, along with abalone, sea cucumber, and fish maw (swim bladders) (Fobar, 2019). To prepare shark fin soup, the skin and muscle tissue is removed, leaving only the inner cartilaginous fin. These remnants are boiled in water for hours, then the water is changed, and the fins boiled again and again, in a process that can take up to five days. The end product is a glutinous mass that is served in a thick broth of chicken stock seasoned with soy sauce, ginger root, onions, vinegar, mushrooms, and other ingredients. After the broth is drunk, the shark fin is eaten (Ellis, 2005). The origin of shark fin soup can be traced back to the Emperor Taizu of Northern Song, who used

the delicacy to showcase his power, wealth, and generosity during his reign from 960 to 976 (Smith, 2016). The dish's popularity increased as admiral of the imperial navy, Zheng He, brought back fins from his expeditionary voyages around Asia and East Africa from 1405 to 1424. Shark fin soup became an established dish and by the time of the Qing Dynasty (1644-1912) was in high demand until the rise of the Chinese Communist Party in 1949.

Two factors led to an explosion in the demand for shark fin soup in the late 20th century. Firstly, the rapid expansion of East Asian economies, particularly that of China, created an increased middle class with disposable income. Secondly, the consumption of shark fin soup in China, discouraged under Mao Tse-tung as an elitist practice, was politically "rehabilitated" in the late 1980s (WildAid, 2007). Given its symbolic meaning in Chinese culture, shark fin soup became a widely served dish at special occasions such as weddings, birthdays, or corporate functions as a symbol of hospitality, wealth, and generosity. Its role as a status symbol for the wealthy and powerful signified a family would share their wealth by hosting lavish banquets. This display of wealth and generosity is measured by the cost of the food and reflects on the efforts of hosts to provide their best hospitality to guests. Considering that the price per bowl of shark fin soup can range from HK\$5 to HK\$2000, it is regarded as one of the best dishes to grace banquet tables (Smith, 2016). Figure 1 below shows the relationship between the rising GDP per capita in China and global shark fin imports to further illustrate how a growing middle class caused the shark fin demand.

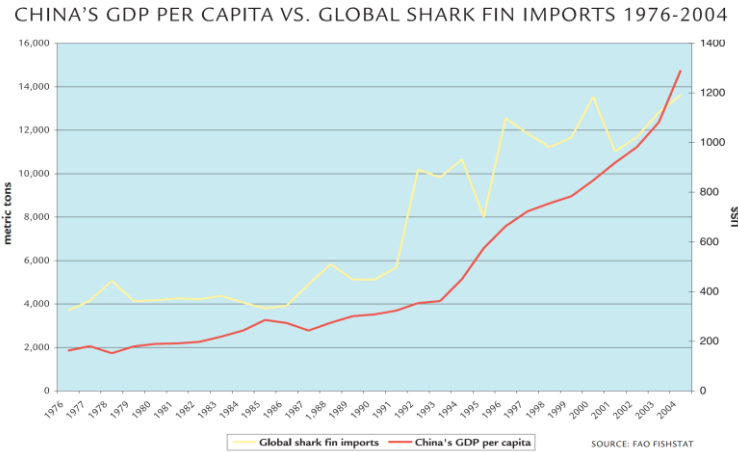


Figure 1: China’s GDP Per Capita vs. Global Shark Fin Imports (1976-2004)²⁹

In the status conscious Chinese society, serving shark fin soup at weddings and important banquets is the culinary equivalent of driving a luxury car or shopping at expensive stores. As the middle and upper classes in China expand, more potential consumers of shark fin soup emerge. While the cultural association of shark fin soup may be modern, the dilemma is age-old simple economics. Increasing affluence creates increased demand, which is exceeding the supply, making a positive feedback loop. Shark fins become more difficult to obtain, the price increases, and so to, does the prestige associated with the dish. As shark populations dwindle, fishermen are forced to travel farther and stay at sea longer just to reach their quotas (McVeigh and Firdaus, 2020). Hotspots for shark mating and feeding become easy targets for a plethora of fishing boats and all countries with a coast face the devastating fallout of shark consumption, even if their country has no demand. While 169 countries have agreed to be legally bound to CITES, which lists shark populations like the whale

²⁹ Figure taken from WildAid’s 2007 “End of the Line” publication, p. 39.

shark, basking shark, and great white shark as species that could become threatened if trade is not controlled, legislation on a country-by-country basis is greatly varying and enforcement is second-rate, at best (SharkWater, 2020).

4.2.2 The WildAid effect

Between October 2005 and January 2006, WildAid, along with the China Wildlife Conservation Association (CWCA) conducted a series of surveys of restaurants, grocery stores, and markets in 17 major cities including Shanghai, Beijing, and Guangzhou. The intent was to study the amount, price, and attitudes towards shark fin by having consumers take a questionnaire to gauge attitudes toward shark fin soup and awareness of shark ecology (WildAid, 2007). A summary follows³⁰:

- Of the 472 restaurants surveyed, 124 (26%) sold shark fin dishes. These were mid to high-end range restaurants.
- Of the 144 grocery stores surveyed, 20 (14%) sold shark fin, indicating that shark fin is now more accessible than ever to the average consumer.
- Only three of the 101 wholesale markets surveyed sold shark fin.
- 80% of interviewees did not know what shark fin (known as “fish wing” in Chinese) is made from.
- 35% of those interviewed had consumed shark fin. 41–60-year-old men were the main consumers and, as expected, consumption was most prevalent among those with a higher income and standard of education.

³⁰ All data taken from the WildAid and CWCA findings listed in “The End of the Line?” published by WildAid in 2007.

REPORTED REASONS FOR DECLINE IN SHARK FIN SALES						
VENDOR/TRADER INTERVIEWS, GUANGZHOU, CHINA 2013						
RESPONDENT	GOVERNMENT BAN	FAKE SHARK FINS	AWARENESS CAMPAIGNS	ECONOMIC DOWNTURN	CHANGE IN SUPPLY	NO RESPONSE
Retail Vendor 1	X	X				
Retail Vendor 2	X	X				
Retail Vendor 3	X					
Retail Vendor 4						X
Retail Vendor 5	X	X				
Retail Vendor 6	X	X	X			
Wholesale Trader 1	X					
Wholesale Trader 2						X
Wholesale Trader 3	X		X			
Wholesale Trader 4					X	
Wholesale Trader 5	X					
Wholesale Trader 6	X		X			
Wholesale Trader 7						X
Wholesale Trader 8			X	X		
Wholesale Trader 9						X

Figure 2: Reported Reasons for Decline in Shark Fin Sales, 2013 (Source: WildAid)³¹

Three years after WildAid and CWCA conducted their survey, shark catches hit a record high: analysis showed that as many as 79 million sharks, or 1.73 million tons, were being caught and killed each year, a number far surpassing the reported catches to the United Nations Food and Agricultural Organization (FAO) (WildAid, 2009). A 2007 study of the social, economic and regulatory drivers of the shark fin trade determined that “the migration of the trade from its former center in Hong Kong to Mainland China had resulted in a severe curtailment of the ability to monitor and assess impacts on shark populations (Clarke et al., 2007). The lack of accurate catch and trade data made it difficult to establish the health of shark populations, and nearly impossible to plan and develop conservation and management strategies. Yet, despite growing concern from the FAO, the United Nations General Assembly (UNGA) and even the parties to CITES, the only shark management and conservation plans

³¹ Figure taken from WildAid’s 2014 “Evidence of Declines in Shark Fin Demand: China”, p. 21.

implemented by 2009 were non-binding and poorly enforced: of more than 500 known species of sharks, only three were protected in a majority of countries in where they were encountered, and while shark finning was banned by the Regional Fisheries Management Organizations (RFMOs), only 20 shark fishing countries had actually issued complementary national bans (Clarke et al., 2007).

With difficulty in monitoring and implementing conservation strategies, organizations like WildAid began emphasizing the importance of focusing on the demand for shark products. In 2006, WildAid began broadcasting multimedia campaigns focused on shark fin demand reduction to millions of consumers throughout China on television, LCD screens in subway and railway stations and airports, airline in-flight entertainment, shopping malls, banks, taxis, universities, and hospitals (Whitcraft et al., 2014). In hopes of enhancing the impact of these public service announcements, WildAid's campaigns featured appearances from the likes of Yao Ming and Jackie Chan. Following the all-time high of shark catches in 2009, WildAid prepared to boost the impact of its demand reduction efforts, and campaigns became much more pronounced in 2012 with extensive media coverage by Chinese State Television (CCTV) and the following year by pro-bono media placement via state and private media partnerships (Whitcraft et al., 2014).



Figure 3: One of WildAid’s inaugural Yao Ming Campaign Advertisements

In 2006, when WildAid began its shark fin awareness campaign in China, public knowledge of decreasing shark populations was nearly nonexistent. Early surveys conducted by WildAid indicated that 75% of the Chinese population was unaware that shark fin soup came from sharks³², while 19% believed that sharks can grow their fins back (Whitcraft et al., 2014). Very few understood the negative impacts on shark populations. Two years later, following the 2008 Beijing Olympics, an independent survey showed that 55% of people in Beijing remembered seeing a WildAid shark fin awareness campaign, with 82% further commenting that they would reduce or stop their consumption because of the campaign and 89% saying shark fin should be banned altogether (Whitcraft et al., 2014). These findings offer an initial degree of support to Hypotheses 1 and 2 for this case. Another two years later, a 2010 online poll on the Chinese equivalent of Twitter, Sina Weibo, revealed that

³² “Shark fin soup” translates to “fish wing soup” in Mandarin, hence the confusion.

27,370 people voted for a ban on shark fin sales, with only 440 voting against—which offers further support to Hypothesis 1, specifically. Indeed, such numbers indicated broad public support for a national shark fin ban that was virtually non-existent prior to WildAid’s campaign.

With broad public support and the continuation of WildAid’s campaigns, other popular Chinese figures began citing Yao Ming as an example to mimic. In May 2012, actress Hai Qing stated, “I shouldn’t eat shark fin soup as Yao Ming said, ‘when the buying stops, the killing can too’.” After her proclamation, she also tweeted her pledge not to eat shark fin soup to her 4.8 million social media followers (Revkin, 2013). WildAid capitalized on the support by launching the “I’m FINished with Fins” social media pledge campaign in partnership with Sina Weibo later that year, reaching 200 million Weibo subscribers. Of those, 50 million posts were read, and 340,000 users uploaded photos or signed the pledge in the first two weeks (Revkin, 2013). With Chinese and international media began to report on the decline in the shark fin trade in Hong Kong and China beginning in mid-2012, the Chinese government felt obligated to begin responding to public demands. In July 2012, the Chinese government announced that it would ban shark fins from all state banquets within three years; beginning in 2013 (Wassener, 2012). This was part of the government’s crackdown on corruption and excess, and the first response to the National People’s Congress proposal, which credited the WildAid/Yao Ming shark fin awareness campaign. In September 2013, the Hong Kong government also banned shark and other unsustainable seafood products from government functions (Wassener, 2012).

Following the inception of the shark fin ban from state banquets, WildAid commissioned iResearch to conduct a consumer survey in Beijing, Shanghai,

Guangzhou, and Chengdu in August 2013. Questionnaires were sent out randomly and 1568 replies were received; 33.4% of respondents were from Beijing, 31.9% from Shanghai, 20.8% from Guangzhou, and 14.0 from Chengdu (iResearch, 2013). Participants responded to four questions; a summary of responses follows:

- **Question 1:** Do you think the demand for shark fin soup has caused overfishing and the decline of shark populations?
 - 96% of respondents believed shark fin soup caused the decline of shark populations.
- **Question 2:** Have you stopped eating shark fin soup in the last three years?
 - 85% said they had stopped eating shark fin soup in the past three years.
- **Question 3:** If so, why?
 - When asked to select one or more reasons why they had stopped, 65% cited “awareness campaigns.” Additionally, the second and third most popular responses – because “I want to protect sharks” (61.7%) and because it is “cruel the way they kill sharks” (55.3%) – may also be attributed to public information provided by awareness campaigns throughout China. The least common reason (28.2%) given for stopping the consumption of shark fin soup was the Government banquet ban.
- **Question 4:** The Chinese government has banned shark fin from state banquets; do you think the Chinese government should impose a ban on all shark fin trade to help save shark species?
 - 91% thought the Chinese government should impose a ban on all shark fin trade.

In December 2013, fifteen shark fin vendors and traders were interviewed in two key market areas in Guangzhou, China: Qing Ping Lu and Yuexiu about past and current prices of shark fins, their estimate of any changes in sale, and to explain the

reason for any changes in prices and demand (Whitcraft et al., 2014). Supporting Hypotheses 1-2, the interviews found that:

- Eleven of the fifteen responded that sales had declined generally, with one indicating an expected, slight increase with the coming Chinese New Year (during which shark fin soup is traditionally consumed). Their estimated decline in sales ranged from 100% to 50% with an average of 82%.
- Ten of the fifteen provided price comparisons over the past 1-2 years. Past and current prices ranged widely, likely due to differences in fin value from different shark species. However, all stated that prices had declined with an average retail price decrease of 57% and an average wholesale price decrease of 47%.
- Six of the fifteen responded regarding their estimated change in supply. Three indicated a steady supply and three indicated a decrease in supply of shark fins with one specifically mentioning a lack of supply of large shark fins.
- Ten of the fifteen responded regarding reason(s) for the decline in sales. The most common reasons cited were the Chinese government's ban on shark fin at official functions (nine respondents) followed by awareness campaigns (four respondents) and consumer concerns about fake shark fin in the markets (four respondents).

Of note is the remark of a Guangzhou wholesale trader that “Yao Ming’s commercial [PSA] impact single-handedly smashed my business.” This sentiment was common at the time, as a 2012 survey initiated by the Department of Sociology at Peking University on consumer attitudes and behavior towards seafood consumption in Beijing showed that of the 20 restaurant representatives interviewed, all agreed that WildAid PSAs featuring Yao Ming had “definitely raised awareness among customers” and contributed to the significant decline in the consumption of shark fin (Clue, 2013). China’s CITES Management Authority announced in October 2016 that shark fin consumption in China had fallen by more than 80%, citing a recent

publication from the China Seafood Logistic and Processing association (Xianlin, 2015). Data from the report showed that shark fin imports into China had decreased by 81 percent from 2011 to 2014, and estimated wholesale shark fin sales in Beijing, Shanghai and Guangzhou had declined by 81 percent from 2010 to 2014 (Xianlin, 2015). These numbers corroborated the findings of WildAid's 2013 market survey mentioned above, where shark fin vendors reported a decline in sales and prices.

As recently as August 2016, WildAid commissioned iResearch to conduct an online survey of 1,551 residents in Beijing, Shanghai, Guangzhou, and Chengdu (Vallianos et al., 2018). The survey found that 93% of respondents had not consumed shark fin in the previous 6 years; of those who had previously eaten shark fin, 73.7% had stopped in the previous six years (Vallianos et al., 2018). The top 3 reasons for ceasing consumption of shark fin included 1) awareness campaigns, 2) learning the cruel way sharks were killed, and 3) a desire to protect sharks. Nearly 80% of the respondents had seen and at least one of WildAid's shark public service announcements, and a staggering 98.8% agreed that those announcements were instrumental in raising their awareness about shark protection and the need to reject shark fin consumption (Vallianos et al., 2018).

4.2.3 Coincidence or social change?

In support of the hypotheses outlined in the previous chapter, one can presume that the impressive success of the WildAid and Yao Ming campaigns is hardly a coincidence. This subsection seeks to reinforce these conclusions with a deeper assessment of the campaign and its effects in relation to the four Quadrants presented in Chapter 3. Looking at the structure of the campaign, my prediction at first glance is that the campaign successfully engages with all four of the Quadrants and is a near-

perfect example of the successes available when an organization considers all four approaches in a complimentary fashion. Based on my earlier hypotheses, my assessment of the campaign’s success can be further tied to the norm legitimator component of this campaign, and to the corresponding four fundamental aspects of the campaign: (1) by its nature, the campaign is successful in regulation because it aims to make a practice illegal, (2) WildAid not only chooses a high impact influencer, but also saturates the media landscape, (3) social marketing tactics, like the Sina Weibo campaign, are deployed, and (4) at its basis, the campaign targets a specific desire produced by a series of circumstances—in this case, a desire to seem of a higher status at public events and occasions. The figure below is based on a holistic assessment of the data above.

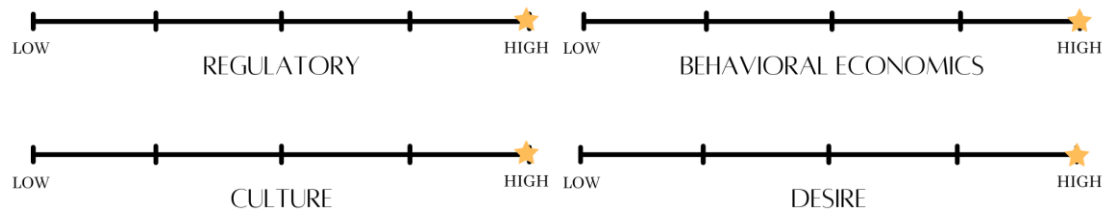


Figure 4: Prediction Scales for Shark Fin Campaign

By pinpointing questions of Chinese consumption patterns and the social norms that guide Chinese middle-class consumers, WildAid was able to develop a thought-provoking campaign that interacted with all four “Quadrants of Engagement”: (1) Regulatory, (2) Culture, (3) Behavioral Economics, and (4) Desire. A brief explanation of each quadrant follows below.

1. **Engaging the Regulatory Quadrant:** As would be expected, the regulatory quadrant is the easiest quadrant for anti-wildlife trafficking campaigns to engage with. By the very nature of creating these types of campaigns, organizations like WildAid are dedicating their energies to ensuring the effective implementation of wildlife protection laws. WildAid most commonly refers to CITES and IUCN listings to motivate national governments to enact and enforce legislation, like the Chinese government's ban on shark fin soup at state banquets.
2. **Engaging the Culture Quadrant:** In one of WildAid's inaugural shark fin soup public service announcements with Yao Ming, viewers are taught what really happens to sharks in order to create shark fin soup. By disseminating this shocking information, WildAid grabbed people's attention and incited petitions and other forms of action to raise maximum awareness about the treatment of sharks.
3. **Engaging the Behavioral Economics Quadrant:** WildAid's campaign engaged with the B.E. quadrant by leveraging the use of Ming and other influential celebrities to create an "in-crowd" associated with the desired behavior of ceasing shark fin soup consumption. By initiating the "I'm FINished with Fins" social media pledge campaign in partnership with Sina Weibo, WildAid took advantage of the allure of social rewards and status.
4. **Engaging the Desire Quadrant:** Remember that this quadrant is often the most complicated to understand and the least used in many campaigns. Successfully engaging with this quadrant necessitates understanding the underlying attraction consumers have to specific products. By showing Ming at banquets or weddings, the places where consumers were most likely to interact with shark fin soup, WildAid focused on influencing the cultural perception that this "delicacy" was a must-have staple dish.

Since WildAid's shark fin campaign induction in 2006, Yao Ming has served as the norm legitimator that this body of research seeks to observe. As the product of Chinese upbringing, Ming intricately understands the value of shark fin soup as a cultural staple. Thus, seeing him at the forefront of these campaigns signifies the creation of a new "in-crowd" that consumers are more inclined to want to join. This, and the evidence reviewed above, is consistent with Hypothesis 2, which posted that

the reason for the enhanced effectiveness of norm legitimators will be at least partly due to these actors' unique ability to communicate anti-trafficking campaigns in a culturally relevant, and culturally understandable, manner.

The evidence presented above also strongly supports Hypothesis 1 at the societal level. Recall that Hypothesis 1 posited that campaigns employing norm legitimators will be more effective in reducing wildlife trafficking at the individual and societal levels, relative to campaigns that do not employ such individuals. Per WildAid's most recent survey in August 2016, 93% of respondents had not consumed shark fin in the previous 6 years; of those who had previously eaten shark fin, 73.7% had stopped in the previous six years (Vallianos et al., 2018). The top 3 reasons for ceasing consumption of shark fin included 1) awareness campaigns, 2) learning the cruel way sharks were killed, and 3) a desire to protect sharks. Nearly 80% of the respondents had seen and at least one of WildAid's shark public service announcements, and a staggering 98.8% agreed that those announcements were instrumental in raising their awareness about shark protection and the need to reject shark fin consumption (Vallianos et al., 2018). Ming's own history of consuming shark fin soup ensures that there is no negative stigma placed on previous consumption, if consumers are willing to incorporate their new knowledge of the shark fin trade into more sustainable consumption. In this way, the age-old tradition of serving shark fin soup is not insensitively erased, it is merely a steppingstone in a more natural, willing progression towards environmental responsibility.

4.3 Performing gender: The lucrative market for tiger parts

4.3.1 Background

In 1900, more than 100,000 tigers were estimated to roam across 30 nations, from Turkey to Siberia, throughout Southeast Asia down to Indonesia. By 2010, that number had fallen to a record low of 3,200 tigers in just 13 countries (WildAid, 2010). Population numbers have inched upwards since then, but only an estimated 3,800 tigers remain in the wild after a century of poaching and habitat destruction. Despite international legislation like CITES, three of the world's nine tiger subspecies are now considered extinct and though they are the national animal of six nations, they have vanished from two of them, North and South Korea (WildAid, 2010). For centuries, tigers have inspired awe, reverence, and sometimes even terror. Commanding the Asian landscape as the top predator, they are magnificently terrifying animals who can kill with one swipe of a paw. Yet, the tiger is also shrouded in mystic and allure, seemingly materializing out of nowhere, silently stalking prey at dawn or dusk.

Given this reputation, it is easy to understand why both tribal and non-tribal cultures have worshipped tigers, bestowing them with powers that extend far beyond those of this world. Tigers are considered gods and healers; for millennia medicine men have ascribed magical powers and medicinal properties, making the tiger a universal apothecary. Many believe that by ingesting any part of the tiger, you absorb its life force—its vigor, strength, and attributes (Guynup, 2014). It is unsurprising then, that nearly every part of the tiger, from nose to tail, has been used to treat a lengthy list of diseases and conditions. Some of these ancient remedies prescribed are well over 1,000 years old—the first reference in China to tiger bone medicine dates to

500 A.D., published in the Collection of Commentaries on the Classic of the Materia Medica (Guynup, 2014).

Roughly 150 wild tigers are killed annually to satisfy the demand for illicit products ranging from traditional medicines and virility tonics made from tiger bones to decorative items made from pelts, claws, and teeth (WildAid, 2010). A 2019 report by Traffic (under)estimates that 2,361 tigers, live or dead, were seized by authorities across 32 countries and territories from 2000 to 2018. Figure 5 below shows that there is no clear trend, downward or upward, however 2016 saw a peak for the period of 288 tigers. The animals are not always found whole (29 percent) but most commonly just their skin (40 percent) or other parts, including bones (27 percent).

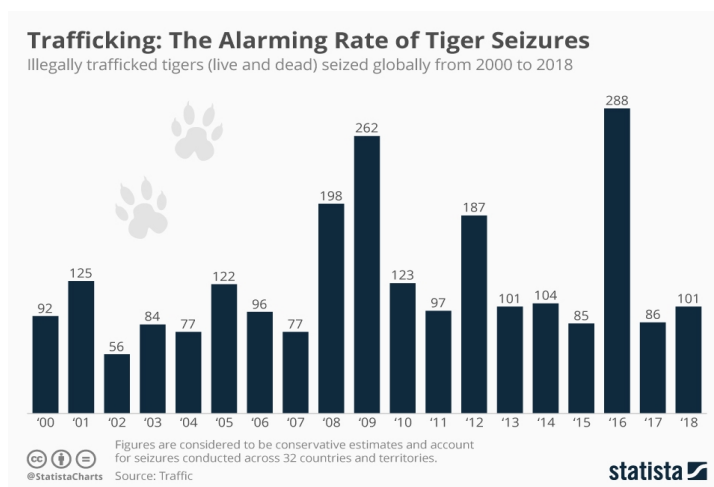


Figure 5: Tiger Seizures from 2000 to 2018³³

³³ Figure taken from Statista.

Tiger parts have been reported to heal the liver and kidneys, cure epilepsy, toothaches, even fevers or headaches. They can also be used to treat rat bites and laziness and are thought to prevent possession by evil demons. Tiger penis is said to have aphrodisiac powers (Guynup, 2014). The bones of tigers are often used for wine or medicinal paste, while the skin is used to upholster furniture or make decorations such as rugs or wall hangings. Teeth can often be set in gold and turned into jewelry. Being able to wear, display, or consume tiger products is a coveted status symbol among some Southeast Asian cultures (Bale, 2018).

The “hu gu”, or bones, are the most highly prized parts in Traditional Chinese Medicine, believed to be the best remedy for rheumatism, arthritis and even impotence (Guynup, 2014). The humerus bone is the most coveted section of the skeleton, believed to contain the most potent healing powers. Once they are stripped of flesh, bones are ground into powder which can be used in pills, plasters, or as remedies with other ingredients. A standard oral dosage for something like rheumatic pain is between three to six grams a day, which in a year, equates to about six and a half and thirteen pounds of bone. Although some countries have banned the use of tiger bone and removed it from approved lists of medicines, the manufacturing and sale of tiger bone products has not stopped (Guynup, 2014). It is common to find products with labels depicting a tiger, but the word tiger has disappeared from packaging. Without DNA tests on any bone bits that may be left in the product, there is no way to know exactly what it is made from, which makes it difficult for officials to cease the trafficking or consumption of any related illegal wildlife products.

4.3.2 The WildAid effect

WildAid's tiger campaign began in 2006. Although much of the campaign began to come into effect in 2011 predominantly in India, a popular tiger range state, and China, a top consumer of tiger parts. In India, WildAid used performing arts called "Bagheshwari" as a means of awareness and education for locals in and around India's tiger reserves (WildAid, 2012). In China, WildAid launched a new tiger public service announcement with Leonardo DiCaprio and Jackie Chan which ran both on China Central Television (CCTV), a Chinese state-controlled broadcaster and Sina Weibo, the Chinese version of Twitter (WildAid, 2012). The PSA aired hundreds of times on donated airtime valued at several million dollars. The following year, WildAid filmed new public service announcements to air on in-flight entertainment systems on all Virgin America and Virgin Atlantic flights and throughout India (WildAid, 2013). The tiger campaign expanded past India and China in 2013, with the introduction of public service announcements in Thailand and Vietnam (WildAid, 2014). Since then, WildAid has continued to focus on the tiger initiative through the filming of various documentaries and films. While one of the earliest campaigns for WildAid, it is evident that tiger consumption outside of China or Thailand is not of relatively high importance to organizations like WildAid or USAID.



Figure 6: Liu Huan in a WildAid tiger campaign. Huan is one of China's modern era pioneers in popular music and is considered China's "King of Pop". The advertisement reads "Please refuse tiger products. The tiger population is in extreme danger."

Tigers were classified as globally endangered in 1986 by the International Union for Conservation of Nature and the following year, a CITES treaty banned cross-border trade in tiger parts (WildAid, 2014). Although this ban made all commercial tiger trade illegal, the tiger population dropped by about half since it was put into effect. Although most prevalent in Mainland China, demand for tiger parts still exists in Japan, Singapore, South Korea, and the United States (Bale, 2018). Singapore has been identified as a major transit hub for the trade of tigers, as it is an attractive route for syndicates to move products through its shores (World Wildlife Fund Singapore, 2021). Despite stringent laws as well as becoming a signatory to CITES in 1986, Singapore is still considered a major center of illegal wildlife trade. In fact, it was named one of the top ten illegal wildlife trading hubs globally by a 2009 TRAFFIC report (ACRES, 2015). There is also a considerable amount of domestic

illegal wildlife trade, as a significant number of wild animals and wildlife products end up in Singapore as the final destination. It is worth noting that as tiger populations decline, there is a more readily available product entering the market as a substitute: lions (WildAid, 2016a). Although lion bones are not part of Traditional Chinese Medicine, their availability has made them the next target for the illicit wildlife trade. While there may be no direct data from Singapore, however, it is worth noting that efforts to ban tiger and lion consumption in China have trickled throughout Southeast Asia. For instance, the ban on tiger trade in China caused importers to use South African lion parts to make traditional tiger-based products. Singapore Airlines, once the largest carrier of South African lion bones, announced its intention to stop carrying such cargo as of August 2018 (Steyn, 2018).

Despite an increase in tiger population across range states like India, tiger parts consumption is and remains a major marker in Singapore in recent years. Given Singapore's role as both an intermediary and final destination for illicit wildlife products like those derived from tiger parts, my hypotheses would suggest that the country needs an elaborately tailored campaign that will not only convince its citizens from consuming illicit wildlife products, but that also inspires them to curtail the movement of such products within their borders. Singapore's free port status and large trading volumes have already drawn attention from CITES enforcement agencies and coalitions like ASEAN who wish to tackle the problem of wildlife trafficking across Southeast Asia (Lin, 2005). However, given previous research as well as the basis of this research, we know that enforcement methods are typically lackluster at best. Furthermore, legislative bodies like CITES lack the enforcement capability to make any lasting and effective change, especially in a hotspot like Singapore.

Unfortunately, what we see in this case with WildAid is nothing more than your typical run of the mill conservation campaign that any other organization puts on. What usually makes WildAid’s campaigns unique (and successful)—the tailoring of ads and billboards to its audiences—is sorely lacking in this initiative. What we see in this instance instead is merely the overflow of other campaigns being used across the region in hopes of widely transmitting WildAid’s message. For instance, the two images below show a side-by-side comparison of a campaign that WildAid partnered with the US Wildlife Trafficking Alliance (Figure 7) and a campaign WildAid produced alone, part of their “Kung Fu Panda” campaign series (Figure 8). As you can see from the images, the WildAid campaign is more dynamic, not just because this specific campaign was targeted towards children, but also because it directly engages with viewers in a unique way. With the joint campaign, it is hard to gauge who specifically is the target audience and thus the message is very broad and could easily be dismissed.



Figure 7: WildAid & U.S. Wildlife Trafficking Alliance Campaign

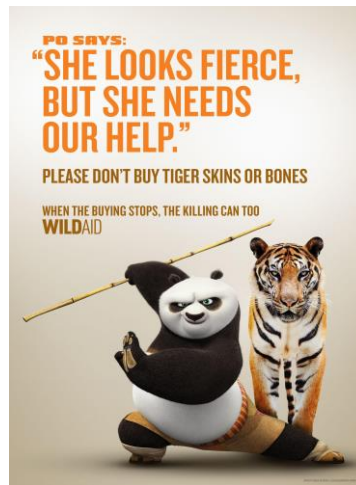


Figure 8: WildAid “Kung-Fu Panda” Campaign

One could argue that WildAid had minimal norm legitimator resources to work with in framing a campaign for Singapore, but many prominent figures, including a gold medalist and former Olympic Team Swimmer are well known conservation scientists (MalayMail, 2021). Recycling campaigns made for other countries may be cost-effective for organizations like WildAid, but it runs the risk of not resonating with citizens in the target country. Given Singapore’s unique position as both an intermediary point and consumption destination for illicit tiger parts, ensuring that citizens have “bought in” is integral to the success of tiger conservation. It should be noted that there has recently been a historic increase in tiger population for the first time in a century, as announced at the 3rd Asia Ministerial Conference on Tiger Conservation (Platt, 2016). In range countries like India, the tiger population has increased more than 30% from 2015-2019 (Ratcliffe, 2019). While this is nearly a decade after WildAid’s campaign induction, it is unclear however whether these country-specific increases reflect an actual increase in population or merely better

strategies re: counting and analysis. Either way, the positive trend in tiger population signifies the success of conservation efforts and campaigns, although perhaps these successes are more geographically limited than one might expect. Given that tigers now occupy less than seven percent of their natural range area, much of the conservation efforts over the years have focused on India, where most wild tigers live. Some of the most common conservation efforts currently in place are: 1) securing source sites for breeding tigers to preserve the overall quality of genetics, ensuring high-quality tiger protection through robust ranger patrols and extensive intelligence gathering mechanisms, and monitoring tiger populations, prey populations, and habitat extent and quality (Association of Aquariums and Zoos, 2020).

4.3.3 Coincidence or social change?

Despite the WildAid tiger initiative being as old as the shark fin initiative, it is unlikely that its success will be comparable. My prediction, quantified on a basis of “Low” to “High”, can be seen below in Figure 9. This campaign, at best, makes thinly veiled attempts to engage with all four Quadrants of Engagement. Based upon this, and the hypotheses stated in Chapter 3, the expectation would hence be that this particular campaign was not effective in communicating conservation needs in a culturally relevant manner (Hypothesis 2) and hence also in curbing actual behaviors with regards to wildlife demand (Hypothesis 1). Put differently, this prediction of the campaign’s lack of success within Singapore rests on two components: (1) the campaign lacks an influencer to connect to Singaporeans directly and (2) there are ample reasons consumers may desire tiger products, and not all of them are included in the campaign. Both components make it difficult to justify a high component within

any of the Quadrants except the standard Regulatory Quadrant for WildAid’s attempt at tiger conservation. While the organization does attempt to engage with the other Quadrants for this campaign throughout other countries, their performance in Singapore is mediocre, at best. For these reasons, they receive only half credit for Culture, Behavioral Economics, and Desire.

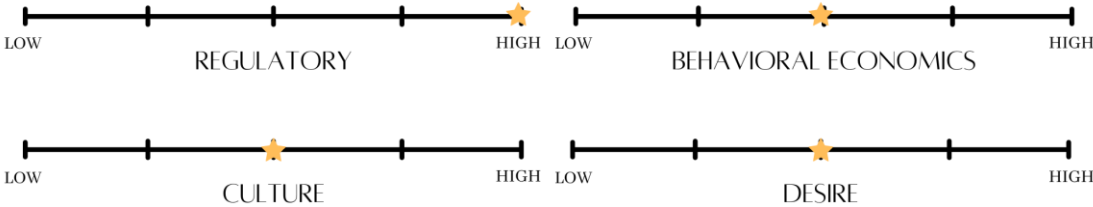


Figure 9: Prediction Scales for Tiger Campaign

While the campaign has advanced beyond the original countries of India and China, it has yet to find the footing other campaigns have in the target country of Singapore. Unlike the other campaigns in this chapter, WildAid provided no studies on public opinion and consumer demand for tiger consumption, either within Singapore or in other countries. Despite this lack of information, it is still possible to decipher whether WildAid was able to develop a thought-provoking campaign that interacted with all four “Quadrants of Engagement”: (1) Regulatory, (2) Culture, (3) Behavioral Economics, and (4) Desire. A brief explanation of each quadrant follows below.

1. **Engaging the Regulatory Quadrant:** The regulatory quadrant is the easiest quadrant for anti-wildlife trafficking campaigns to engage with. By the very nature of creating these types of campaigns, organizations

like WildAid are dedicating their energies to ensuring the effective implementation of wildlife protection laws. WildAid most commonly refers to CITES and IUCN listings to motivate national governments to enact and enforce legislation.

2. **Engaging the Culture Quadrant:** While WildAid has public service announcements featuring various well-known conservationists and celebrities, to date, none exist made specifically for the Singaporean market. Therefore, while WildAid attempts to dissuade the use of tiger products in countries like China and India, the messages shown in Singapore are not as fitting as one would hope.
3. **Engaging the Behavioral Economics Quadrant:** WildAid's campaigns in general engage with the B.E. quadrant on the fundamental basis of using influential celebrities to create an "in-crowd" associated with the desired behavior of ceasing consumption, however, the lack of diversity within the campaign spokespeople makes it hard to decipher how well this "in-crowd" is welcomed by countries that are not India and China, like Singapore.
4. **Engaging the Desire Quadrant:** The multiplicity of uses for tiger products makes engaging with the desire quadrant far harder than a typical campaign. Successfully engaging with this quadrant necessitates understanding the underlying attraction consumers have to specific products, yet even when focusing on the desire for tiger parts in Singapore, the desires are numerous. WildAid's best option is to focus on one of the many drivers of demand as a vehicle for their conservation efforts if they wish to be well received by the Singaporean citizens who participate in consumption.

While the tiger initiative is one of WildAid's oldest campaigns, its implementation across different demand countries leaves much to be desired. Although there are many norm translators within the campaign, none fit within the Singaporean case, nor has any data been collected by the organization itself about demand in the area. While range countries like India have shown indication that the tiger population has increased more than 30% from 2015-2019, it is impossible to directly relate this growth to the campaign in Singapore (Ratcliffe, 2019). Despite

being one of the most important gateways in the tiger trade, it seems that the city-state of Singapore is forgotten about not only by WildAid, but by other nongovernmental organizations as well. The lack of evidence of significant behavioral change in the context of Singapore in this instance, when coupled with the absence of a tailored norm legitimator in this instance, is thus supportive of the contentions made in Hypotheses 1 and 2, which together would anticipate a null effect on wildlife demand at the societal level in the absence of a culturally tailored norm legitimator campaign.

4.4 Performing tradition: The lucrative market for pangolin scales

4.4.1 Background

It may come as a surprise to most people that the most illegally traded mammal is a solitary, nocturnal creature called the pangolin. Pangolins are small-medium sized mammals often referred to as “scaly anteaters” for their defining physical trait: overlapping scales composed of keratin (the same protein that makes up human fingernails) (Vallianos, 2017). It is estimated that more than 1 million pangolins have been taken from the wild in the last decade and pangolins are primarily trafficked across Southeast Asia (IUCN Pangolin Specialist Group, 2016). Pangolins are overexploited for their keratin scales and exotic meat, and over the past several years, seizures of scales and of whole pangolins have increased.

Seizures of shipments originating from countries like Cameroon, Nigeria, and Uganda show that Asian markets are now sourcing African pangolin species to meet demand in places like Vietnam and China. In 2008, two of the eight species were classified as Endangered by the IUCN—the Sunda Pangolin *Manis javanica* and the Chinese Pangolin *M. pentadactyla* (Vallianos, 2017). Less than a decade later, all eight

species of pangolin— four Asian and four African— distributed across 51 countries (19 Asian range states and 32 African range states) were threatened with extinction (Vallianos, 2017). The IUCN Species Survival Commission (SSC) Pangolin Specialist Group recognized hunting and poaching of pangolins, largely for illegal international trade— the majority of which is destined for China and Vietnam—as their primary threat (Challender, Waterman, and Baillie, 2014).



Figure 10: A Pangolin in the Wild, Credit: Oregon State University

Pangolins are nocturnal and solitary, making them particularly vulnerable to poaching because of their slow reproduction rates, sensitivity to capture-induced stress, and instinct to curl into a ball when threatened, rather than attempt escape or defense (Vallianos, 2017). The elusive nature of pangolins makes it difficult for conservationists to estimate how many still exist in the wild, however, hunters, traders, and locals have reported drastic sightings of Asian species across the continent. Interviews with hunters in 2007 and 2011 suggested that populations of the Sunda

pangolin in Malaysia had fallen dramatically, with 95% of hunters seeing a decline in population since 1990, when commercial trade of pangolins began to escalate (Challender et al., 2014). Rare sightings of pangolin in the wild, coupled with the volume of pangolin products seen in trade over the past 15 years, suggests that all eight species of pangolin may be on the verge of extinction (Vallianos, 2017). In 2019, the IUCN declared that the status of three of the eight pangolin species had worsened; two African pangolin species, the white-bellied and the giant ground pangolin, had been moved from the “Vulnerable” to “Endangered” category, and the Philippine pangolin had been moved from “Endangered” to “Critically Endangered”.³⁴ These changes came after the white-bellied and giant ground pangolin populations fell by 50%, while the Philippine pangolin population fell by 80% over the last 21 years (WildAid, 2019).

The 51 range states of pangolins have all expressed concern over the lack of awareness across all levels—national, regional and community—of the pangolin’s current risk of extinction. While the pangolin is listed as a protected species in all range states except Brunei Darussalam, the level of protection varies widely by country and species (Pantel and Anak, 2010). Most range states have national legislation in place to prohibit the capture and trade of domestic pangolin populations,

³⁴ The IUCN Red List is the most comprehensive inventory of the conservation status of biological species. Using a set of criteria applicable to all species, the Red List divides species up into the following categories: Extinct (EX) – beyond reasonable doubt that the species is no longer extant; Extinct in the wild (EW) – survives only in captivity, cultivation and/or outside native range, as presumed after exhaustive surveys; Critically endangered (CR) – in a particularly and extremely critical state; Endangered (EN) – very high risk of extinction in the wild, meets any of criteria A to E for Endangered; Vulnerable (VU) – meets one of the 5 red list criteria and thus considered to be at high risk of unnatural (human-caused) extinction without further human intervention; Near threatened (NT) – close to being at high risk of extinction in the near future; Least concern (LC) – unlikely to become extinct in the near future. Species may also be listed as Data deficient (DD) or Not evaluated (NE).

yet despite these regulations and international protection through CITES in Appendix I, the illegal trade persists.

Pangolins have historically been exploited across Southeast Asia, especially the Sunda (*M. javanica*) and Chinese pangolins, which are native to the area (Sterling et al., 2006). In Vietnam, both the Chinese and Sunda pangolins have been traded for their meat as well as scales, which have been consumed locally and traded to towns and cities (Sterling et al., 2006). Some reports suggest that consumers in Vietnam consider pangolins to have medicinal properties and their scales are used as an ingredient in Traditional Vietnamese Medicine (Dang et al., 2009). The official Vietnamese pharmacopeia includes scales (“xuye[^]n son gia’p” in Vietnamese) as an ingredient in medicines to stimulate energy, improve blood circulation, treat ulcers, and promote milk secretion in lactating women (Xing et al., 2020). Scales are also believed to treat several ailments including cancer, chronic varicella, malaria, chills, rheumatism, menstruation stagnation, styptic, and scrofula (Vo, 1998). Depending on the specific use, scales are grilled and ground into a powder, which may be taken with wine; burnt, powdered, and applied directly to the skin; or mixed with other ingredients in water and ingested (Vo, 1998). The use of pangolin derivatives in Vietnam is prohibited at the national level but the scales may still be found for sale illegally in traditional medicine shops in the country (Challender et al., 2015).

Overexploitation is the most pressing threat to pangolins, and for most of the eight species, unregulated international trafficking is the main danger (Xing et al., 2020). Available evidence indicates that most pangolin products trafficked internationally are destined to China and Vietnam, where there is substantial demand for pangolin meat and scales (Challender and Waterman, 2017). Vietnam is an

established channel for illegal wildlife trade, and rapidly growing urban prosperity is increasing domestic demand for illicit wildlife products. In 2019, Vietnam became the largest destination country for pangolin parts destined for Asia (Vallianos, 2017). Mitigating the threat of overexploitation requires a range of interventions and an understanding of the complex cultural contexts in which pangolins are used across Asia. For this reason, and to allow for a variety of target countries in the analysis, the focus of the case study presented below will be on WildAid's efforts to combat pangolin demand in Vietnam.

4.4.2 The WildAid effect

WildAid has been on the forefront of the fight for pangolins since the launch of their public awareness campaign in 2015. In the subsequent six years, over 800 million viewers in China and Vietnam have seen pangolin messaging across dozens of TV networks and on over 160,000 video screens in subways, airports, bus stops, hospitals, and shopping centers. Print and social media campaigns have also been deployed and Traditional Medicine experts have appeared at WildAid sponsored seminars to highlight the use of alternative ingredients (WildAid, 2019).



Figure 11: WildAid’s Pangolin Campaign Advertisement tackling the use of Pangolin Scales in Lactation Remedies

Unlike its predecessor, the Yao Ming Shark Fin campaign, the pangolin initiative featured a coalition of celebrities and leaders who spoke out against the pangolin trade and urged consumers not to buy pangolin products. Created in partnership with the Vietnamese nonprofit CHANGE, the inaugural campaign “Happy as a Pangolin” debuted with three public service announcements starring Vietnamese actress Maggie Q, Miss Universe Vietnam 2015 Pham Huong, and comedian Tran Thanh (WildAid, 2016c). The multiplicity of possible norm legitimators aligns with the multiple pangolin derivatives in demand—scales, meat, and blood among some of the most common. Regarding the use of pangolin scales, WildAid’s 2018 public service announcement focused on the use of scales to promote lactation in new mothers with the slogan “Baby pangolins need their mothers too” (WildAid, 2018b).³⁵

³⁵ Note this exact campaign was shown in China and Vietnam; Traditional Chinese Medicine (known as Trung Y in Vietnam) has heavily influenced what is known as Thuốc Nam, or Traditional Vietnamese Medicine.



Figure 12: WildAid’s Vietnamese Pangolin Campaign Advertisement reminding viewers that although thousands of pangolins are killed each year for use in medicinal remedies, no science studies have proven that they are a cure for diseases.

In a survey of wildlife consumption in general, Do et al. (2011) found that less than 10% of adult respondents in Ho Chi Minh City (total sample size: 4062) and just over 10% of children surveyed (total sample size: 3562) reported consuming pangolin products (Burgess et al., 2020). To better understand the market demand that drives pangolin poaching, WildAid investigators interviewed chefs and restaurant owners in Vietnam about the consumption of meat and scales in early 2015. These surveys provided evidence that consumption of pangolin products exists even within the ranks of government officials. In Vietnam, scales sell for between 5.5 to 5.6 million VND per kg, or about \$250/kg (WildAid, 2016b).

A June 2015 WildAid investigation found that local Vietnamese restaurants pay traders more than 5 million VND per kg for pangolin, which is then marked up and sold on to consumers at “market price” (Vallianos, 2017). Those interviewed in

Hanoi and Hai Phong confirmed that pangolin scales could be sold for 1 million VN (50 USD) per 100 grams (Vallianos, 2017). Customers at the restaurants had the option of purchasing the scales raw and taking them home, or having the restaurant cook and serve them as part of the meal (Vallianos, 2017). Later that year, in December, WildAid surveyed 815 residents in Hanoi, Ho Chi Minh City and Da Nang to measure public awareness of the pangolins poaching crisis and gauge attitudes towards conservation. Only 4% of respondents had purchased pangolin products, while 10% had consumed pangolin meat at some point, the majority more than 5 years ago (Vallianos, 2017). Many of the respondents had purchased pangolin wine, meat, and scales, with fewer purchasing pangolin products like medicine, blood, or fetuses (Vallianos, 2017). Research found that pangolin scales were consumed by 41% of self-declared pangolin consumers (Burgess et al., 2020). These results support findings from Do et al.'s research (2011) in which pangolin products used as medicine and pangolin wine were some of the products most consumed. Similarly, results from USAID's research showed that scales and powdered scales were the products being purchased the most. Out of those who admitted having purchased pangolin products, 37% had purchased scales and 31% had purchased powder (USAID, 2018). Two questions of note were asked in the WildAid survey, which attempted to pinpoint not only the rationale behind consumption but also common beliefs about pangolin scales. A breakdown of answers follows:

- **Question 1:** Why do you think people consume products from pangolins?
 - 52% believed it was because pangolin meat is considered to be rare.

- 45% believed it was because pangolins have medicinal properties.
 - 42% believed it was because consuming pangolin is expensive and shows that consumers have prestige.
 - 38% believed it was out of curiosity.
 - 29% believed it was to impress someone during a business deal.
 - 27% believed it was because pangolin is good for your health.
 - 12% believed it was because pangolin tastes good.
 - 4% believed it was for another reason.
- **Question 2:** What medicinal properties do you believe pangolins have?
 - 39% believed pangolins increase libido.
 - 30% believe pangolins treat rheumatism.
 - 21% believe pangolins treat asthma.
 - 21% believe pangolins can detox the body.
 - 16% believe pangolins treat skin diseases.
 - 14% believe pangolins treat cancer.
 - 14% believe pangolins have other properties not listed.
 - 12% believe pangolins help promote lactation in new mothers.
 - 9% believe pangolins treat abscesses and swelling.

Despite these figures, only about 8% of Vietnam’s residents currently believe pangolins have medicinal properties, but a further 64% identified as undecided—they have heard of such properties “but do not know if [they are] true” (USAID, 2018). Of

the believed remedies, cure for increased libido tops the list, followed by rheumatism, asthma, and detoxifying properties. The majority of respondents (75%) were aware that shops and restaurants source scales and meat from poached wild pangolins, but 33% believed these products also came from farmed animals (USAID, 2018). Almost all respondents agreed that selling (93%) and purchasing (90%) pangolin products is illegal (USAID, 2018). Ninety-four percent believed pangolin poaching is common, with trafficking on the rise (93%) (USAID, 2018). The same majority agreed that these animals are endangered, and 98% think “pangolins should exist on earth” (USAID, 2018). A 2017 follow-up survey of 3,000 urban Chinese residents showed 50% thought pangolin scales had medicinal value, down from 70% two years prior (WildAid, 2018a).

Two years later, in 2018, a survey was conducted with 1400 participants via mobile phone in five cities in Vietnam: Hanoi, Hai Phong, Da Nang, Can Tho and HCMC (Burgess et al., 2020). This research included only respondents who were over 18 years old and earning a minimum of VND 10,000,000 monthly before tax. Results showed that 10% of respondents across the five cities reported purchasing pangolin products at some point in their life; 6% having done so in the last year and 5% in the last six months. Most purchases had been made physically in-country from private individuals (USAID, 2018). Some conservationists believe the difference in results, while substantial, is due to the differing methodologies employed in each study; unfortunately, that hypothesis is not possible to evaluate given the lack of detail about the studies undertaken (Burgess et al., 2020).

What is clear is that a vast majority of respondents were aware that selling pangolin products and purchasing them is illegal, as the 2016 WildAid survey showed

those figures at 93% and 90% respectively (Vallianos, 2017). It can be inferred, then, that law enforcement is currently not an effective deterrent in Vietnam. With the most recent adoption of a new Penal Code as of 2018, some conservationists believe that laws relating to possession of illegal wildlife products will feature more prominently in the public consciousness and be enforced more thoroughly (Burgess et al., 2020). Unfortunately, USAID’s research found that despite 52% of respondents who have purchased pangolin products in the last year having heard about the revision in the Penal Code, and 86% of the same group agreeing with these revisions, 60% of these buyers are likely to purchase pangolin products again in the future (Burgess et al., 2020). In 2019, to coincide with the Lunar New Year/Têt holiday, WildAid collaborated with several prominent Buddhist temples to launch the “Be Their Bodhisattva” campaign, urging Vietnamese citizens to start the year by protecting elephants, rhinos, and pangolins. Consistent with Hypothesis, 2, the campaign’s billboards and videos garnered 368 million online impressions and reached over 30 million people with media coverage (WildAid, 2020).

4.4.3 Coincidence or social change?

Given that WildAid’s pangolin initiative is relatively new in comparison to the shark fin initiative, it is unlikely that its success will directly mirror that of its predecessors. However, there is evidence that the pangolin campaign could be successful to some measure based upon the expectations that were outlined in Hypothesis 1 and 2 (and in Chapter 3, more generally). Like the shark fin campaign, this initiative considers all four approaches in a complimentary fashion to some degree and thus is graded on a similar scale, as seen in Figure 13. My prediction of the campaign’s possibility of success is based on four fundamental aspects of the

campaign: (1) by its nature, the campaign is successful in regulation because it aims to make a practice illegal, (2) WildAid not only chooses a high impact influencer, but unlike the shark fin campaign, does not necessarily saturate the media landscape as much as in the past, (3) social marketing tactics are not deployed, although an “in-crowd” *is* created and (4) at its basis, the campaign attempts to target several specific desires.

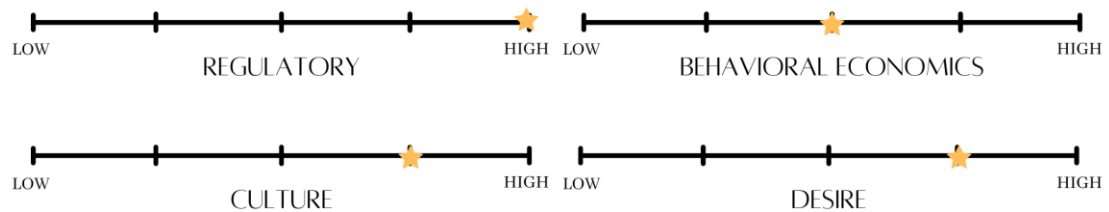


Figure 13: Prediction Scales for Pangolin Campaigns

Additionally, and alongside the relatively shorter time-window for the analysis, the pangolin initiative also dealt with a multiplicity of actors and topics, given that various parts of the pangolin were in demand. All these factors may make it difficult to pinpoint the success of one subset of public service announcements (i.e., those regarding pangolin scales). However, it is still possible to decipher whether WildAid was able to develop a thought-provoking campaign that interacted with all four “Quadrants of Engagement”: (1) Regulatory, (2) Culture, (3) Behavioral Economics, and (4) Desire. A brief explanation of each quadrant follows below.

1. **Engaging the Regulatory Quadrant:** As mentioned before, the regulatory quadrant is the easiest quadrant for anti-wildlife trafficking campaigns to engage with. By the very nature of creating these types of

campaigns, organizations like WildAid are dedicating their energies to ensuring the effective implementation of wildlife protection laws. WildAid most commonly refers to CITES and IUCN listings to the Vietnamese government to enact and enforce legislation, like the 2018 revision of the Penal Code.

2. **Engaging the Culture Quadrant:** In a public service announcement featuring Jay Chou, WildAid attempts to dissuade the perceptions of pangolins being good for health by alerting consumers to the diseases and parasites often found in pangolins. The campaign advertisement shows a consumer preparing to eat pangolin by donning protective equipment like a mask and gloves. By introducing the information about deadly contagions, WildAid grabbed the attention of consumers who believe that they are, in the words of Chou, “clever for eating pangolins”.³⁶
3. **Engaging the Behavioral Economics Quadrant:** WildAid’s campaign engaged with the B.E. quadrant on the fundamental basis of using influential Vietnamese celebrities like Maggie Q, Tran Thanh, and Pham Huong to create an “in-crowd” associated with the desired behavior of ceasing pangolin consumption. WildAid also targeted a younger audience with a stream of advertisements featuring “Kung Fu Panda”, star of the media franchise by DreamWorks Animation. These advertisements urged children to remind their friends and family of the harms of pangolin consumption.
4. **Engaging the Desire Quadrant:** The multiplicity of uses for pangolin products with the Vietnamese tradition makes engaging with the desire quadrant far harder than it was for the shark fin campaign. Successfully engaging with this quadrant necessitates understanding the underlying attraction consumers have to specific products, yet even when focusing on the desire for pangolin scales in Vietnam, the desires are numerous. Yet, by replicating the bond between a mother and child with pangolins, WildAid focused on influencing the cultural perception that this “delicacy” was a must-have for new mothers who needed help lactating.

While the data for the pangolin campaigns may not be as decisive as those from the shark fin campaign, it is important to keep in mind that the campaign’s

³⁶ The English-translated version of this campaign public service announcement can be found on WildAid’s official YouTube page. It is entitled “Jay Chou: Pangolins”.

induction was only in 2016. Data is nearly impossible to come by given the short timespan since the campaign induction coupled with the illicit nature of the trade and the onset of the SARS-CoV-2 (COVID-19) pandemic, has halted much of the fieldwork that organizations like WildAid have been doing. While 2019 had an all-time high of pangolin scale seizures, international trade was not officially banned until 2016. Therefore, the data relating to the trafficking of pangolins is minute (Bale and Fobar, 2020). Recent policy changes in countries like Vietnam and China have been implemented as recently as 2019, and while those changes have not had an immediate effect, it is possible that they will influence the long-term trend of consumption. Hence, while some of the evidence reviewed above is supportive of Hypotheses 1 and 2, this particular case evidence is inconclusive at this time.

4.5 Conclusion

This chapter introduced three variations of WildAid's consumer demand driven campaigns to analyze their use of the four Quadrants of Engagement, and Hypotheses 1 and 2 more specifically. While the campaigns varied in their species, extent of norm legitimators, and country targets, each of the campaigns followed WildAid's behavioral change methods in a general sense, albeit with some variation. As the previous chapter anticipated, the variation of each campaign's success depended on how well the campaign interacted with each of the Quadrants of Engagement. WildAid's shark fin soup campaign with Yao Ming, one of its very first multimedia campaigns, was a resounding success across China, bolstering 93% rate of behavioral change in the last 6 years while still being discussed by consumers and suppliers alike. On the other hand, WildAid's tiger campaign initiative, which began the same year, was seemingly unsuccessful within Singapore, although its success in

other countries is debatable. As previously mentioned, given that the majority of tigers reside in India, many organizations focus their efforts on breeding, habitat preservation, and reducing human-tiger conflict. Finally, WildAid's pangolin campaign comes with mixed reviews; while still in its early stages, it will be interesting to see how the pangolin's alleged role in the SARS-CoV-2 pandemic will affect consumption and distribution.

If not for the inklings of success via the pangolin campaign, it would be easy to dismiss the success of WildAid's shark fin initiative as nothing more than a rare occurrence. However, it is important to keep in mind that the idiosyncratic nature of each illicit wildlife market makes it impossible to have a calculated equation for success. By engaging with the four Quadrants of Engagement—and my Hypotheses 1 and 2—on a case-by-case basis, organizations stand to create a more cohesive, complementary approach to conservation efforts. These three case studies, while varying in success and how they used the Four Quadrants approach, at the very least educate us as to how difficult it is to encapsulate every aspect of each individual market within one campaign. The shark fin case, and arguably the tiger case, also offer evidence that is consistent with both Hypotheses 1 and 2, though as noted above the pangolin case was more inconclusive. Hence, these case studies reiterate my point in the introduction chapter that what works in terms of one market may be ineffective in another—yet when using the Quadrants for a specific purpose, instead of in a broader, multi-country initiative like we saw in the tiger campaign case study, each initiative takes on a deeper meaning that has the potential to resonate with consumers years later, as seen in the shark campaign case study.

Only time will tell if the pangolin initiative pans out as successfully as the shark fin campaign has. In the meantime, WildAid has begun expanding their initiatives into other species and even other forms of environmental degradation. However, keeping in mind that China serves as a large basis for the consumption of all three of these animals (and many more) may explain why Singapore and Vietnam have not been focused on as heavily as China by the organization. What is certain, however, is that there is merit to structuring campaigns in the way WildAid does. While most organizations and campaigns shy away from interacting with the desire quadrant, questions of desire are firmly centered in all WildAid's successful campaigns. Unfortunately, given the border-crossing nature of wildlife trafficking, it can be difficult to extrapolate the success of a campaign in one specific country.

As seen in the Singapore tiger parts case, often, messaging from one country can overflow into another, and it can be difficult to accurately track consumer demand, especially for illicit products. It is difficult to assess whether the campaigns have had a causal effect given potential endogeneity between WildAid's campaign messages targeting specific markets and countries that may already be on track to success (or failure), given the timing of these analyses. Therefore, to add validity to these findings the next chapter will target these three countries and markets in a quantitative analysis. Using campaign imaging and follow-up questionnaires much like those WildAid utilizes, the online experiment that is next conducted seeks to provide more clarification to the theory and hypotheses tested in this chapter.

Chapter 5

THE WILDAID EFFECT PART 2: ONLINE SURVEY ANALYSIS

5.1 Overview

The previous chapter conducted a qualitative analysis which introduced three variations of WildAid's consumer demand driven campaigns. In doing so, its aim was to analyze these campaigns' effective use of the four Quadrants of Engagement, and of norm legitimators more specifically.³⁷ While each of the campaigns followed WildAid's behavioral change methods, they varied in not only their species target, but also the countries in which they were implemented, and the norm legitimators involved. The tiger, shark, and pangolin initiatives, in turn, each had varying levels of success depending on how well they each interacted with the Quadrants of Engagement discussed in Chapter 3. While these findings offer a degree of evidence in favor of the effectiveness of WildAid's behavior change techniques, they lack causal identification. Indeed, the behavioral changes observed through the observational data discussed in the previous chapter could also have been attributable to spurious shifts in wildlife consumption behaviors, as opposed to WildAid's campaign itself.

The intention of this chapter is to address the above deficiencies. To do so, this chapter takes a closer look at the tiger, shark, and pangolin markets in Singapore, China, and Vietnam with the aid of experimental methods. By conducting online

³⁷ The four Quadrants of Engagement, introduced in Chapter three, are (1) Regulatory, (2) Culture, (3) Behavioral Economics, and (4) Desire.

experimental data collection in relation to simulated behavioral change campaigns, the survey in this chapter analyzes pre- and post-test responses concerning participants' opinions towards wildlife trafficking, alongside basic demographic data. This part of the analysis accordingly looks to supplement the preceding case study analysis through an evaluation of the specific, and differential, causal effects of anti-wildlife trafficking campaigns upon consumer wildlife preferences when varying the identity of the individual (or image) delivering a wildlife campaign's message. Hence, the purpose of these proposed experiments is to gauge the success of campaigns intending to redirect the desire for illicit wildlife through the use of “norm legitimators”. As outlined in Chapter 3, I hypothesize that shifting attitudes and behaviors concerning wildlife trafficking will be the result of individuals updating their opinions to better align with the preferences of people they respect and/or identify with on a cultural level. In each of these regards, this experimental assessment builds off past individual-level experimental studies pertaining to the effectiveness of environmental messaging campaigns (Whitcraft et al., 2014; Ong, 2018).

This empirical component of my dissertation utilized a randomized online survey experiment carried out on the Lucid platform from October 5th-14th, 2020 with a target of 1,620 respondents across three countries. Lucid is well-suited for this experimental component as it has the unique ability to flexibly target specific countries outside of the United States and thus will give me direct access to potential consumers in Singapore, China, and Vietnam. This chapter begins with a detailed description of the survey design and summary statistics of this online experiment before discussing the effects of my key treatment variable (i.e., a survey respondent's receipt of the Norm Legitimator image treatment) on three key behavioral dependent

variables related to wildlife consumption and/or conservation behaviors to test Hypothesis 1: (1) a respondent's likelihood of purchasing the species that is specific to a given country-experiment (i.e., pangolin-, tiger-, or shark fin-derived products) in the future, (2) a respondent's expressed likelihood of purchasing any wildlife-derived products in the future, and (3) a respondent's likelihood of sharing the relevant wildlife-oriented campaign image (i.e., treatment image) that they received and viewed with others. A battery of additional post-treatment questions related to respondents' self-reported degrees of (culturally) understanding of their treatment image, and corresponding emotional responses, are then assessed in relation to my treatments to further assess Hypothesis 2.

5.2 Survey design

The online survey experiment consisted of three components: the collection of demographics and baseline opinions about the use of illicit wildlife products, a randomized treatment image, and the collection of post-treatment opinions and responses. To ensure a degree of external validity with respect to geography and culture, the experiment was conducted in three different countries. Using programmatic technology, Lucid delivers online surveys to global respondents. The survey, which I had previously constructed within Qualtrics, is deployed on Lucid's software, and matched with respondents in target countries that fit within the parameters I had previously set up. Within each country, one of three illicit markets (tiger parts, pangolin scales, and shark fins) was examined. Given my contentions that use of a norm legitimator will cause a shift in opinions about, and behaviors towards, wildlife trafficking, my proposed online experiment included four treatment

conditions with 135 respondents per treatment (or 540 total respondents per country). Given complications with the online application of this survey a large subset of survey respondents did not answer two key follow up questions regarding the primary reason that they felt that the message was meaningful or the primary reason that they felt that the message was not meaningful. This did not serve as a major impediment to the analyses further below since these two questions were not included in the ultimate multivariate models. Nevertheless, we can note that eliminating all entries with incomplete data across all variables (including the two measures mentioned above), the total number of respondents with fully complete data for each country was as follows: China: 121 respondents, Singapore: 180 respondents, and Vietnam: 147 respondents. Study subjects were randomly exposed to one of four treatment conditions; an individual may see a campaign:

1. with a norm legitimator *or*
2. without a norm legitimator but utilizing a spokesperson *or*
3. neither a norm legitimator nor a spokesperson, instead an animal *or*
4. a control campaign with a message about the importance of sleeping 8 hours a night.

The number of experimental subjects per condition, and per international target country, each conformed to anticipated experimental power under potential post-stratification by country. The breakdown of identified countries (facilitated by the Lucid platform) for my experimental subjects, as well as the number of participants appear in Table 2 below.

Table 2: Breakdown of Online Experimental Sites and Subjects

Target Countries	# of Treatments	Targeted Respondents/ Country	Respondents/ Country w/Primary (Not) Meaningful Responses
China	4	540	121
Singapore	4	540	180
Vietnam	4	540	147

To appropriately isolate the contribution of campaign messengers, the treatment images were created from scratch instead of being taken from past or current campaigns run by environmental organizations like WildAid. There were multiple advantages to creating these images instead of relying on prefabricated campaign posters. The primary advantages were (1) ensuring that campaigns are delivered in each country’s primary language, (2) maintaining comparability not only within each country but across all three countries, and (3) securing the ideal persona for each campaign. Given that this dissertation argues that the social aspects driving demand for wildlife products are not typically acknowledged in present-day anti-wildlife trafficking campaigns, the formulation of these tailored “campaigns” seemed to be better suited to offer insight into whether (a) *who* delivers the message of changing norms would have an effect on how well the norms were accepted, and (b) if individuals would conform to new cultural norms if their fellow country people were seen shifting their ideology.

A copy of the survey respondents took is available in Appendix A, but the following serves as a summary. Prior to the treatment image, participants were asked a series of questions about their baseline opinions on wildlife trade and use. The

questions were meant not only to understand if the respondents were aware of the plight of endangered species, but also if they had ever consumed the illicit wildlife in question, and if so, for what purpose. The final set of questions in the pre-treatment section gauged whether the respondents had seen anti-wildlife trafficking campaigns and how informative they deemed those campaigns to be. As mentioned above, there were four possible visual treatments for each country. They are listed below.

For each campaign, certain parameters were upheld to ensure consistency across all the visual treatments. For instance, the genders of both the norm legitimator and the spokesperson were kept constant throughout each country's campaign, to avoid any variation that may have occurred in responses. All the norm legitimators have worked with WildAid on campaigns, albeit not always for the same species they are utilized for in this study. The idea behind this decision was that if respondents had seen a WildAid public service announcements in their countries at any time before, they would likely recognize the individuals used here as the norm legitimators. As for the spokesperson role, the intention was to pick someone that had Western legitimacy here in the United States of America, but who may not have much popularity in the target country. This way, the audience did not have much emotional attachment or connection to them. For the Control image, respondents saw a visual of an alarm clock with the message to "Sleep 8 hours a night". The rationale behind this visual and message was that most individuals are familiar with the advice to get eight hours of sleep a night, and thus are unlikely to be directly confused by this baseline control ad. For the Animal image, on the other hand, respondents saw the same messages used in the Norm Legitimator and Spokesperson images, yet the visual related to the species in question. For instance, the shark fin image displayed a shark fin, the pangolin image

a close up of pangolin scales, and the tiger image, a sitting tiger.³⁸ Table 3 below outlines the individuals or species used for each campaign ad throughout the online survey experiment.

Table 3: Individuals Used for Campaign Images

China	Norm Legitimator	Jackie Chan
	Spokesperson	Andy Ridley
	Animal	Shark
	Control	Alarm Clock
Singapore	Norm Legitimator	Jay Chou
	Spokesperson	Andy Ridley
	Animal	Tiger
	Control	Alarm Clock
Vietnam	Norm Legitimator	Maggie Q
	Spokesperson	Bridget Mendler
	Animal	Pangolin
	Control	Alarm Clock

After the visualization of one of the images listed above, respondents were given a series of post-treatment questions. These questions aimed to gauge not only if the message resonated with them but, if so, which aspects were most compelling, and which were not. The series of post-treatment questions, available in full in Appendix A, gauged if respondents found the visual treatments understandable, interesting, and meaningful, if they would be likely to share it with friends and family, and most importantly, questioned the emotions the campaign elicited from each respondent. The post-treatment questions were meant to understand what exactly it was that respondents engaged with and took from campaigns like WildAid's. Questions

³⁸ These images, as well as all the prompts used in the survey, are available in Appendix A for reference.

pertaining to demand-side behavior allowed me to directly assess Hypothesis 1, whereas questions pertaining to self-reported (cultural) understanding of each treatment viewed enabled me to assess Hypothesis 2. Furthermore, and in addition to informing Hypothesis 2, understanding the types of emotional responses that each participant had to the campaign ad that they received can also help organizations pinpoint what type of campaign to run in specific countries.

5.2.1 Administering the Survey

The online survey component of this experiment was conducted through the Lucid platform in collaboration with surveys created and housed on Qualtrics. After creating the survey questions and images, I had Lucid's team translate the survey into the appropriate languages: Chinese, Vietnamese, and English (for Singapore). The survey was released simultaneously to Lucid's collection of respondents in all three countries from October 5th to October 14th, with a brief pause for the weekend of October 9-11. This pause accounted for adjustments to some survey parameters that were inappropriately discounting respondents who qualified for the survey. Given the online format of Lucid's platform, the adjustments were easily made and applied to the survey. Unfortunately, given the anonymity of Lucid's respondents, there was no way to follow-up to collect any lost information from respondents who had already initiated the survey, which meant that some respondents did not complete a small subset of the follow-up questions reported below. This did not ultimately have a significant effect on the ensuing analyses given the variables that were ultimately considered in my statistical models. The following section turns to summarizing the collected survey data before turning to the analysis of the treatment effects.

5.3 Summary Statistics

Table 5 below provides aggregate (i.e., pooled) summary statistics for each survey response variable, as obtained across all three countries.³⁹ Note that these summary statistics also pool (i.e., combine) responses across all treatment categories. Disaggregated response variables are considered in relation to individual treatment images in the primary statistical analysis presented further below.

By cross-referencing the variables against these variables' corresponding questions on the survey⁴⁰ itself, the reader can align the (minimum and maximum) values in Table 4 with the survey responses for a particular question (and hence variable). These numeric variables were coded from the survey's responses such that each response category was ordered appropriately along the relevant continuum. For instance, the answers to the question "To the extent that you are aware, have you ever purchased any products derived from endangered animals?" were coded as follows: 1 if the respondent chose "No, not at all", 2 if the respondent chose "Yes, just once", 3 if the respondent chose "Yes, a few times", and 4 if the response was "Yes, several times". Exceptions to this coding scheme corresponded to binary responses (such as, for questions as to whether a respondent had seen any past campaign), which were coded 0/1 (with one denoting the absence of that variable's label); and polytomous categorical variables, whose assigned values do not imply higher/lower values along any given continuum. The latter categorical variables are not summarized in Table 5 given that standard summary statistics do not apply to categorical variables; but are selectively summarized in graph and table form further below.

³⁹ Note that comparable tables of Summary Statistics for each country individually are reported in Appendix B and yield patterns that are generally comparable to those discussed here.

⁴⁰ A copy of the survey is available in Appendix A.

The first six non-categorical variables listed in Table 4 below coincide with the pre-treatment questions that respondents were asked. When looking at the summary statistics for all three countries, the data shows that, on balance, most respondents had never purchased wildlife products prior to taking the survey; but that a majority had seen some sort of anti-wildlife trafficking campaign at some earlier point in their lives. The rest of the non-categorical variables listed in Table 2 coincide with the post-treatment images that respondents received. There are three sets of variables of note within these post-treatment images:

- The mean and median answers for both questions 4 and 5 depict that respondents were highly unlikely to buy their allotted endangered species product and were also unlikely to buy any trafficked species.
- Based on Table 2's mean and medians, respondents typically had some sort of emotional reaction to the campaign image, as shown in the breakdown of question 7 in Appendix B.
- Many respondents agreed that the image that they were shown aligned not only with their own values and beliefs, but with those of their country more generally.

These trends held up when looking at the country-by-country summary statistics (presented in Appendix B), although the emotional reactions noted in the Vietnamese study were the weakest of all three countries. Note that summary statistics on a country-by-country basis are available in tabular form in Appendix B for reference.

Table 4: Summary Statistics for Non-Categorical Variables, All Countries

	Obs.	Median	Mean	St. Dev	Min	Max
Lived in Country	1,414	28	27.99	10.34	1	65

Trade Contribute to Decline	1,422	4	4.14	0.85	1	5
Purch. Wildlife Products	1,443	1	1.57	1.02	1	4
Seen Campaign	1,443	1	0.85	0.36	0	1
Num. Campaigns Seen	1,443	3	2.77	1.00	1	4
Informed past Campaigns	1,327	3	3.36	0.92	1	5
Interesting	1,443	4	3.931	0.96	1	5
Understandable	1,443	4	4.23	0.93	1	5
Likely to Share	1,443	4	4.12	0.96	1	5
Likely to Purchase Spc.	1,418	1	2.03	1.41	1	5
Likely to Purchase	1,443	1	1.92	1.25	1	5
Anger	1,443	3	2.60	1.24	1	5
Confusion	1,443	2	2.33	1.26	1	5
Indifference	1,443	2	2.39	1.25	1	5
Guilt	1,443	2	2.55	1.32	1	5
Sadness	1,443	3	2.94	1.30	1	5
Pers. Val. Belief	1,443	4	3.77	1.03	1	5
Cult. Val. Belief	1,443	4	3.71	1.03	1	5
Meaningful	1,443	4	3.97	0.95	1	5
Female	1,400	0	0.46	0.50	0	1
Age	1,443	2	0.25	0.43	1	6

Below, I next present frequency histograms that report the distributions of responses for two key categorical variables: (1) respondents' expressed reasons for purchasing past wildlife products (Figure 14), and (2) respondents' offered reasons for why they found the message that they received to be convincing (Figure 15) These categorical variables are not analyzed explicitly in the regression analyses that follow but offer several descriptive insights into my sample—respondents' past engagements with wildlife purchases and overall assessments of the various treatment images. I also

report comparable histograms to Figure 14 (respondents' reasons for past wildlife purchases) broken down by country, and to Figure 15 (reasons for finding the message convincing) broken down by treatment image, in Appendix B.

The patterns depicted in Figure 14—and the patterns identified within the country-specific versions of this Figure in Appendix B—together offer several insights. At least among those who reported purchasing past wildlife products, Figures 14 and 15 suggest that many respondents had originally purchased illicit wildlife products to fulfill some medicinal need, which aligns with the popularity of Traditional Chinese Medicine across not only China but the Asian continent. The second most popular response was “food”, which also aligns with the popularity of products such as shark fin, pangolin meat, and even tiger meat as some of the most esteemed culinary dishes in larger metropolitan areas and amongst high-standing individuals like politicians (Vallianos et al., 2018). Note that the country specific histograms for this question, available in Appendix B, demonstrate that “Medicinal” is the most common answer for only China and Vietnam, which again aligns with the popularity of Traditional Chinese Medicine and its lesser-known variation, Traditional Vietnamese Medicine (World Health Organization, 2013). In Singapore, the most common answer was “Food”, which aligns with the cultural values relating to economic status that are typically tied to Singapore (World Wildlife Fund Singapore, 2020). Across all countries, “Ornamental” was one of the two least common answers, which makes sense given that ornamental use of wildlife usually coincides with ivory. Given that ivory is a status symbol often referred to as “white gold”, consumers tend to display it to flaunt their wealth. Such use implies decorative or ornamental purposes (Ong, 2018). Given the steep prices associated with ivory, many have considered it an

investment opportunity; “something you can invest in long term and something you can show off too. It’s a collector’s mentality, like high-end art” (Ong, 2018).

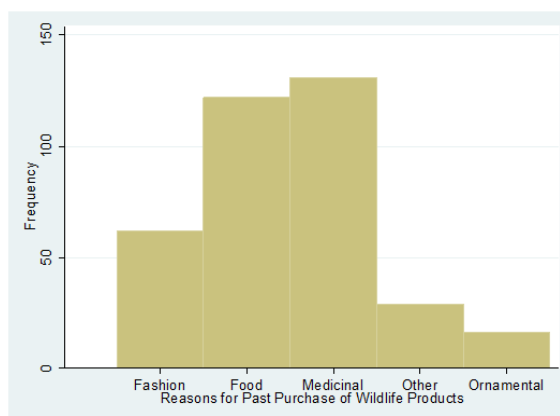


Figure 14: Frequency Histogram of Respondents’ Reasons for Past Wildlife Purchases

Figure 15 depicts reasons that respondents found their image to be convincing. The patterns depicted in Figure 15 and the treatment-specific versions of this Figure in Appendix B suggest that the nature of the message, and prior beliefs, were the most common reasons given by respondents for why they concluded their image to be convincing. These results are not surprising given that the three countries considered in this experiment (China, Vietnam, and Singapore) are often the recipients of many anti-wildlife trafficking campaigns. Given the saturation of anti-wildlife trafficking campaigns in these countries, the messages used in the experimental images were not new concepts to respondents. Furthermore, the existence of anti-wildlife trafficking beliefs in these respondent countries affirms the success of prior campaigns. What is interesting to note, however, is that despite most respondents claiming that the campaign visual aligned with both their personal values beliefs and their country’s

values and beliefs, those who saw the Norm Legitimator image had the smallest number of participants answer that the tailoring of the message was why they found the image most convincing. Perhaps the respondents did not consider the message tailored because they assume that anti-wildlife trafficking norms are widely accepted by their peers. Alternatively, respondents may just not have had the frame of reference to be aware that this message was tailored to their perspective.

Finally, and more briefly, Table 5 shows the breakdown of treatment assignments. As above, this Table pools all values across countries considered. This categorical variable illustrates that each treatment image was seen by roughly the same number of respondents across all countries, thus suggesting that the patterns discussed above and below are not driven by an atypically large share of respondents receiving one image over the others. Put differently, Table 5 verifies that the randomization component of the survey design worked effectively with respect to the treatment image, even considering the survey administrative challenges outlined further above.

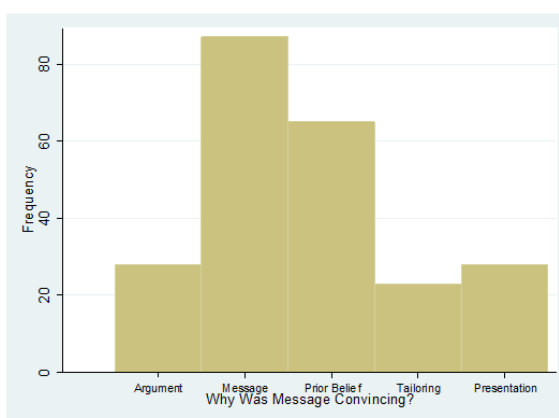


Figure 15: Frequency Histogram of Respondents' Reasons for Why they Found their Treatment to be Convincing

Table 5: Treatment Assignments by Frequency (Full Sample)

Treatment Category	Frequency
Control	359
Animal	358
Spokesperson	366
Norm Legitimater	360

5.4 Modeling Approach

The analysis presented below is organized into three subsections. I first analyze the effects of my key treatment variable (i.e., a survey respondent’s receipt of the Norm Legitimater image treatment) on three key behavioral dependent variables related to wildlife consumption and/or conservation behaviors: (1) a respondent’s likelihood of purchasing the species that is specific to a given country-experiment (i.e., pangolin-, tiger-, or shark fin-derived products) in the future, (2) a respondent’s expressed likelihood of purchasing any wildlife-derived products in the future, and (3) a respondent’s likelihood of sharing the relevant wildlife-oriented campaign image(i.e., treatment image) that they received and viewed with others. These evaluations serve as my primary assessment of Hypothesis 1.

After the effects of my treatment upon these key dependent variables are assessed, I next evaluate the personal and/or cultural effects of my experimental treatment images upon each respondent. These assessments allow me to assess Hypothesis 2 more directly, and to more generally evaluate whether personal and/or cultural factors obtain a more proximate psychological treatment-effect than do the key behavioral dependent variables summarized in the paragraph above. In this case, I

specifically assess the effects of my key experimental treatment (i.e., a subject's receipt of the Norm Legitimator image treatment) upon my respondents' reported opinions of (1) how understandable the message was, (2) whether the respondent felt the image considered their personal values and beliefs, and (3) whether the respondents felt that the image considered their cultural values and beliefs. The final subsection below then considers the effects of my experimental images upon the reported emotional responses that each respondent noted as having felt in response to their received campaign image. These latter emotional responses are again a more proximate psychological response than that of the primary behavioral outcomes considered further above, and correspond to the five following emotions: anger, indifference, confusion, guilt, and sadness. Accordingly, their analysis as dependent variables again allows me to (indirectly) assess Hypothesis 2.

Across all three subsections of results, each dependent variable of interest corresponds to a discrete ordered variable with five distinct ordered categories. Analyzing such a variable with a linear regression model such as ordinary least squares (OLS) is likely to pose several inferential problems. Firstly, there is a potential that the relatively low number of ordered categories on my ordered dependent variables exhibit latent 'cutpoints' between each ordered category that are not evenly distributed, especially given the skewed nature of responses (by ordered category) in some cases (i.e., ordered dependent variables). If true, this could contribute to biased estimates when OLS is applied to these ordered dependent variables. Similarly, the discrete ordered nature of my five category dependent variables will ensure, by definition, that any OLS errors would be non-normal and heteroscedastic. This would

pose threats of inefficiency for my regression estimates if OLS models were used in this context.

For these reasons, ordered probit models were favored in all analyses below.⁴¹ These models estimate the effects of a set of independent and control variables on discrete ordered outcome variables through maximum likelihood estimation. To facilitate the estimation of my covariates in relation to each ordered dependent variable's j (in my case, 5) discrete ordered categories, a series of $j-1$ cutpoints (in my case, 4) are estimated alongside my primary coefficient estimates and standard errors for these proposed ordered probit models. To identify the model, given the estimation of this full set of $j-1$ cutpoints, the constant term is omitted during estimation of these ordered probit models—which is the default approach for these models in either Stata or R.

Like most limited dependent variable models, the sign and significance of coefficient estimates within my estimated ordered probit models can be readily interpreted in relation to an independent variable's (reliable) effect on an increase (positive coefficient estimate) versus decrease (negative coefficient estimate) in one's ordered dependent variable. However, these coefficient estimates are not as directly interpretable in terms of one-unit changes in an independent variable leading to relevant unit changes in the dependent variable, as are OLS coefficient estimates. For this reason, several of the statistically significant effects obtained below are also plotted in an out-of-sample context and then interpreted substantively, based upon these plots.

⁴¹ Equivalent ordinary least squares (OLS) regression models were estimated for all model specifications reported below, and the results obtained from these OLS models—though not reported here—were largely consistent with the interpretations and conclusions presented below.

All ordered probit models below pool my responses across the three countries considered (i.e., China, Singapore, and Vietnam). However, in some cases I additionally control for indicator variables pertaining to whether a respondent was drawn from my Singapore or Vietnam sample (thus treating China-based respondents as the reference category in interpretation). I then also control for a respondent's self-reported frequency of past wildlife product purchases; an indicator for whether a respondent had seen past anti wildlife consumption campaigns, and respondents' expressed opinions concerning whether the wildlife trade has contributed to the decline in endangered species across the world. Next, I additionally control at times for a variety of demographic variables including an indicator for whether the respondent reported themselves as being female (with other genders treated as the reference category), a respondent's age, a respondent's self-reported number of years living in the country under consideration (i.e., China, Singapore, or Vietnam), and, as mentioned above, indicator variables for whether the respondent was from Singapore or Vietnam.

For each dependent variable considered below, I then consider six distinct model specifications. For each dependent variable, the first two model specifications always evaluate the effect of my Norm Legitimator treatment image in relation to all other treatment images—both without including any additional controls (Model 1) and when including all controls summarized above (Model 2). The next two specifications then evaluate the effect of my Norm Legitimator treatment image in relation to my Control image only. This is achieved by also controlling for my other two treatment images in these models—both without including any additional controls (Model 3) and when including all controls summarized above (Model 4). The final two specifications

then evaluate the effect of my Norm Legitimator treatment image in relation to my Spokesperson treatment image, by controlling for my other two treatment images while either (1) omitting additional controls (Model 4) or (2) including all controls mentioned above (Model 5).

5.4.1 Assessing Effects of Treatment on Wildlife Consumption and Conservation Behavior

As noted above, this section considers the effect of my treatment images upon the key dependent variables for my first hypothesis of interest, at the individual level. As such, the models in this primary results section first assess the effect of the Norm Legitimator treatment image on a respondent's likelihood of purchasing an endangered species-specific wildlife product, where the species in question is tailored to the experimental and country-case at hand (so, e.g., China-based respondents were prompted with shark fin-related campaign ads and also then received a follow up question regarding the respondent's willingness to purchase shark fin-related products in the future). These Ordered Probit models appear in Table 6 below.

Turning to Table 6, we can see the Norm Legitimator treatment image is negatively associated with a respondent's expressed likelihood of purchasing wildlife specific-based products in the future (in that exposure to the Norm Legitimator image decreases the likelihood of a respondent providing a higher value response on the five-category dependent variable considered here). However, this effect is only statistically significant within Models 3-4, which evaluate this Norm Legitimator treatment image in relation to the Control image (while controlling for the receipt of an Animal image or a Spokesperson image). In these cases, we find that the Norm Legitimator treatment image is statistically significant at either the $p < .10$ level (in the case of Model 3,

which does not include controls) or $p < .05$ level (in the case of Model 4, which includes all controls mentioned above). These results are supportive of Hypothesis 1 as presented in Chapter 3: Campaigns employing norm legitimators will be more effective in reducing wildlife trafficking at the individual and societal levels, relative to campaigns that do not employ such individuals. However, as can be seen across the remaining models in Table 6, these results are not particularly robust. As such, this provides only a very tentative degree of support for Hypothesis 1.

Figures 16 and 17 plot the main significant effect obtained here from Model 4 (Table 6), while holding all other variables to their modes (in the case of binary and ordinal variables) or means (in the case of a respondent's reported years having lived in the country of interest). For ease of interpretation, these effects plots present the predicted probability of seeing a response at either end of the five-category ordered dependent variable considered here (i.e., of expressing that one is very likely, or of expressing that one is very unlikely to purchase a species-specific product in the future), in relation to whether (=1) or not (=0) a respondent saw the Norm Legitimator treatment image, relative to the Control treatment image, with 95% confidence intervals.

Turning to Figure 16, we see that respondents who received the Control image exhibit an approximately 57% probability of being extremely unlikely to purchase a species-specific wildlife product (i.e., of providing a response aligned with the first ordered outcome on the dependent variable analyzed here), whereas respondents who instead saw the Norm Legitimator image report a nearly 65% likelihood of providing the "Extremely Unlikely to Purchase" response on the current ordered dependent variable under consideration.

Turning to Figure 17, we likewise see that respondents who receive the Control image exhibit a 7% probability of indicating that they would be extremely likely to purchase a species-specific wildlife product in the future, whereas those that instead receive the Norm Legitimator image exhibit only a 4.5% probability of providing such a response on this question. This supports Hypothesis 1, concerning the effect of Norm Legitimators, in implying that receipt of this image reduces the likelihood of treatment-specific wildlife product purchases among respondents. However, note that—as mentioned above—this effect is not unique to the Norm Legitimator image in Table 6, in that the Spokesperson image and the Animal image both suggest similar effects, albeit less consistently than that of Norm Legitimators across both Models 3 and 4 in Table 6.

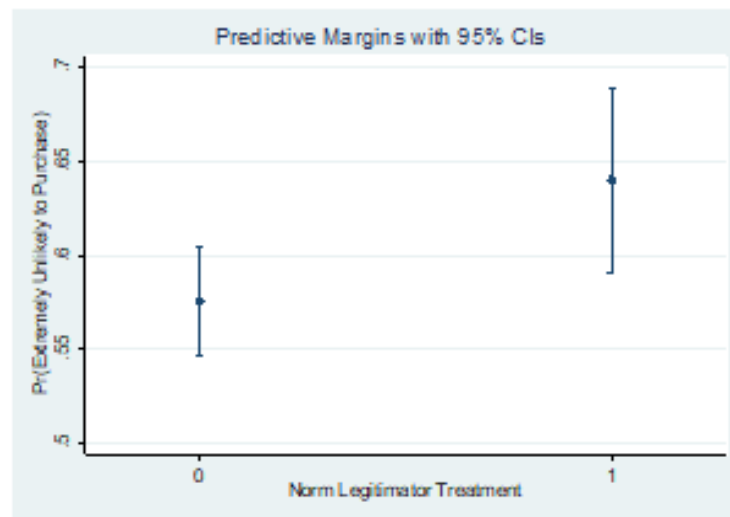


Figure 16: Effect on Non-Purchase

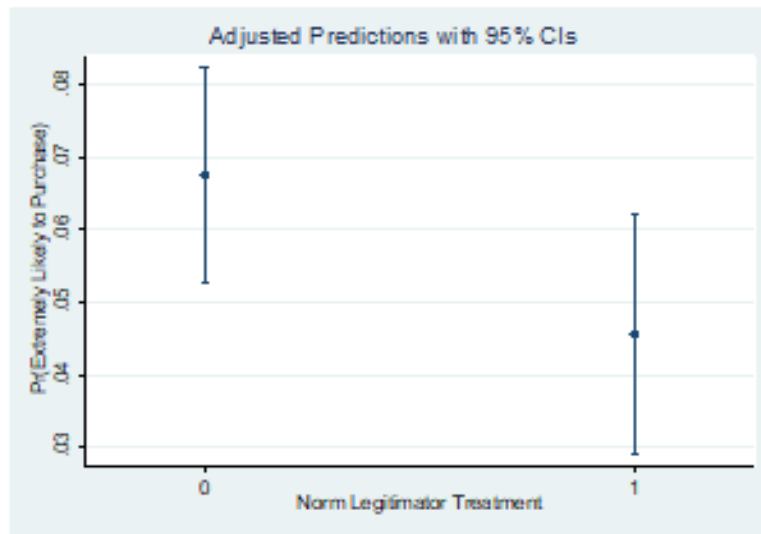


Figure 17: Effect on Purchase

Aside from my primary independent variable, several control variables are statistically significant in their expected directions in Models 1-6 of Table 6. Having purchased wildlife products in the past is significantly positively associated with a respondent’s likelihood of purchasing country-specific wildlife products in the future ($p < .01$), while viewership of past campaign ads is likely to decrease a respondent’s likelihood of purchasing treatment-specific wildlife products in the future. Controlling for the other factors included in Models 2, 4, and 5 in Table 6, females (relative to males and other genders) are more likely to express an interest in purchasing wildlife specific-based products, albeit only at the $p < .10$ level. Again, controlling for the other controls in the models reported in Table 6, I also find that the longer a respondent has lived in each country (though not overall respondent age), the less likely they are to express an interest in purchasing a country-specific wildlife product; while respondents in Vietnam (relative to China) are less likely to express interest in

purchasing country specific wildlife products in the future. Perhaps counterintuitively, I find that respondents who more strongly believe that human demand for wildlife products contributes to the population decline of animal species are slightly more likely to express interest in purchasing treatment specific wildlife products in the future. Finally, there is also one case where I find that encountering two of my other experimental treatment images (i.e., exposure to the Animal and Spokesperson image treatments), rather than the Control image, may significantly decrease interest in purchasing future country-specific endangered species products.

Table 6: Effect of Norm Legitimitor on Likelihood of Purchasing Species-Specific Wildlife Products

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Legitimitor Image	-0.067 (0.071)	-0.065 (0.077)	-0.145* (0.086)	-0.195** (0.092)	-0.044 (0.087)	-0.004 (0.094)
Purch. Wildlife Prods		0.455*** (0.032)		0.458*** (0.032)		0.458*** (0.032)
Seen Past Campaigns		-0.184** (0.093)		-0.186** (0.094)		-0.186** (0.094)
Female		0.120* (0.066)		0.116* (0.066)		0.116* (0.066)
Age		-0.009 (0.049)		-0.007 (0.049)		-0.007 (0.049)
Years in Country		-0.008* (0.004)		-0.008** (0.004)		-0.008** (0.004)
Contribute to Decline		0.083** (0.041)		0.079* (0.041)		0.079* (0.041)
Singapore		-0.078 (0.087)		-0.085 (0.087)		-0.085 (0.087)
Vietnam		-		-		-

		0.481*** (0.079)		0.484*** (0.079)		0.484*** (0.079)
Animal Image			-0.136 (0.086)	-0.210** (0.092)	-0.035 (0.087)	-0.019 (0.093)
Spokesperson Image			-0.101 (0.085)	-0.191** (0.091)		
Control Image					0.101 (0.085)	0.191** (0.091)
Cutpoint 1	0.179** *	0.728***	0.100 (0.061)	0.577** (0.224)	0.201** (0.062)	0.768*** (0.222)
Cutpoint 2	0.516** *	1.131***	0.438** *	0.981*** (0.224)	0.539** (0.063)	1.172*** (0.222)
Cutpoint 3	0.769** *	1.415***	0.692** *	1.266*** (0.225)	0.792** (0.064)	1.457*** (0.223)
Cutpoint 4	1.290** *	2.023***	1.213** *	1.874*** (0.231)	1.314** (0.070)	2.065*** (0.229)
Observations	1,443	1,352	1,443	1,352	1,443	1,352
Log Likelihood	-1819	-1526	-1818	-1522	-1818	-1522

Ordered Probit Model Estimates; Standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table 7 considers the effect of each treatment on a respondent's expressed likelihood of purchasing wildlife products more generally. Hence, in this case, the dependent variable's underlying question is less tailored to the specific species image that a given respondent received. In this case, and again weakly supportive of Hypothesis 1, I find that the Norm Legitimator image's coefficient estimate is negative in its sign across all six models considered. This indicates that exposure to the Norm Legitimator image treatment decreases interest in purchasing future wildlife products. However, this effect is not statistically significant at traditional levels in any of the six model specifications reported in Table 7. This in turn suggests that Hypothesis 1 is not

supported in this case. Contrasting this with the results considered for Table 6 above, this also suggests that the effect of Norm Legitimator-based campaigns may be somewhat tied to the specific species under consideration.⁴²

These points notwithstanding, we do find a number of similar results to Table 6 for the control variables included in Table 7. Controlling for the other independent and control variables considered in Table 7, a respondent's past habits regarding the purchase of wildlife products again exhibits a statistically significant positive association with a respondent's likelihood of purchasing country-specific wildlife products in the future ($p < .01$). However, viewership of past campaign ads is now no longer statistically significant in any model considered in Table 7. Females (relative to males and other genders) are again more likely to express an interest in purchasing wildlife specific-based projects, albeit again only at the $p < .10$ level. The longer a respondent has lived in a given country once again exhibits a negative and significant ($p < .05$) association with a respondent's expressed likelihood of purchasing wildlife products. Vietnam-based (relative to China-based) respondents are less likely to express interest in purchasing wildlife products in the future. Finally, the Animal image treatment often exerts a negative and statistically significant effect on respondents' willingness to purchase wildlife products in Table 7, suggesting that receipt of images tailored to a respondent's language—but with a general animal image—may exert effects on wildlife consumption behaviors even outside of consumption behaviors pertaining to that wildlife species.

⁴² It is worth noting that the null findings obtained here may also be a function of the relatively low sample size under consideration.

Table 7: Effect of Norm Legitimator on Likelihood of Purchasing Wildlife Products

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Legitimator Image	-0.034 (0.072)	-0.008 (0.078)	-0.092 (0.088)	-0.130 (0.095)	-0.083 (0.087)	-0.025 (0.095)
Purch. Wildlife Prods		0.511*** (0.033)		0.513*** (0.033)		0.513*** (0.033)
Seen Past Campaigns		-0.124 (0.096)		-0.120 (0.097)		-0.120 (0.097)
Female		0.129* (0.068)		0.128* (0.068)		0.128* (0.068)
Age		-0.029 (0.050)		-0.026 (0.050)		-0.026 (0.050)
Years in Country		-0.010** (0.004)		-0.010** (0.004)		-0.010** (0.004)
Contribute to Decline		0.020 (0.042)		0.017 (0.042)		0.017 (0.042)
Singapore		0.035 (0.088)		0.029 (0.088)		0.029 (0.088)
Vietnam		- 0.512*** (0.082)		- 0.516*** (0.082)		- 0.516*** (0.082)
Animal Image			-0.172* (0.088)	- 0.275*** (0.096)	-0.163* (0.088)	-0.170* (0.097)
Spokesperson Image			-0.010 (0.086)	-0.105 (0.093)		
Control Image					0.010 (0.086)	0.105 (0.093)
Cutpoint 1	0.274** * (0.038)	0.667*** (0.221)	0.215** * (0.063)	0.534** (0.229)	0.225** * (0.062)	0.639*** (0.226)
Cutpoint 2	0.618** * (0.040)	1.100*** (0.221)	0.560** * (0.064)	0.970*** (0.229)	0.570** * (0.063)	1.075*** (0.227)
Cutpoint 3	0.837** * (0.040)	1.361*** (0.221)	0.780** * (0.064)	1.232*** (0.229)	0.789** * (0.063)	1.337*** (0.227)

	(0.042)	(0.222)	(0.065)	(0.230)	(0.065)	(0.227)
Cutpoint 4	1.332**	1.937***	1.275**	1.810***	1.285**	1.915***
	*		*		*	
	(0.050)	(0.227)	(0.070)	(0.235)	(0.070)	(0.233)
Observations	1,443	1,352	1,443	1,352	1,443	1,352
Log Likelihood	-1728	-1408	-1726	-1404	-1726	-1404

Ordered Probit Model Estimates; Standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table 8 considers the effect of the Norm Legitimator image, and at times my other treatment images, on a respondent's ordered likelihood of sharing the wildlife campaign image that they saw with others. While no specific hypotheses were posted about this behavioral outcome, it nevertheless provides an opportunity to assess whether the Norm Legitimator image treatment exhibits any behavioral effects outside the main behavioral outcome of interest. It can thus be interpreted as aligning with Hypothesis 1, as described further above.

Given that higher categories of the five-category ordered dependent variable considered here imply more positive conservation behaviors, Hypothesis 1 would expect in this case (unlike the two tables above) that the Norm Legitimator variable would exert a positive effect across the specifications reported in Table 8. In this case, we indeed find a positively signed coefficient estimate for the Norm Legitimator independent variable in five out of six specifications considered. However, as was the case for Table 7, this coefficient estimate is not statistically significant in any of the models considered in Table 8. Thus, it does not appear that exposure to the Norm Legitimator treatment leads to a reliable positive effect in terms of respondents' willingness to share the campaign image they received with others. I obtain similar null findings in Table 8 for the Spokesperson image treatment, though the Animal

image treatment (relative to the Control image) does appear to increase propensity for sharing a given image at a statistically significant ($p < .10$ or $p < .05$, respectively) level in Models 3 and 4.

With respect to the control variables included in Table 8, familiarity with past campaigns and older individuals both see a significantly higher likelihood of sharing their received wildlife campaign image— when controlling for all other factors in the models. The same also holds true for respondents that believe more strongly that human demand for wildlife products contributes to the population decline of animal species. Finally, in this dependent variable case, and relative to China, we find that respondents based in Singapore are significantly ($p < .01$) less likely to share the image they received, whereas recipients in Vietnam are significantly ($p < .05$) more likely to share the image they received.

Table 8: Effect of Norm Legitimater on Likelihood of Sharing the Campaign Message with Others

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Legitimater Image	0.018 (0.067)	0.027 (0.070)	0.086 (0.082)	0.127 (0.086)	0.022 (0.082)	-0.003 (0.086)
Purch. Wildlife Prods		0.035 (0.031)		0.035 (0.032)		0.035 (0.032)
Seen Past Campaigns		0.340***		0.341***		0.341***
Female		(0.087) 0.074		(0.087) 0.075		(0.087) 0.075
Age		(0.061) 0.238***		(0.061) 0.237***		(0.061) 0.237***
Years in		(0.046) -0.006		(0.046) -0.006		(0.046) -0.006

Country						
		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Contribute to Decline		0.162***	0.165***	0.165***	0.165***	0.165***
		(0.037)	(0.037)	(0.037)	(0.037)	(0.037)
Singapore		-	-	-	-	-
		0.761***	0.758***	0.758***	0.758***	0.758***
		(0.083)	(0.083)	(0.083)	(0.083)	(0.083)
Vietnam		0.153**	0.156**	0.156**	0.156**	0.156**
		(0.073)	(0.073)	(0.073)	(0.073)	(0.073)
Animal Image			0.144*	0.178**	0.079	0.048
			(0.082)	(0.087)	(0.082)	(0.087)
Spokesperson Image			0.065	0.130		
			(0.081)	(0.085)		
Control Image					-0.065	-0.130
					(0.081)	(0.085)
Cutpoint 1	-	-	-	-	-	-
	1.957***	0.892***	1.888***	0.773***	1.952***	0.903***
	(0.072)	(0.208)	(0.086)	(0.217)	(0.086)	(0.212)
Cutpoint 2	-	-0.398**	-	-0.281	-	-0.411**
	1.503***		1.435***		1.500***	
	(0.054)	(0.202)	(0.071)	(0.210)	(0.071)	(0.206)
Cutpoint 3	-	0.332*	-	0.448**	-	0.318
	0.836***		0.769***		0.833***	
	(0.041)	(0.198)	(0.062)	(0.207)	(0.062)	(0.203)
Cutpoint 4	0.219***	1.506***	0.288***	1.625***	0.223***	1.495***
	(0.037)	(0.201)	(0.060)	(0.210)	(0.060)	(0.206)
Observations	1,443	1,352	1,443	1,352	1,443	1,352
Log Likelihood	-1768	-1544	-1766	-1542	-1766	-1542

Ordered Probit Model Estimates; Standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

5.4.2 Assessing Effects of Treatment on Personal and Cultural Factors

The models in this second subsection to my primary analyses are meant to assess the effect of the Norm Legitimator treatment on a respondent's likelihood of considering their particular image to be aligned with their own personal values and beliefs as well as those of their country. As such, these assessments directly speak to

Hypothesis 2: The reason for the enhanced effectiveness of norm legitimators will be at least partly due to these actors' unique ability to communicate anti-trafficking campaigns in a culturally relevant, and culturally understandable, manner. Findings in relation to the dependent variables considered here offer insights into these dynamics, and hence the potential mediating factors associated with my primary behavioral outcomes of interest (which were analyzed in the subsection further above). While all respondents received the same questions in these respects, the values and beliefs in question were dependent on the individual respondent and respondent country. Prior to assessing how the images aligned with these values, all respondents were also asked to assess how understandable they deemed the message they had seen. Ordered Probit models that evaluate the effects of my various independent control variables on respondents' reported degrees to which they found an image to be understandable appear in Table 9 below.

Turning to Table 9, we can see the Norm Legitimator treatment is positively associated with a respondent's expressed likelihood of reporting that the image they had seen was understandable. This coefficient estimate sign is in the direction expected by Hypothesis 2. However, this effect is only statistically significant within Models 3-4, which evaluate this Norm Legitimator visual treatment in relation to the Control image (while controlling for the receipt of an Animal image or a Spokesperson image). Thus, this finding could have been driven as much by the degree to which the Control image was not understandable, as it was driven by the degree to which the Norm Legitimator Image was understandable. This latter points notwithstanding, in these cases, we find that the Norm Legitimator treatment is statistically significant at the $p < .10$ level for both models. With the earlier caveat in

mind, these results are tentatively supportive of Hypothesis 2, as presented above and in Chapter 3, though as can be seen across the remaining models in Table 9, they are not particularly robust. As such, Table 9 provides a very weak degree of support for Hypothesis 2.

Building from Table 9, Figures 18 and 19 plot the main significant effect obtained from Model 4 of Table 9. As above, these models plot this effect while holding all other variables to their modes (in the case of binary and ordinal variables) or means (in the case of a respondent's reported years having lived in the country of interest) since predicted and expected values derived from ordered probit models are sensitive to the values assigned to all other covariates included in one's model, in addition to one's primary independent variable of interest. For ease of interpretation, these predicted effects plots report the out-of-sample probability of seeing a response of either end of the ordered dependent variable considered here (i.e., expressing that the image was not at all understandable, or extremely understandable), in relation to whether (=1) or not (=0) a respondent saw the Norm Legitimator image, relative to the Control image. Also, as above, the plots reported here include 95% confidence intervals to each predicted probability.

Turning to Figure 18, we see that respondents who received the Control image exhibit a 20% probability of finding the image to *not* be understandable whereas respondents who instead saw the Norm Legitimator image report only a 12% probability of finding the image to not be understandable. Thus, respondents found the Control image to be less understandable than the Norm Legitimator image. Similarly, in Figure 19, I find that respondents who receive the Control image characterized that image as extremely understandable with only 45% probability whereas those that

receive the Norm Legitimator image instead exhibited a notably higher (54%) probability of reporting that that image was extremely understandable. At least relative to the Control image, this suggests that the Norm Legitimator image is relatively more understandable (supporting Hypothesis 2), though note again that similar findings arise for the Animal Image, and at times the Spokesperson image, in Table 9. The latter observations suggest that the Norm Legitimator image is not necessarily unique in how understandable it is relative to these two alternative non-control images (contra to Hypothesis 2).

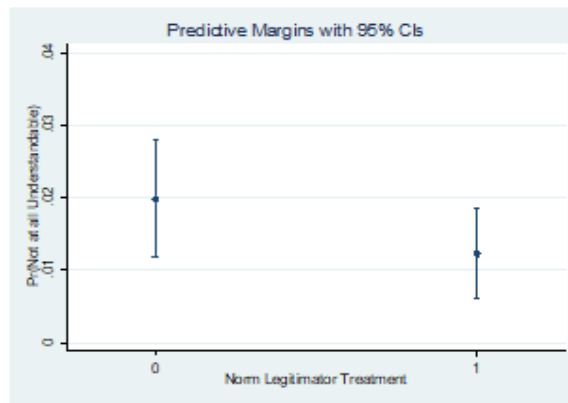


Figure 18: Effect on Not Understandable

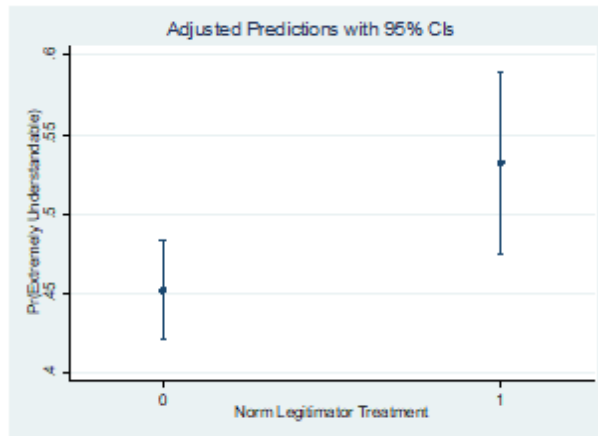


Figure 19: Effect on Understandable

Table 9: Effect of Norm Legitimitor on Assessment of How Understandable the Message Was

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Legitimitor Image	0.041 (0.068)	0.052 (0.072)	0.140* (0.083)	0.201** (0.087)	0.021 (0.083)	0.005 (0.087)
Purch. Wildlife Prods		0.022 (0.032)		0.020 (0.032)		0.020 (0.032)
Seen Past Campaigns		0.383*** (0.088)		0.386*** (0.088)		0.386*** (0.088)
Female		0.070 (0.062)		0.073 (0.062)		0.073 (0.062)
Age		0.060 (0.046)		0.060 (0.047)		0.060 (0.047)
Years in Country		-0.001 (0.004)		-0.000 (0.004)		-0.000 (0.004)
Contribute to Decline		0.178*** (0.037)		0.184*** (0.038)		0.184*** (0.038)
Singapore		0.030 (0.084)		0.036 (0.084)		0.036 (0.084)

Vietnam		0.341*** (0.073)		0.346*** (0.073)		0.346*** (0.073)
Animal Image			0.181** (0.084)	0.260*** (0.088)	0.062 (0.084)	0.063 (0.088)
Spokesperson Image			0.119 (0.083)	0.196** (0.086)		
Control Image					-0.119 (0.083)	-0.196** (0.086)
Cutpoint 1	-	-	-	-	-	-
	2.102*** (0.082)	0.804*** (0.212)	2.004*** (0.094)	0.626*** (0.221)	2.123*** (0.095)	0.822*** (0.216)
Cutpoint 2	-	-0.160	-	0.016	-	-0.180
	1.445*** (0.052)		1.349*** (0.070)		1.468*** (0.071)	
Cutpoint 3	-	0.266	-	0.443**	-	0.247
	1.037*** (0.044)		0.940*** (0.064)		1.059*** (0.065)	
Cutpoint 4	0.096*** (0.037)	1.464*** (0.205)	0.196*** (0.061)	1.646*** (0.214)	0.077 (0.061)	1.450*** (0.209)
Observations	1,443	1,352	1,443	1,352	1,443	1,352
Log Likelihood	-1656	-1491	-1654	-1486	-1654	-1486

Ordered Probit Model Estimates; Standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table 10 considers the effect of my treatment(s) of interest on the degree to which the treatment and control images aligned with a country's cultural values and beliefs. My second Hypothesis posited that individuals would consider an anti-wildlife trafficking advertisement as being more aligned with their cultural values and beliefs if a norm legitimator was used. From Table 10 we see that while the Norm Legitimator variable alone was not statistically significant across any of the models. Thus, for this particular assessment, Hypothesis 2 was not supported.

That being said, three different control variables were statistically significant in Models 2, 4, and 6 at the p<0.01 level; they were "Seen Past Campaigns", "Contribute to Decline" and "Vietnam" suggesting that at least some factors tangentially related to

my overarching theory and arguments may be related to this particular ordered outcome variable. Furthermore, I also find that the Norm Legitimator image’s coefficient estimate is positive across all six models considered—suggesting that respondents found the image to align with widely-held values and beliefs about species conservation in their corresponding countries, albeit unreliably. This result suggests that future analyses may wish to further consider Hypothesis 2 in relation to this particular dependent variable, potentially with a larger sample size and additional countries. To a degree, the finding concerning respondents self-reported degree of having seen past campaigns also suggests that the effect of (Norm Legitimator-based) campaigns may be somewhat tied not only to the specific species under consideration within each campaign but also to the level of exposure respondents may have previously had to conservation education.⁴³ Such a potential warrants future investigation.

Table 10: Effect of Norm Legitimator on Cultural Value Beliefs

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Legitimator Image	0.054 (0.065)	0.061 (0.067)	0.077 (0.079)	0.109 (0.082)	0.044 (0.079)	0.033 (0.082)
Purch. Wildlife Prods		0.149*** (0.030)		0.149*** (0.031)		0.149*** (0.031)
Seen Past Campaigns		0.161* (0.085)		0.163* (0.085)		0.163* (0.085)
Female		0.043		0.044		0.044

⁴³ The idea here being that respondents may be more skeptical of a seemingly unknown species that plays no role in their personal or cultural belief or values no matter who the norm legitimator is.

		(0.058)		(0.058)		(0.058)
Age		0.069		0.068		0.068
		(0.044)		(0.044)		(0.044)
Years in Country		-0.001		-0.001		-0.001
		(0.004)		(0.004)		(0.004)
Contribute to Decline		0.168***		0.170***		0.170***
		(0.035)		(0.035)		(0.035)
Singapore		-		-		-
		0.422***		0.421***		0.421***
		(0.080)		(0.080)		(0.080)
Vietnam		-0.064		-0.064		-0.064
		(0.068)		(0.068)		(0.068)
Animal Image			0.035	0.070	0.002	-0.006
			(0.079)	(0.082)	(0.079)	(0.082)
Spokesperson Image			0.033	0.076		
			(0.079)	(0.082)		
Control Image					-0.033	-0.076
					(0.079)	(0.082)
Cutpoint 1	-	-	-	-	-	-
	2.011***	1.046***	1.988***	0.988***	2.021***	1.063***
	(0.076)	(0.203)	(0.089)	(0.211)	(0.088)	(0.206)
Cutpoint 2	-	-0.142	-	-0.084	-	-0.160
	1.169***		1.147***		1.180***	
	(0.046)	(0.193)	(0.064)	(0.201)	(0.064)	(0.196)
Cutpoint 3	-	0.847***	-	0.905***	-	0.830***
	0.215***		0.192***		0.225***	
	(0.037)	(0.193)	(0.059)	(0.201)	(0.059)	(0.197)
Cutpoint 4	0.638***	1.758***	0.661***	1.817***	0.628***	1.742***
	(0.039)	(0.196)	(0.060)	(0.204)	(0.060)	(0.200)
Observations	1,443	1,352	1,443	1,352	1,443	1,352
Log Likelihood	-1999	-1820	-1999	-1820	-1999	-1820

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 11 considers the effect of each treatment on a respondent's expressed opinion that the image they saw aligned with their own personal values and beliefs. This observation is meant to both supplement and contrast the previous tables

assessment of Hypothesis 2. The idea behind asking respondents to analyze the advertisements against what they perceive to be their country's beliefs and values (Table 10) and against their own personal beliefs and values (Table 11) helps to distinguish between cases in which respondents may not feel they themselves align with their country's overall attitude towards conservation. It is important to understand if these disconnects between respondents' personal beliefs and a more widely held "national" version exist when creating the campaign images. If there were found to be discrepancies between these two belief perspectives, it would be ideal for organizations and scholars to understand this, so they could structure campaigns—and or refine theories of behavioral change—accordingly to ensure (or understand) "buy-in" from as many people as possible.

As Table 11 shows, Hypothesis 2 was not supported in terms of my primary Norm Legitimater variable. These null findings suggest that, at least for the present operationalizations of my independent and dependent variables, and sample size, my experimental assessments do not offer strong support related to my second Hypothesis. As such, further evaluation of these particular dependent variables as mediators will not be considered at present. These primary treatment variable findings aside, I can note in this instance that the Purchased Wildlife Products variable was statistically significant in Models 2, 4, and 6 at the $p < 0.05$ level. These same models also demonstrate that the Contribute to Decline variable was significant at the $p < 0.01$ level. Both of these control variable findings were expected, as people who have previously purchased wildlife products yet now believe trade contributes to species decline are more likely to exhibit conservationist beliefs and tendencies. Therefore, it

would be expected that any anti-wildlife campaign, not just one with a Norm Legitimitor, would align with their personal beliefs and values.

Table 11: Effect of Norm Legitimitor on Personal Value Beliefs

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Legitimitor	0.047	0.064	0.054	0.084	0.038	0.039
Image	(0.065)	(0.068)	(0.080)	(0.083)	(0.079)	(0.082)
Purch. Wildlife Prods		0.073**		0.073**		0.073**
Seen Past Campaigns		(0.030)		(0.030)		(0.030)
Female		0.129		0.131		0.131
Age		(0.086)		(0.086)		(0.086)
Years in Country		0.015		0.016		0.016
Contribute to Decline		(0.059)		(0.059)		(0.059)
Singapore		0.021		0.021		0.021
Vietnam		(0.044)		(0.044)		(0.044)
Animal Image		0.001		0.001		0.001
Spokesperson Image		(0.004)		(0.004)		(0.004)
Control Image		0.226***		0.227***		0.227***
Cutpoint 1		(0.036)		(0.036)		(0.036)
		-0.181**		-0.180**		-0.180**
		(0.080)		(0.080)		(0.080)
		0.170**		0.170**		0.170**
		(0.069)		(0.069)		(0.069)
			0.007	0.015	-0.009	-0.031
			(0.080)	(0.083)	(0.080)	(0.083)
			0.016	0.046		
			(0.080)	(0.082)		
					-0.016	-0.046
					(0.080)	(0.082)
	-	-	-	-	-	-
	2.027***	0.839***	2.019***	0.813***	2.035***	0.859***
	(0.077)	(0.203)	(0.090)	(0.211)	(0.089)	(0.207)

Cutpoint 2	-	-0.070	-	-0.044	-	-0.089
	1.276***		1.268***		1.284***	
	(0.048)	(0.194)	(0.066)	(0.202)	(0.066)	(0.198)
Cutpoint 3	-	1.034***	-	1.059***	-	1.014***
	0.212***		0.204***		0.220***	
	(0.037)	(0.195)	(0.059)	(0.203)	(0.059)	(0.199)
Cutpoint 4	0.542***	1.822***	0.550***	1.848***	0.534***	1.803***
	(0.038)	(0.198)	(0.060)	(0.206)	(0.060)	(0.202)
Observations	1,443	1,352	1,443	1,352	1,443	1,352
Log Likelihood	-1967	-1801	-1967	-1801	-1967	-1801

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

5.4.3 Assessing Effects of Treatment on Emotional Responses

The models in this final section gauge the emotional responses that respondents had to the Norm Legitimator treatment image. As such, these models allow me to further assess Hypothesis 2, at least in an indirect manner. With regards to emotional reactions, respondents were specifically asked to assess the levels of confusion, guilt, sadness, indifference, and anger that their received image may have elicited. These emotions were chosen for assessment as they tend to be some of the most easily recognizable while providing a spectrum of options for respondents, ensuring that everyone would most likely feel at least one.

As Models 1-4 of Table 12 reveal, respondents who received the Norm Legitimator (and Spokesperson) visual treatment(s) were significantly more likely to experience *decreased* levels of confusion, relative to those who had received the Control image. This same finding was not obtained for the Animal image, suggesting that the Norm Legitimator and Spokesperson images do indeed exert a unique effect (relative to the Control image) in relation to decreasing respondent confusion. This finding is (indirectly) supportive of Hypothesis 2. At the same time, and contra to

Hypothesis 2, Models 5-6 indicate that Norm Legitimator image receipt does not exert a unique significant effect on reducing confusion in relation to Spokesperson image receipt. Feelings of confusion might be common for individuals who have no prior knowledge of the illicit wildlife trade or the plight species like sharks, tigers, and pangolins face. The decreased levels of confusion observed here may thus help to ensure that the campaign advertisements that respondents were better internalized in the cases of the Norm Legitimator and Spokesperson images, relative to receipt of the Control or Animal images.

Table 12: Effect of Norm Legitimator on Feelings of Confusion

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Legitimator Image	-0.137** (0.066)	-0.127* (0.068)	- 0.213*** (0.080)	-0.204** (0.082)	-0.052 (0.080)	-0.050 (0.083)
Purch. Wildlife Prods		0.120*** (0.030)		0.122*** (0.030)		0.122*** (0.030)
Seen Past Campaigns		0.101 (0.087)		0.095 (0.087)		0.095 (0.087)
Female		-0.134** (0.059)		-0.136** (0.059)		-0.136** (0.059)
Age		0.052 (0.045)		0.052 (0.045)		0.052 (0.045)
Years in Country		-0.001 (0.004)		-0.001 (0.004)		-0.001 (0.004)
Contribute to Decline		0.134*** (0.036)		0.131*** (0.036)		0.131*** (0.036)
Singapore		- 0.302*** (0.081)		- 0.306*** (0.081)		- 0.306*** (0.081)

Vietnam		0.049 (0.068)		0.048 (0.068)		0.048 (0.068)
Animal Image			-0.069 (0.079)	-0.079 (0.082)	0.092 (0.080)	0.075 (0.083)
Spokesperson Image			-0.160** (0.079)	-0.154* (0.082)		
Control Image					0.160** (0.079)	0.154* (0.082)
Cutpoint 1	-	0.333* 0.445*** (0.038)	-	0.238 0.522*** (0.059)	-	0.392** 0.361*** (0.059)
Cutpoint 2		1.029*** (0.195)	0.148** (0.058)	0.935*** (0.202)	0.309*** (0.059)	1.089*** (0.199)
Cutpoint 3		1.646*** (0.197)	0.758*** (0.061)	1.553*** (0.205)	0.919*** (0.062)	1.707*** (0.202)
Cutpoint 4		2.268*** (0.203)	1.338*** (0.069)	2.174*** (0.210)	1.499*** (0.069)	2.328*** (0.207)
Observations	1,443	1,352	1,443	1,352	1,443	1,352
Log Likelihood	-2146	-1979	-2144	-1977	-2144	-1977

Ordered Probit Model Estimates; Standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Using the estimation results from Model 4 of Table 12, Figures 20 and 21 correspondingly plot the main significant effect obtained for Norm Legitimator in relation to respondents' levels of self-reported confusion. As before, these plots do so while holding all other variables to their modes (in the case of binary and ordinal variables) or means (in the case of a respondent's reported years having lived in the country of interest). Likewise, these effects plots again present the predicted probability of seeing a response at either extreme of the ordered dependent variable considered here (i.e., expressing that the image was not at all confusing, or impressions that the image was extremely confusing), in relation to whether (=1) or not (=0) a respondent saw the Norm Legitimator image, relative to the Control image, and with 95% confidence intervals.

Figure 20 specifically considers the effect of the Norm Legitimator image on the probability of a respondent indicating having no confusion in relation to the image. Here we see that respondents who received the Control image exhibit a 33% probability of *not* being confused, whereas those viewing the Norm Legitimator reported a near 40% probability of *not* being at all confused. Perhaps more intuitively, I then comparably find in Figure 21 that respondents who receive the Control image had a roughly 7% predicted probability of reporting a great deal of confusion whereas respondents that saw the Norm Legitimator had only a 5% predicted probability of expressing a great deal of confusion. This reinforces the Table 12 interpretations outlined above in suggesting that the Norm Legitimator image (relative to the Control image) reduces confusion among respondents; though we can note again from this same Table that so too does the Spokesperson image (although not the Animal image).

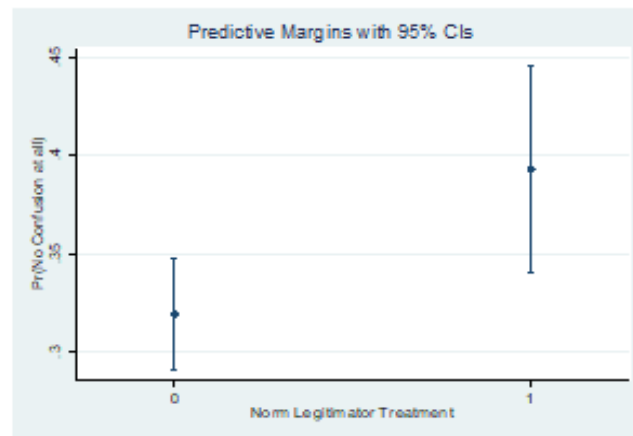


Figure 20: Effect on Absence of Confusion

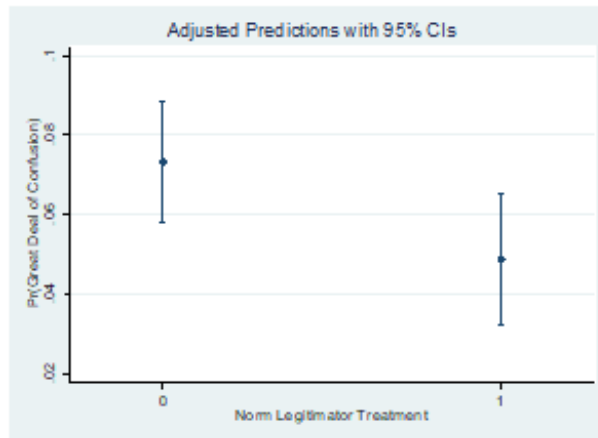


Figure 21: Effect on Great Deal of Confusion

Table 13 reports the results for the second of five emotions tested for: indifference. This emotion was chosen because many individuals, at a baseline level, may have no strong positive or negative emotions towards wildlife trafficking or species conservation. Furthermore, feelings of indifference would most likely lead to no action on behalf of the consumer and therefore no behavioral changes. Understanding if a certain image or campaign resonates with consumers and viewers is an integral way for organizations to assess not only their campaign design but also project effectiveness and success. Likewise, nudging respondents out of their baseline levels of indifference towards wildlife conservation could be an important way to induce demand side, behavioral changes towards these conservation efforts in the longer term.

Based upon Table 13, the effect of Norm Legitimitor is not statistically significant in any of the models considered; nor are the other treatment images for the most part. This suggests that the treatments considered here do not exert a strong effect on respondents' feelings of indifference. At the same time, Table 13 illustrates

that there is consistent positive association across Models 2, 4, and 6 between those who have previously purchased wildlife products and feelings of indifference, with this control variable finding being statistically significant at the $p < 0.01$ level. This finding is unsurprising, as perhaps feelings of indifference stem from a habit of using or purchasing illicit wildlife products. If such a habit is deeply ingrained or important to an individual, they may feel inclined to continue with the behavior no matter what information is presented to them. What is surprising, however, is that there was also positive correlation between feelings of indifference and individuals who believed trade contributed to species decline. While only statistically significant at the $p < 0.1$ level, it is intriguing to see that individuals that are aware of species conservation issues may feel there is nothing they can do to help the cause. Though this finding warrants further investigation, it may be that these feelings of indifference stem from frustration or dissatisfaction at how successful (or not) anti-wildlife trafficking campaigns have been.

Table 13: Effect of Norm Legitimitor on Feelings of Indifference

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Legitimitor Image	0.075 (0.065)	0.085 (0.068)	0.024 (0.079)	0.027 (0.082)	0.066 (0.079)	0.063 (0.082)
Purch. Wildlife Prods		0.113*** (0.030)		0.113*** (0.030)		0.113*** (0.030)
Seen Past Campaigns		-0.118 (0.086)		-0.115 (0.086)		-0.115 (0.086)
Female		-0.003 (0.059)		-0.002 (0.059)		-0.002 (0.059)
Age		-0.037		-0.037		-0.037

		(0.044)		(0.044)		(0.044)
Years in Country		0.003		0.003		0.003
		(0.004)		(0.004)		(0.004)
Contribute to Decline		0.062*		0.060*		0.060*
		(0.036)		(0.036)		(0.036)
Singapore		-		-		-
		0.542***		0.547***		0.547***
		(0.080)		(0.080)		(0.080)
Vietnam		-		-		-
		0.933***		0.936***		0.936***
		(0.070)		(0.070)		(0.070)
Animal Image			-0.112	-0.146*	-0.071	-0.110
			(0.080)	(0.084)	(0.079)	(0.083)
Spokesperson Image			-0.042	-0.036		
			(0.079)	(0.082)		
Control Image					0.042	0.036
					(0.079)	(0.082)
Cutpoint 1	-	-	-	-	-	-
	0.478***	0.651***	0.530***	0.722***	0.488***	0.686***
	(0.038)	(0.195)	(0.060)	(0.203)	(0.059)	(0.199)
Cutpoint 2	0.214***	0.109	0.163***	0.040	0.205***	0.076
	(0.037)	(0.193)	(0.059)	(0.201)	(0.058)	(0.197)
Cutpoint 3	0.833***	0.767***	0.783***	0.699***	0.824***	0.735***
	(0.041)	(0.195)	(0.061)	(0.203)	(0.061)	(0.199)
Cutpoint 4	1.490***	1.476***	1.440***	1.407***	1.481***	1.443***
	(0.053)	(0.200)	(0.070)	(0.208)	(0.069)	(0.204)
Observations	1,443	1,352	1,443	1,352	1,443	1,352
Log Likelihood	-2172	-1927	-2171	-1926	-2171	-1926

Ordered Probit Model Estimates; Standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table 14 shows the model results obtained for the third emotion that I consider, guilt. Considering the illicit nature of consuming products from sharks, pangolins, and tigers, it seemed important to assess this reaction from respondents to compare versus their probable desire for a wildlife product. The coefficient estimate

for my primary independent variable (Norm Legitimator image receipt) was at times negative but at times positive in Table 14 but was never statistically significant. This suggests that the Norm Legitimator treatment does not reliably affect individuals' feelings of guilt with respect to wildlife species purchase or consumption, or otherwise. Comparable findings were obtained for the other image treatment images in Table 14. When looking at Models 2, 4, and 6 we can also note that having previously purchased wildlife products is intuitively positive and statistically significant at the $p < 0.01$ level. Belief that trade contributed to species decline was also statistically significant at the $p < 0.01$ level, again in relation to feelings of guilt. Together, these control variable findings are unsurprising, as respondents may feel guilt for perpetuating the illicit market, especially those who claimed to have previously purchased species products.

Table 14: Effect of Norm Legitimator on Feelings of Guilt

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Legitimator Image	0.007 (0.064)	-0.002 (0.067)	-0.040 (0.079)	-0.044 (0.082)	0.046 (0.079)	0.033 (0.082)
Purch. Wildlife Prods		0.139*** (0.030)		0.140*** (0.030)		0.140*** (0.030)
Seen Past Campaigns		0.056 (0.086)		0.054 (0.086)		0.054 (0.086)
Female		-0.105* (0.058)		-0.106* (0.058)		-0.106* (0.058)
Age		0.116*** (0.044)		0.116*** (0.044)		0.116*** (0.044)

Years in Country		-0.003		-0.004		-0.004
		(0.004)		(0.004)		(0.004)
Contribute to Decline		0.153***		0.151***		0.151***
		(0.036)		(0.036)		(0.036)
Singapore		-		-		-
		0.305***		0.306***		0.306***
		(0.080)		(0.080)		(0.080)
Vietnam		0.034		0.033		0.033
		(0.067)		(0.067)		(0.067)
Animal Image			-0.056	-0.048	0.030	0.029
			(0.079)	(0.082)	(0.079)	(0.082)
Spokesperson Image			-0.086	-0.077		
			(0.079)	(0.081)		
Control Image					0.086	0.077
					(0.079)	(0.081)
Cutpoint 1	-	0.356*	-	0.305	-	0.382*
	0.563***		0.610***		0.525***	
	(0.039)	(0.193)	(0.060)	(0.201)	(0.059)	(0.197)
Cutpoint 2	0.064*	0.998***	0.016	0.947***	0.102*	1.024***
	(0.037)	(0.193)	(0.058)	(0.201)	(0.058)	(0.198)
Cutpoint 3	0.622***	1.569***	0.575***	1.519***	0.661***	1.595***
	(0.039)	(0.196)	(0.059)	(0.203)	(0.060)	(0.200)
Cutpoint 4	1.317***	2.299***	1.270***	2.249***	1.356***	2.326***
	(0.048)	(0.201)	(0.066)	(0.208)	(0.066)	(0.205)
Observations	1,443	1,352	1,443	1,352	1,443	1,352
Log Likelihood	-2241	-2061	-2240	-2060	-2240	-2060

Ordered Probit Model Estimates; Standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table 15 corresponds to the assessments of my independent and control variables' effects upon respondents' feelings of sadness. Consistent with Hypothesis 2, I find in this case that the Norm Legitimitor treatment is positive and statistically significant in two models (Models 3 and 4) at the p<.05 level. This suggests that receipt of the Norm Legitimitor treatment may exert feelings of sadness, and thus ultimately some degree of behavior change in relation to reduced species

consumption. These findings were obtained only when comparing Norm Legitimator to the Control image, wherein I similarly find that that the Animal Treatment image, and in at least one instance the Spokesperson image, are also significant in a comparable direction. Thus, the Norm Legitimator image may not be unique in its effects on increased sadness meaning that the present Table is only weakly supportive of Hypothesis 2.

Turning to the control variables considered in Table 15, I can briefly note that having previously seen campaigns was intuitively positive and statistically significant at the $p < 0.1$ level across the models where it was included. Additionally, age and a respondent's belief that trade contributed to decline were both positive and statistically significant at the $p < 0.01$ level. This is unsurprising, as people who believe that trade contributes to species decline may be more educated about the plight of endangered animals than others. They also may be more likely to know how unsuccessful campaigns have been in the past and feel hopeless. As for age, influencing feelings of sadness, there are two distinct possibilities. For those who are older, the feelings of sadness may stem from a nostalgia for days when animals populated their country or cumulative experiences in relation to past learning about endangered species and environmental issues, but for those who are younger, feelings of sadness may stem from the realization that there may not always be a population of tigers, sharks, etc. to protect.⁴⁴

⁴⁴ An international survey conducted in 2013 by the Stockholm Environment Institute at the University of York and the Simon Fraser University's Gerontology Research Centre in Vancouver, Canada shows that people aged 55 or older in Australia, Canada, Sweden, USA, and UK were concerned about the environment that their grandchildren and future generations will inherit. Respondents expressed limited concern on how environmental degradation will impact their own lives, which was surprising given their vulnerabilities. These findings coincide with studies like the 2018 Gallup "Global Warming Age

Table 15: Effect of Norm Legitimitor on Feelings of Sadness

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Legitimitor Image	0.067 (0.064)	0.045 (0.066)	0.170** (0.078)	0.186** (0.081)	0.059 (0.078)	0.009 (0.080)
Purch. Wildlife Prods		0.009 (0.029)		0.007 (0.029)		0.007 (0.029)
Seen Past Campaigns		0.158* (0.084)		0.160* (0.084)		0.160* (0.084)
Female		-0.027 (0.057)		-0.026 (0.057)		-0.026 (0.057)
Age		0.118** * (0.044)		0.118** * (0.044)		0.118** * (0.044)
Years in Country		-0.002 (0.004)		-0.002 (0.004)		-0.002 (0.004)
Contribute to Decline		0.188** * (0.035)		0.193** * (0.035)		0.193** * (0.035)
Singapore		0.020 (0.079)		0.025 (0.079)		0.025 (0.079)
Vietnam		0.029 (0.067)		0.032 (0.067)		0.032 (0.067)
Animal Image			0.198** (0.078)	0.250** (0.081) *	0.088 (0.078)	0.073 (0.081)
Spokesperson Image			0.111 (0.078)	0.177** (0.080)		
Control Image					-0.111 (0.078)	-0.177** (0.080)
Cutpoint 1	- 0.941*** (0.042)	0.160 (0.190)	- 0.841*** (0.061)	0.327* (0.198)	- 0.951*** (0.061)	0.149 (0.193)
Cutpoint 2	-	0.885**	-0.131**	1.055**	-	0.877**

Gap” poll that shows majorities of younger and older Americans saying they worry about environmental degradation problems like climate change a great deal.

	0.233***	*		*	0.242***	*
	(0.037)	(0.190)	(0.058)	(0.198)	(0.058)	(0.193)
Cutpoint 3	0.350***	1.485**	0.454***	1.656**	0.343***	1.479**
	(0.037)	(0.192)	(0.059)	(0.200)	(0.058)	(0.196)
Cutpoint 4	1.088***	2.259**	1.194***	2.434**	1.083***	2.257**
	(0.044)	(0.196)	(0.064)	(0.205)	(0.063)	(0.200)
Observations	1,443	1,352	1,443	1,352	1,443	1,352
Log Likelihood	-2296	-2124	-2292	-2119	-2292	-2119

Ordered Probit Model Estimates; Standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Using the Model 4 estimates from Table 15, Figures 22 & 23 plot the main positive and significant effect obtained here for the Norm Legitimator image, while holding all other variables to their modes (in the case of binary and ordinal variables) or means (in the case of a respondent's reported years having lived in the country of interest). For ease of interpretation, these effects plots once again present the predicted probability of seeing a respondent provide a response at either extreme for the ordered dependent variable considered (i.e., of expressing that the image elicited no sadness at all, or extreme amounts of sadness), in relation to whether (=1) or not (=0) a respondent saw the Norm Legitimator image. In each case, these effects are presented relative to a respondent's receipt of the Control image, with 95% confidence intervals.

Turning to the out-of-sample predicted probabilities reported in Figure 22, we find that respondents who received the Control image can be expected to exhibit a 17% probability of providing a response indicating that the image did not elicit any sadness whereas respondents who instead saw the Norm Legitimator image can be expected to report a noticeably lower (13%) probability of expressing a "no sadness" answer on this question. In Figure 23, I find that the converse is also true: respondents

who receive the Control image report had only a 13% probability of reporting that the image led them to feel extreme sadness; whereas the Norm Legitimator image instead saw respondents exhibit a notably higher (i.e., 16.5%) probability of reporting that that image elicited extreme sadness. This suggests that the Norm Legitimator image is having an emotional effect on respondents' levels of sadness in a direction that is consistent with the overall theories and hypothesis discussed earlier, and with Hypothesis 2 in particular. However, as above, it is important to note that this effect is plotted here in relation to the Control image. The Animal image exhibits a similar dynamic relative to the Control image in models 3-4 of Table 15; whereas the Spokesperson image only exhibits a similar effect (relative to the Control image) in Model 4 of Table 15.

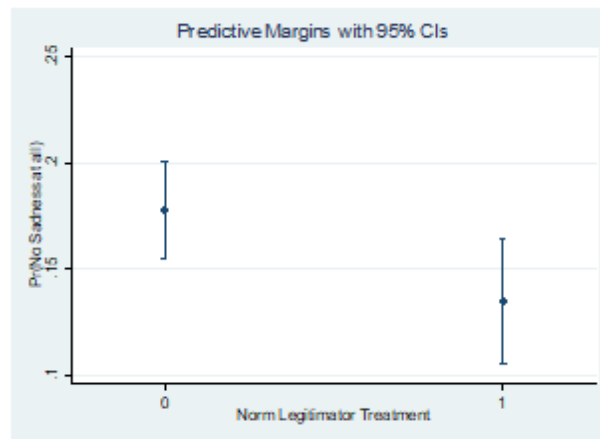


Figure 22: Effect on Absence of Sadness

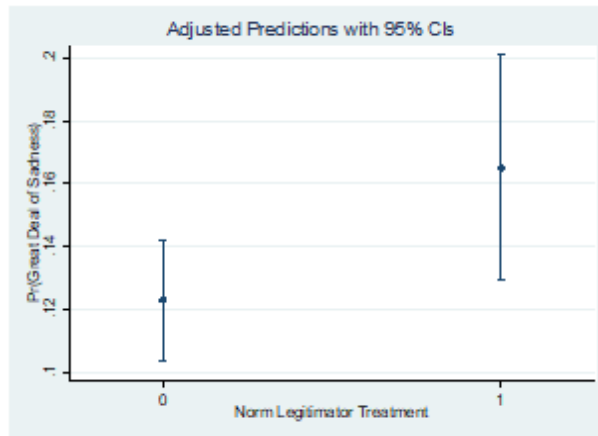


Figure 23: Effect on Great Deal of Sadness

Table 16 tracks the results for the final emotion considered in this study, anger. As the ordered probit estimates reported in Table 16 illustrate, there were at times positive and at times negative associations between a respondent reporting feeling of anger and that respondent having seen the Norm Legitimator image. In no cases were these coefficient estimates statistically significant, thus suggesting that receipt of the Norm Legitimator image was not a reliable predictor of anger in a post-treatment context. At least for the emotion of anger, then, this Table suggests that my Hypothesis 2 is not supported. Similarly, mixed findings were obtained for the Spokesperson image, though it obtains a positive and significant ($p < .10$) coefficient estimate in one instance. The Animal treatment image was more consistently positive and statistically significant in Table 16, suggesting that that particular image does exert a more consistent effect on respondents' feelings of anger.

I next briefly summarize the control variables findings, as reported in Table 16. Several of these control variables were statistically significant in anticipated directions. These included my measures for whether respondents had seen previous

campaigns and for respondents' degrees of belief that trade contributed to species decline. The increased anger that respondents feel in these cases may be tied to the peril of species decline or to the existence of illicit trade. Across models 2, 4, and 6, having seen previous campaigns was likewise a statistically significant predictor of anger at the $p < 0.05$ level, as was age. In comparison, across models 2, 4, and 6 respondents who more strongly believed that trade contributed to species decline were also more likely to express feelings of anger ($p < 0.01$). Finally, and somewhat surprisingly, I also find in this case that women (relative to other genders) and those having lived in a country for a longer period were significantly less likely to express feelings of anger.

Table 16: Effect of Norm Legitimitor on Feelings of Anger

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Legitimitor Image	-0.071 (0.064)	-0.096 (0.067)	-0.082 (0.079)	-0.073 (0.081)	0.059 (0.078)	0.013 (0.081)
Purch. Wildlife Prods		-0.041 (0.029)		-0.039 (0.029)		-0.039 (0.029)
Seen Past Campaigns		0.179** (0.085)		0.169** (0.085)		0.169** (0.085)
Female		-0.134** (0.058)		-0.137** (0.058)		-0.137** (0.058)
Age		0.129** *		0.130** *		0.130** *
Years in Country		(0.044) -0.007* (0.004)		(0.044) -0.008** (0.004)		(0.044) -0.008** (0.004)
Contribute to Decline		0.144** * (0.035)		0.144** * (0.035)		0.144** * (0.035)

Singapore		-0.061 (0.079)		-0.060 (0.079)		-0.060 (0.079)
Vietnam		0.055 (0.067)		0.056 (0.067)		0.056 (0.067)
Animal Image			0.109 (0.078)	0.161** (0.081)	0.250*** (0.078)	0.247** (0.081) *
Spokesperson Image			-0.141* (0.078)	-0.086 (0.081)		
Control Image					0.141* (0.078)	0.086 (0.081)
Cutpoint 1	-	-0.062 0.732*** (0.040)	-	-0.046 0.745*** (0.060)	-	0.040 0.604*** (0.060)
Cutpoint 2		-0.057 (0.037)	0.625** (0.191) *	-0.069 (0.059)	0.643** (0.199) *	0.073 (0.058)
Cutpoint 3		0.705*** (0.040)	1.402** (0.193) *	0.695*** (0.060)	1.421** (0.201) *	0.836*** (0.060)
Cutpoint 4		1.328*** (0.049)	2.059** (0.197) *	1.321*** (0.067)	2.082** (0.205) *	1.463*** (0.068)
Observations	1,443	1,352	1,443	1,352	1,443	1,352
Log Likelihood	-2221	-2061	-2216	-2057	-2216	-2057

Ordered Probit Model Estimates; Standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

5.5 Conclusion

While the quantitative analysis discussed above does not completely support my original theses and hypotheses, it does allude to the need for further research on this topic. Tables 5 and 6 showed that Legitimitor Image was negatively associated with a respondent's expressed likelihood of purchasing any type of wildlife products in the future (in that exposure to the Legitimitor Image decreases the likelihood of a respondent providing a higher value response on the five-category dependent variable

considered here). This is suggestive of the processes outlined under Hypothesis 1. However, this effect was only statistically significant within Models 3-4 in Table 5. These results are hence partially supportive of Hypothesis 1, though as can be seen across the remaining models in Table 6, and the remaining models in that subsection, they are not particularly robust. As such, this provides a very tentative degree individual-level support for my primary hypotheses (Hypothesis 1).

As mentioned before, I also hypothesize under Hypothesis 2 in Chapter 3 that shifting attitudes and behavioral changes concerning wildlife trafficking will be the result of individuals updating their opinions to better align with the preferences of people they respect and/or identify with. My findings here again were only weakly supportive of this second Hypothesis, and even in the cases of support, evidence suggested that these findings were at times comparable for not only my Norm Legitimator treatment, but also for my Animal image treatment and/or for my Spokesperson treatment. Hence, future research, and samples, are likely necessary to more definitively assess the role of norm legitimators on the potential mediating pathways that underlie such campaigns and demand side behavioral outcomes.

Nevertheless, and coupled with the success seen in some of the case studies in the previous chapter, it is evident that some wildlife campaigns *do* have a greater effect than others in the aggregate and in some cases at the individual level. Hence, the findings present above are supportive of the rationale for the present chapter was to test these findings in a more casually identified manner, at the individual level. One challenge in doing so that was potentially driving many of the null findings obtained above, is that for many of the outcome variables considered, respondents tended to disproportionately eschew harmful wildlife consumption practices both prior to receipt

of their selected image and after receipt of that image. This quality of the experimental data and variables likely raised the bar for my ability to detect a reliable effect of my treatments and may be driving some of the null findings mentioned earlier. Future studies may benefit from expanding the number of respondents, and countries, considered under designs comparable to my own to better overcome some of these small sample and class-imbalance challenges.

Notwithstanding the caveats mentioned above, the tables and figures reported in this chapter enlighten us to the complexities of anti-wildlife trafficking campaign design, reaffirming what I emphasized at the very outset of this work: what may be successful in terms of a market or country one day may be ineffective the next. Understanding what it is that consumers respond to best is integral to a given wildlife campaign's success.

It is also important to keep in mind that the tailored campaigns that respondents visualized in the survey experiment presented above were created for the purpose of this dissertation. Having an organization run extensive background research on what consumers would respond to as well as having extensive exposure to the campaign (instead of visualizing an advertisement just once) may very well have greater effects on individual's wildlife conservation behaviors and emotions. The experiments here were limited to relatively small number of internet-savvy respondents across three countries and used artificial campaign images that respondents had never seen before. Perhaps a key part of WildAid's campaign success has been not only how their campaign is created, but how often it is disseminated across television and social media, as well as on physical billboards. One unique benefit to these latter dissemination strategies is that they stand to reach a broader

cross-section of any society, relative to the online survey takers considered in the experiments considered here (who may already exhibit predispositions against consumption or purchase of wildlife products in relation to society more broadly, as noted above).

Chapter 6

LOOKING AHEAD

While a variety of social, political, and economic factors shape environmental policy decisions and their subsequent impact(s), to date, research on the global illegal wildlife trafficking market has predominantly focused on concepts of supply and demand without taking into consideration aspects of gender, culture, and identity. This represents a serious deficiency in understandings of, and efforts to combat, global wildlife trafficking given the symbolic qualities of many endangered species products. This dissertation theoretically and empirically investigates the creation, and importance, of identities as a key driver perpetuating the illicit wildlife market. When coupled with changes in class, primarily the rise of the middle class across Southeast Asia, it is argued that these ideas of identity fuel the illicit wildlife market, driving many species to the brink of extinction. Thus, the creation of, and interface with, specific identities in contemporary southeast Asia must be examined in the contexts of social stratification and class formation to offer a detailed understanding of the perpetuation of the illicit wildlife trade. If we are to understand gender, class, or even nationality as a performative concept, then engaging in illicit wildlife trade and consumption to enhance those identities is, in the most parsimonious of terms, “doing gender”, “doing class”, or “doing nationality”, respectively.

It is unreasonable to assume that a society or individual that has used wildlife products to sustain traditional rituals for thousands of years will abandon their

practices overnight. If the anti-wildlife trafficking advocacy network hopes to raise awareness to counter the consumption of wildlife products, it must acknowledge the ideas and values tied to specific products that drive identity-specific demands. This proves to be easier said than done, as research is lacking on two counts: the dearth of research on the issue of wildlife and identity and the sparsity of available data when discussing endangered species poaching, consumption, and trafficking. Most available research around wildlife and aspects of identity, like gender, points to why identity should be considered in wildlife *management*, and even then, arguments and case studies are primarily based in the local context.

Another difficulty facing the identity mainstreaming of the contemporary wildlife trafficking literature is that of gender roles and social norms. These factors influence wildlife consumption and are rooted in social structures like the family and community. Yet these factors are not often discussed in terms of trafficking, endangered species consumption, and poaching. Furthermore, gender inequalities are often magnified within complex issues like development, poverty, or family planning, meaning that wildlife management officials would need to envision much more intricately complicated systems and solutions than currently proposed (Food and Agriculture Organization, 2016). The purpose of these past chapters has been to show just how one of those intricately complicated solutions, addressing the desires behind demand, can be theoretically instituted by non-governmental organizations around the world. As such, this conclusion briefly summarizes my dissertation's key theoretical insights and findings, before providing a sense of "next steps," and potential limitations.

6.1 Overview of dissertation insights and findings

Chapter 1 sought to introduce the key research questions motivating this dissertation. Specifically, I posited the following two questions. First, how do constructions of social identity shape demand for endangered wildlife species? Second, are norm legitimators able to successfully transform opinions and behaviors in nation-states where wildlife trafficking is sustained by widely held cultural values and traditions? This introductory chapter then offered a thorough understanding of the idiosyncratic nature of the illicit wildlife market and current legislative efforts, like the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), to combat the trafficking of endangered species and products derived from them.

As a multi-billion-dollar industry, the illegal wildlife market is a complex problem involving different settings, species, and individuals. While it is imperative to highlight that many of the actors in the supply chain partake in the illegal wildlife market for financial gain, consumers are motivated for a plethora of reasons: from the desire to own a luxury status symbol or an exotic pet to the mistaken belief that consuming certain wildlife products will provide medicinal benefits. Top markets for the illegal wildlife trade respond to demand for exotic pets, food, traditional medicine, fashion, and status goods. Certain species or products are multi-use, which increases demand and causes variation in their monetary worth and symbolic desirability. The commercialization and use of biological resources as remedies and commodities encompass cultural and social aspects and bear important implications for conservation, especially in relation to the most heavily exploited species.

A comprehensive understanding of how cultural identities are constructed and impact environmental degradation issues like species conservation is crucial for

examining the complex socioeconomic conditions in which consumers, traders, poachers, and their families live. These understandings, however, are predicated upon socially and culturally constructed and ascribed roles and responsibilities of men and women. Yet, identity as a causal driver for demand of certain wildlife products is exactly what is overlooked and missing from academic and policy understandings of the illicit wildlife market. Instead, anti-trafficking campaigns push an overarching message of “global environmental sustainability”, expecting recipients of this message to behave in a prosocial manner—but at the expense of their national or local identity. The hypotheses posited in this chapter seek to go beyond the simple concepts of supply and demand to create a thorough understanding of the ideas and norms which fuel desire for wildlife products.

Chapter 2 worked to engage with a critical understanding of how social identity impacts wildlife trafficking. By grappling with the Norms literature of Acharya (2004), Michael (2013), and Finnemore and Sikkink (1998) this chapter argues the importance of including identity within environmental legislation. Understanding the social, cultural, and gender-based factors that compel individuals to purchase and consume wildlife products begins to inform us about how value is assigned to specific products. Through this process, virtual economies are created, where the value of products is assigned by society, for society, on an ever-changing basis (Peterson, 2006). In the case of wildlife products, the commodities themselves do not have value in and of themselves, instead only getting ascribed value as a function of the social codes and context within which, they have significance.

Essentially, emerging cultural values and understandings are what give wildlife products their value—in any other context, a rhino horn is just a rhino horn, and a

shark fin is just a shark fin. The use of wildlife products in traditional medicinal practices to create social identities thus contributes to the societal understanding that certain wildlife products are valuable—even priceless. The rarity of a species does not protect it from being poached—in fact, it makes it even more valuable. The market then reacts as traditional markets do. Demand dictates supply, decimating animal populations, and in turn, the prices continue to rise as the supply becomes reduced. As species become rare and difficult to find, species gain a higher commercial value as specialty food, trophies, medicines, or pets. The level of difficulty in obtaining those animal products projects a sense of authority and/or inclusion upon those who do attain them working twofold—to both increase the value of the animal as well as intensifying any existing cultural demand. The perpetuation of this consumption within social settings encourages consumers to believe that a) the consumption of these products is natural, b) that they are partaking in a certain aesthetic recognized by all and c) they must participate in order to be “authentic” (Peterson, 2006).

Having begun an analysis on the dynamism of the socially constructed and perpetuated markets for wildlife products in Chapter 2, Chapter 3 discussed the facets a campaign needs to address these nuances of consumer identity. When creating campaigns, conservationists tend to draw from a mixture of approaches, but often do not pause to assess how or why these components complement each other. Using the “Quadrants of Engagement” (Lertzman, 2015), this contends that to maximize effectiveness of campaigns, organizations must employ tools not from just one or two quadrants, but from all four: (1) Regulatory, (2) Culture, (3) Behavioral Economics, and (4) Desire. The final quadrant, the Desire Quadrant, is one of the most complicated to understand, and because of that is one of the least used tactics in

current campaigns. This quadrant taps into the underlying psychological needs and motivations that fuel consumer demand. If we closely examine consumer demand for illicit wildlife products closely, we see it is really made of desire.

While the Desire Quadrant is the most underused in campaigns, it can (and does) serve and support the other quadrants. It is not meant to be a stand-alone approach, but a set of questions and guidelines to consider when developing messaging, social marketing, and social media tactics. Often, the perspectives illuminated by the Desire Quadrant are either missing or greatly underdeveloped in campaign strategies. Enter the “Norm Legitimator” theory, which seeks to not only directly acknowledge the desire behind each consumer’s demand, but also to redirect that desire towards a new, eco-friendly alternative. By capitalizing on the social dynamics created by the virtual economy for wildlife products, Norm Legitimators control the redirection of desire for these illicit wildlife products in a context that still respects the traditions and values which initially produced demand for certain products. This model opens up opportunities for a more culturally sensitive international wildlife trafficking regime. This, in turn, could introduce the opportunity for multiple pathways of knowledge, information, and values to be integrated into a framework.

Drawing upon the insights outlined above and elsewhere, this chapter then offered a pair of testable hypotheses that were in turn evaluated in my ensuing empirical chapters. The first hypothesis posited that campaigns employing norm legitimators will be more effective in reducing wildlife trafficking at the individual and societal levels, relative to campaigns that do not employ such individuals. The second hypothesis posited that the reason for the enhanced effectiveness of norm

legitimizers, if identified, would be at least partly due to these actors' unique ability to communicate anti-trafficking campaigns in a culturally relevant, and culturally understandable, manner.

The intention of Chapter 4 was to conduct a detailed qualitative analysis of three campaigns that use the components introduced in the previous chapter, and to analyze their effectiveness in light with Hypotheses 1 and 2. These three unique case study analyses focused on campaigns conducted by WildAid and centered around a behavioral change model in Singapore, China, and Vietnam for tiger parts, shark fins, and pangolin scales, respectively. By maintaining my case study analysis to solely WildAid campaigns, I was able to hold the operating organization constant across all my cases, to better isolate unique campaign-level effects. In the sake of offering the most consistent image of each market and its respective campaign, the chapter was divided into three parts. The first served as a background on the animal species and the illicit market for their derivatives, the second focused on the work and coordinating research done by WildAid to cease consumption of products, and the third and final section analyzed each campaign against the four Quadrants of Engagement discussed at length in Chapter 3, with an eye towards using this template to inform my final assessment of Hypotheses 1 and 2 in the context of each of my three cases.

While the campaigns (and hence cases) varied in their species and country targets, each of the campaigns followed WildAid's behavioral change methods, albeit with some variation in terms of the extent of the norm legitimator employed. As anticipated by my hypotheses, variation of each campaign's success depended on how well the campaign's norm legitimator interacted with each of the Quadrants of Engagement. In terms of successfully engaging with the Quadrants of Engagement,

the shark fin campaign in China did the best job at engaging with all four Quadrants in a complementary manner, with the pangolin campaign in Vietnam seemingly following suit, albeit it being too early to thoroughly gauge success. On the other hand, the tiger campaign in Singapore makes thinly veiled attempts to engage with all four Quadrants of Engagement. These case studies thus support Hypotheses 1 and 2. They also together reinforce my contention in the introduction chapter that ‘what works in terms of one market may be ineffective in another’. With respect to real world implications, these findings in turn suggest that, by engaging with norm legitimators and the four Quadrants of Engagement on a case-by-case basis, organizations stand to create a more cohesive, complementary approach to conservation efforts.

Finally, Chapter 5 added internal validity to the case-study analysis’ findings through a quantitative and experimental analysis of the effects of my key variable (i.e., in this chapter’s case, a survey respondent’s receipt of the Norm Legitimator image treatment) on several key behavioral and non-behavioral dependent variables related to wildlife consumption demand. Together this allowed me to test both Hypothesis 1 and Hypothesis 2 in an experimental, individual-level context. Importantly, I did so while engaging with individuals operating in the same international country contexts as considered during my qualitative country analyses in the prior chapter.

While I will refrain from summarizing each of the dependent variables here, I can note for example that my assessments of Hypothesis 1’s behavioral outcomes was considered across multiple measures including (1) a respondent’s likelihood of purchasing the species that is specific to a given country-experiment (i.e., pangolin-,

tiger-, or shark fin-derived products) in the future, (2) a respondent's expressed likelihood of purchasing any wildlife-derived products in the future, and (3) a respondent's likelihood of sharing the relevant wildlife-oriented campaign image that they received and viewed with others. A similar battery of measures pertaining to a respondent's emotional responses and degrees to which they found the ad that they viewed to be (culturally) understandable similarly allowed me to assess Hypothesis 2. This part of the analysis accordingly looked to supplement the preceding case study analysis through an evaluation of the specific, and differential, causal effects of campaigns upon consumer wildlife preferences when varying the identity of the individual delivering a wildlife campaign's message. Hence, the purpose of the experiment was to gauge the success of campaigns intending to redirect the desire for illicit wildlife using "norm legitimators", in the manners proposed under Hypothesis 1 and Hypothesis 2.

While the quantitative analysis did not completely support Hypothesis 1 and Hypothesis 2, it did offer some suggestive evidence in support of each hypothesis. It also provided a framework for future analyses of these sorts and alluded to the need for further research on this topic not only in relation to my primary independent and dependent variables, but also in relation to several control variables. With regards to the former, several primary models indicated that the Norm Legitimator images that I considered across my three country samples were together negatively associated with a respondent's expressed likelihood of purchasing any type of wildlife products in the future. As such, this provides a very tentative degree of support for Hypothesis 1, and similar findings were obtained for Hypothesis 1 and 2 in several other instances. Coupled with the success seen in some of the case studies in the last chapter, it is

evident that some campaigns *do* have a greater effect than others in the aggregate (i.e., at the societal level). Hence, across Chapters 4 and 5, ample suggestive evidence was identified to suggest that norm legitimators do play a unique role in curbing demand for endangered wildlife products, while also indicating that the implementation (and assessment) of this campaign strategy, at least at the individual level, requires a great deal of attention to specific psychosocial and cultural contexts.

6.2 Limitations and looking forward

What is important to note is that this dissertation is in no way attempting to be a “how to” manual for current and future wildlife campaigns. Instead, its purpose is to test and spark ideas about the application of these concepts and theories within the environmental transnational advocacy network. In doing so, this dissertation sought to establish a more general, and generalizable, theoretical understanding of the linkages between (1) different tactics of wildlife campaign engagement with stakeholders and (2) changes in behavior with regards to individuals' wildlife trafficking/consumption participation. Future studies may benefit from expanding the number of respondents, and countries, considered under the experimental design presented above to better overcome some of the small sample and class-imbalance challenges that arose within my own survey experiments.

In this vein, it is important to remember that understanding what it is that wildlife consumers respond to best is integral to a given wildlife campaign's success. It is also important to keep in mind that the campaigns that respondents visualized in Chapter 5's experiment were created for the purpose of this dissertation. Having an organization run extensive background research on what consumers would respond to as well as having extensive exposure to the campaign (instead of visualizing an

advertisement just once) may very well have greater effects on individuals' wildlife conservation behaviors and emotions. The experiments considered in Chapter 5 were limited to a relatively small number of respondents, across three countries, and used artificial campaign images that respondents had never seen before. Perhaps a key part of WildAID's campaign success has been not only how their campaign is created, but how often it is disseminated across television and social media, as well as on physical billboards. One unique benefit to these latter dissemination strategies is that they stand to reach a broader cross-section of any society, relative to the online survey takers considered in the experiments for this project.

Finally, it is imperative to note that the broader goal of this research—and what should be the goal of past, present, and future research on the wildlife market—is to minimize the tradeoffs and sacrifices made among and within these values and rights. As the literature continuously shows, however, there is no easy solution for this—nor for dismantling the wildlife trafficking market. Environmental activism presents a challenge, especially when dealing with international organizations and transnational advocacy networks (Keck and Sikkink 1998). All solutions come with limitations, tradeoffs, and variation in outcome. That is exactly why this project does not put all its eggs in one basket by focusing on a single, narrow solution. The key insight gained from this exercise is that, if identity drivers truly dictate the market, what works today in one country may be effectless tomorrow in the next. The “solution” resting within these pages thus is, at its simplest, a guide on how and why to specifically tailor policies to counter poaching and wildlife trafficking to local contexts, with the understanding that some elements may have global impacts. This

path will require time, flexibility, and persistence—there is no “one-size-fits-all” solution waiting for us in the wings.

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Appendix A

ONLINE SURVEY DEPLOYED ON LUCID

A.1 Pre-experiment warning and consent form:

By selecting “proceed”, you are choosing to participate in a PhD research study. This study is being conducted by a graduate student at the University of Delaware. The purpose of this study is to gain a better understanding about individuals’ opinions towards wildlife and wildlife-products.

Note that in the process of this study you may be asked to view an advocacy message. Such advocacy messages frequently call attention to the plight of wildlife, which may make some individuals feel uncomfortable.

This study has been approved by the Institutional Review Board of the University of Delaware. There are no risks associated with participating in this study. The questions administered on the subsequent pages collect no contact information from any respondent. All the responses in the study will be recorded and reported anonymously.

By participating in this study, you are acknowledging that you are 18 years of age or older. If you are willing to participate in this study, please click the button below.

Yes

No

Your participation is appreciated.

A.2 Pre-treatment prompt will collect baseline opinions about wildlife trafficking.

1. Roughly how many years have you lived in your current country of residence?
 - a. _____
2. To what extent do you believe that human demand for wildlife products contributes to the population decline of animal species across the globe?
 - a. Extremely

- b. Very much
 - c. Somewhat
 - d. Not much
 - e. Not at all
 - f. Unsure
3. To the extent that you are aware, have you ever purchased any products derived from endangered animals?
- a. Yes, several times
 - b. Yes, just a few times
 - c. Yes, just once
 - d. No, not at all
4. What was the primary purpose of the wildlife products that you purchased?⁴⁵
- a. Medicinal
 - b. Food or meals
 - c. Fashion, jewelry, or clothing
 - d. Ornamental or ceremonial
 - e. Other
5. Have you seen advertisements and campaigns advocating against the purchase, usage, or consumption of wildlife and/or wildlife products?
- a. Yes
 - b. No
6. How many of these campaigns have you seen?⁴⁶
- a. Just one or two
 - b. Several
 - c. A great deal
7. How informative do you think these previous campaigns were in changing opinions about the human demand for wildlife products?
- a. Extremely successful
 - b. Very successful
 - c. Somewhat successful
 - d. Not too successful
 - e. Not at all successful

⁴⁵ This question will be programmed to appear only to those who answered A-C to Question 3.

⁴⁶ This question will be programmed to appear only if a respondent answers “Yes” to Question 6.

A.3 Artificial Image Treatments:

A.3.1 Shark Fin Campaign Images



Figure A1-A4 (from left to right): (1) Jackie Chan with “I’m finished with fins” in Chinese, (2) Andy Ridley with “I’m finished with fins” in Chinese, (3) A shark fin with “I’m finished with fins” in Chinese, and (4) Image of an alarm clock with the message “Sleep 8 hours a night” in Chinese.

A.3.2 Tiger Campaign Images



Figure A5-A8 (from left to right): (1) Nadya Hutagalung with the message “The clock is ticking. There were once 8 species of tiger, now only 5 remain. Less than 4,000 tigers exist in the wild. Say no to tiger products”, (2) Bridgit Mendler with the message “The clock is ticking. There were once 8 species of tiger, now only 5 remain. Less than 4,000 tigers exist in the wild. Say no to tiger products”, (3) Close-up of a tiger with the message “The clock is ticking. There were once 8 species of tiger, now only 5 remain. Less than 4,000 tigers exist in the wild. Say no to tiger products”, (4) Image of an alarm clock with the message “Sleep 8 hours a night”.

A.4 Pangolin Campaign Images



Figure A9-A12 (from left to right): (1) Maggie Q with the message “Pangolin scales have nothing your own nails don’t have. No more a medicinal remedy than your fingernails” in Vietnamese, (2) Bridgit Mendler with the message “Pangolin scales have nothing your own nails do not have. No more a medicinal remedy than your fingernails” in Vietnamese, (3) Close-up of pangolin scales with the message “Pangolin scales have nothing your own nails do not have. No more a medicinal remedy than your fingernails” in Vietnamese, (4) Image of an alarm clock with the message “Sleep 8 hours a night” in Vietnamese.

A.5 Post-treatment prompts will collect opinions about the efficacy of the campaigns shown.

1. How interesting did you find the campaign advertisement you just viewed?
 - a. Extremely interesting

- b. Somewhat interesting
 - c. Indifferent
 - d. Somewhat disinteresting
 - e. Not at all interesting
2. How understandable did you find the campaign advertisement you just viewed?
 - a. Extremely understandable
 - b. Somewhat understandable
 - c. Indifferent
 - d. Somewhat not understandable
 - e. Not at all understandable
 3. How likely would you be to share this campaign advertisement with your family and friends?
 - a. Extremely likely
 - b. Somewhat likely
 - c. Neither likely nor unlikely
 - d. Somewhat unlikely
 - e. Extremely likely
 4. After seeing this campaign advertisement, how likely are you to purchase products derived from []⁴⁷?
 - a. Extremely likely
 - b. Somewhat likely
 - c. Neither likely nor unlikely
 - d. Somewhat unlikely
 - e. Extremely unlikely
 5. After seeing this campaign advertisement, how likely are you to purchase any wildlife products derived from endangered species?
 - a. Extremely likely
 - b. Somewhat likely
 - c. Neither likely nor unlikely
 - d. Somewhat unlikely
 - e. Extremely unlikely
 6. For what purpose would you buy wildlife products derived from endangered species?⁴⁸

⁴⁷ Questions will be tailored to correspond to whatever animal participant saw a treatment about.

- a. Medicinal
- b. Food or meals
- c. Fashion, jewelry, or clothing
- d. Ornamental or ceremonial
- e. Other

7. How much did the advertisement make you feel the following emotions?

	Not at all	A little	A moderate amount	A lot	A great deal
Anger					
Confusion					
Indifference					
Guilt					
Sadness					

8. How well do you think the message of this campaign advertisement took into consideration your personal values and beliefs?

- a. Extremely well
- b. Very well
- c. Somewhat well
- d. Not too well
- e. Not well at all

9. How well do you think the message of this campaign advertisement took into consideration the values and beliefs of your country or culture?

- a. Extremely well
- b. Very well
- c. Somewhat well
- d. Not too well
- e. Not well at all

10. How meaningful did you find this campaign advertisement's message to be?

- a. Extremely meaningful
- b. Very meaningful
- c. Somewhat meaningful
- d. Not too meaningful

⁴⁸ Question 7 will appear only if respondents select "A", "B", or "C" to Question 6.

- e. Not meaningful at all
11. What was the primary reason you found the campaign message meaningful?⁴⁹
- a. I agreed with the message
 - b. The presentation was well-done
 - c. I already felt strongly about this topic
 - d. A convincing argument was made
 - e. The message seemed to be tailored to my values and beliefs
12. What was the primary reason you did not find the campaign message meaningful?
- a. I did not agree with the message
 - b. The presentation was lackluster and devalued the main message
 - c. I had pre-existing feelings that have not changed
 - d. The argument was flawed
 - e. The message did not acknowledge my values and beliefs
13. What is your gender identity?
- a. _____
14. What is your age?
- a. 18-24 years old
 - b. 25-34 years old
 - c. 35-44 years old
 - d. 45-54 years old
 - e. 55-64 years old
 - f. 65-74 years old
 - g. 75 years or older
 - h. Prefer not to say

A.6 Post-experiment Disclosure

The study you participated in seeks to gain a better understanding of individuals' opinions towards the purchase and/or consumption of wildlife and wildlife products. More specifically, the study tests the hypothesis that, *who* delivers a campaign message is just as, if not more, important than the campaign message itself. The idea is that even if purchase and/or consumption of wildlife and wildlife products are driven

⁴⁹ Questions (12) and (13) will be programmed to appear depending on respondents' answers to question (11). Answering "A", "B" or "C" will be followed by question (12), answering "D" or "E" will be followed by question (13).

by embedded social and cultural values, the right campaign messenger can resonate with individuals enough to help them marry their traditional customs with a variant of species conservationism and environmentalism. We know that representation matters, but it is unequivocally necessary to ensure representation in instances where individuals may feel their customs and beliefs are being imposed upon.

Again, please note that the questions administered on the previous pages collected no contact information from any respondent. All responses in the study will be recorded and reported anonymously.

Thank you again for your participation.

Appendix B

COUNTRY BREAKDOWNS

Table B-1: Summary Statistics for Non-Categorical Variables, China

	Obs.	Median	Mean	St. Dev	Min	Max
Lived in Country	535	29	28.39	8.88	1	55
Trade Contribute to Decline	536	4	4.32	0.72	1	5
Purch. Wildlife Products	542	1	1.58	1.05	1	4
Seen Campaign	542	1	0.92	0.26	0	1
Num. Campaigns Seen	542	3	2.97	0.91	1	4
Informed past Campaigns	542	3	3.48	0.98	1	5
Interesting	542	4	3.77	1.11	1	5
Understandable	542	4	4.17	0.94	1	5
Likely to Share	542	4	4.29	0.79	1	5
Likely to Purchase Spc.	542	1	2.23	1.49	1	5
Likely to Purchase	542	1	2.09	1.46	1	5
Anger	542	2	2.61	1.20	1	5
Confusion	542	2	2.39	1.18	1	5
Indifference	542	3	2.91	1.16	1	5
Guilt	542	2	2.64	1.23	1	5
Sadness	542	3	2.96	1.25	1	5
Pers. Val. Belief	542	4	3.78	1.01	1	5
Cult. Val. Belief	542	4	3.87	0.98	1	5
Meaningful	542	4	4.10	0.92	1	5
Female	518	0	0.48	0.50	0	1
Age	541	2	2.14	0.81	1	5

Table B-2: Summary Statistics for Non-Categorical Variables, Vietnam

	Obs.	Median	Mean	St. Dev	Min	Max
Lived in Country	528	28	28.05	8.37	1	65

Trade Contribute to Decline	531	4	4.10	0.93	1	5
Purch. Wildlife Products	540	1	1.41	0.89	1	4
Seen Campaign	540	1	0.87	0.33	0	1
Num. Campaigns Seen	540	3	2.94	0.99	1	4
Informed past Campaigns	540	3	3.28	0.84	1	5
Interesting	540	4	4.22	0.69	1	5
Understandable	540	5	4.36	0.93	1	5
Likely to Share	540	5	4.31	0.91	1	5
Likely to Purchase Spc.	540	1	1.67	1.26	1	5
Likely to Purchase	540	1	1.58	1.29	1	5
Anger	540	3	2.66	1.38	1	5
Confusion	540	2	2.42	1.39	1	5
Indifference	540	1	1.91	1.18	1	5
Guilt	540	2	2.62	1.40	1	5
Sadness	540	3	2.93	1.37	1	5
Pers. Val. Belief	540	4	3.89	1.05	1	5
Cult. Val. Belief	540	4	3.75	1.06	1	5
Meaningful	540	4	4.01	0.95	1	5
Female	534	0	0.43	0.50	0	1
Age	540	2	1.97	0.87	1	6

Table B-3: Summary Statistics for Non-Categorical Variables, Singapore

	Obs.	Median	Mean	St. Dev	Min	Max
Lived in Country	351	27	27.26	14.32	1	63
Trade Contribute to Decline	355	4	3.93	0.86	1	5
Purch. Wildlife Products	361	1	1.79	1.09	1	4
Seen Campaign	361	1	0.71	0.45	0	1
Num. Campaigns Seen	361	2	2.21	0.92	1	4
Informed past Campaigns	257	3	3.25	0.90	1	5
Interesting	361	4	3.75	0.97	1	5
Understandable	361	4	4.11	0.89	1	5
Likely to Share	361	4	3.60	1.07	1	5
Likely to Purchase Spc.	361	2	2.27	1.41	1	5
Likely to Purchase	361	2	2.28	1.40	1	5
Anger	361	3	2.52	1.08	1	5
Confusion	361	2	2.08	1.14	1	5

Indifference	361	2	2.32	1.17	1	5
Guilt	361	2	2.32	1.29	1	5
Sadness	361	3	2.92	1.29	1	5
Pers. Val. Belief	361	3	3.55	0.98	1	5
Cult. Val. Belief	361	3	3.45	1.01	1	5
Meaningful	361	4	3.73	0.96	1	5
Female	348	0	0.47	0.50	0	1
Age	360	2	2.49	1.06	1	5

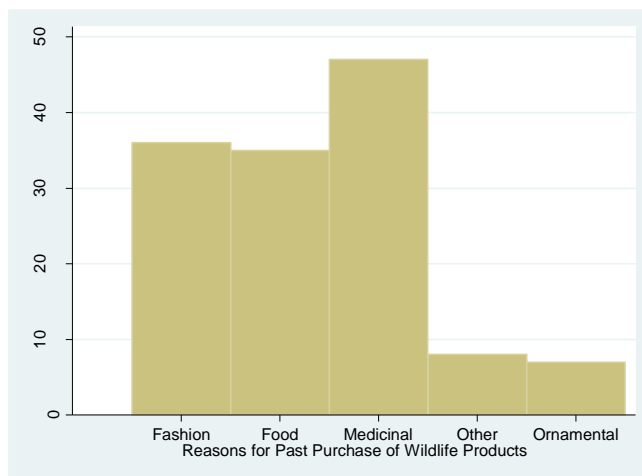


Figure B-1: Frequency Histogram of Respondents' Reasons for Past Wildlife Purchases in China (Sample)

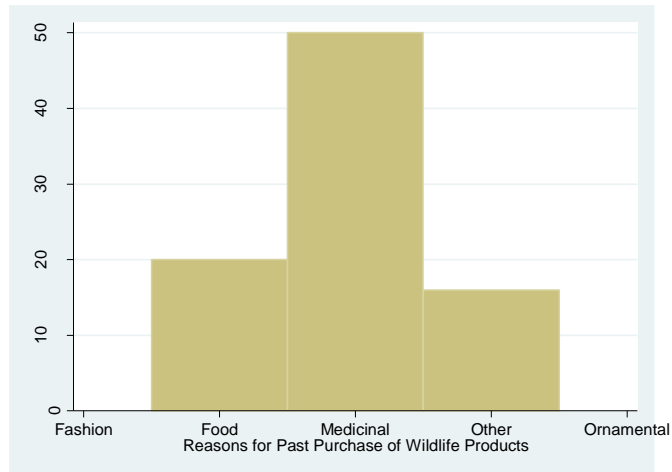


Figure B-2: Frequency Histogram of Respondents' Reasons for Past Wildlife Purchases in Vietnam (Sample)

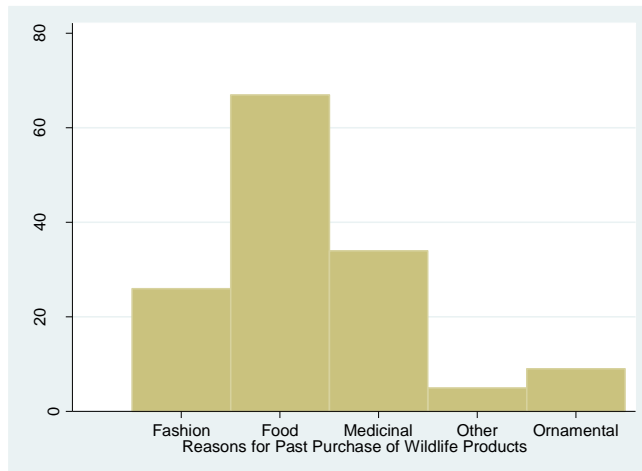


Figure B-3: Frequency Histogram of Respondents' Reasons for Past Wildlife Purchases in Singapore (Sample)

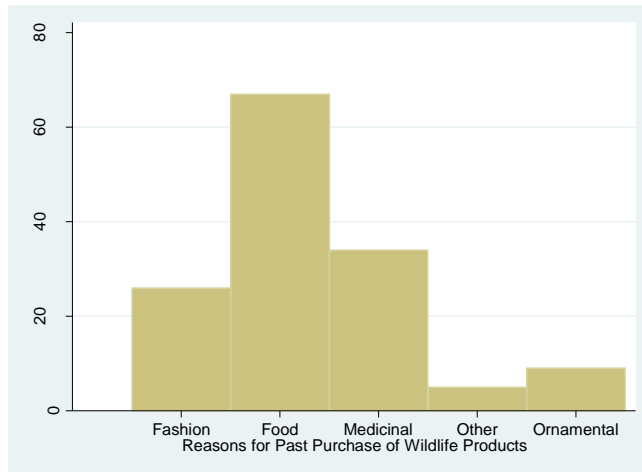


Figure B-4: Frequency Histogram of Respondents' Reasons for Finding Prompt Convincing (Control Image)

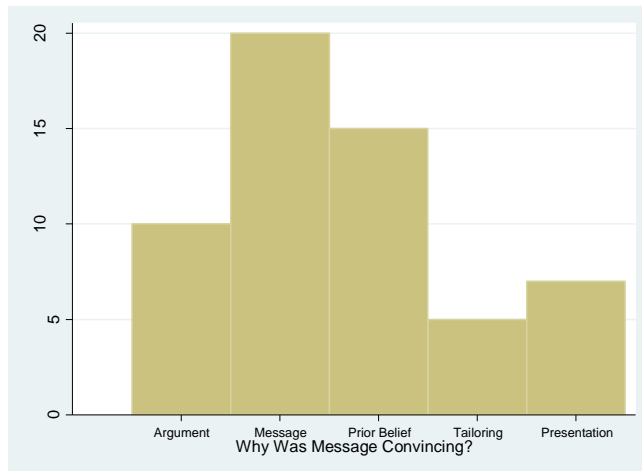


Figure B-5: Frequency Histogram of Respondents' Reasons for Finding Prompt Convincing (Animal Image)

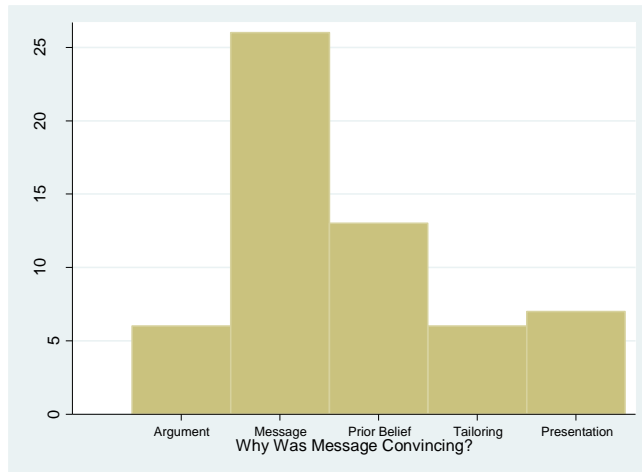


Figure B-6: Frequency Histogram of Respondents' Reasons for Finding Prompt Convincing (Spokesperson Image)

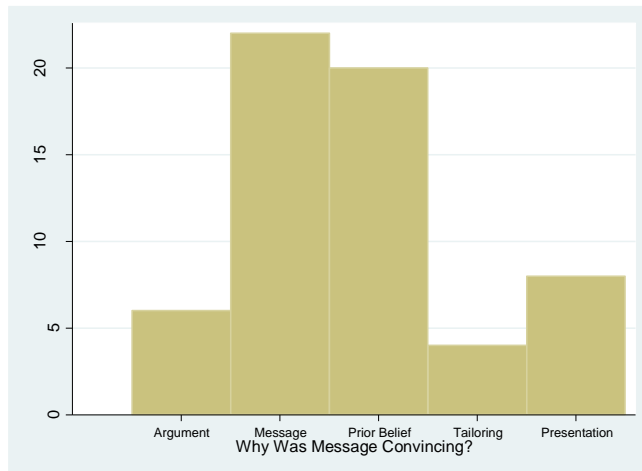


Figure B-7: Frequency Histogram of Respondents' Reasons for Finding Prompt Convincing (Norm Legitimitor Image)

Appendix C

IRB HUMAN SUBJECT APPROVAL



Institutional Review Board
210H Hullahen Hall
Newark, DE 19716
Phone: 302-831-2137
Fax: 302-831-2828

DATE: July 7, 2020

TO: Anna Nuzzolese
FROM: University of Delaware IRB

STUDY TITLE: [1620013-1] Poached: Pinpointing Normative Drivers of the Illicit Wildlife Trade

SUBMISSION TYPE: New Project

ACTION: DETERMINATION OF EXEMPT STATUS
EFFECTIVE DATE: July 7, 2020

REVIEW CATEGORY: Exemption category # (3)

Thank you for your New Project submission to the University of Delaware Institutional Review Board (UD IRB). According to the pertinent regulations, the UD IRB has determined this project is EXEMPT from most federal policy requirements for the protection of human subjects. The privacy of subjects and the confidentiality of participants must be safeguarded as prescribed in the reviewed protocol form.

This exempt determination is valid for the research study as described by the documents in this submission. Proposed revisions to previously approved procedures and documents that may affect this exempt determination must be reviewed and approved by this office prior to initiation. The UD amendment form must be used to request the review of changes that may substantially change the study design or data collected.

Unanticipated problems and serious adverse events involving risk to participants must be reported to this office in a timely fashion according with the UD requirements for reportable events.

A copy of this correspondence will be kept on file by our office. If you have any questions, please contact the UD IRB Office at (302) 831-2137 or via email at hsrb-research@udel.edu. Please include the study title and reference number in all correspondence with this office.

INSTITUTIONAL REVIEW BOARD

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