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Save the sharks: reevaluating and (re)valuing feared predators

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ABSTRACT

Much of the history of the human–shark relationship has been based on fear. For centuries, the goal has been to kill sharks that come near boats or beaches. Yet, there is a growing trend of more positive feelings toward local shark populations. In this article, we demonstrate that feelings of pride toward sharks can serve as an opposing force to fear, and can moderate the way fear affects support for policies to kill sharks. This study reports on two surveys of pride toward sharks from Eastern and Western Australia. These highlight a new and emerging story for people and sharks. We argue that the combination of shifts in the understanding of sharks’ motives during human–shark interactions and higher levels of pride support a new political dynamic in which the public prefers nonlethal responses to shark bites in support of a burgeoning “save the sharks” movement.

KEYWORDS

Conservation; environmental policy; fear; human–wildlife conflict; pride

Introduction

Environmental politics is often a battle between science and emotion (Neff, 2012). However, it is also a battle between emotional issues, where the emotional salience of one issue is used against the resonance of another to compete for attention (Lodge & Taber, 2005). The research question motivating this exploratory study asks: what role does “pride” play in shaping environmental public policy? In this case, pride is defined as a feeling of support toward a local population. Understanding the role of pride is important for several reasons. Politicians often utilize discourses of emotionality to gain an advantage with the public by using language that provides moral clarity on a subject. Chief among these frames is fear (Lupia & Menning, 2009). This is more than a political contest between actors, regulators, and elected officials. Rather, environmental politics must contend with the competition of different emotions that define the contemporary human–shark relationship.

This article builds on Pepin-Neff and Wynter (2018a) to argue that the “save the sharks” movement has arrived. We demonstrate that public support for sharks can endure shark bites and other human–shark interactions. As a result, the shift in emotions also reflects a shift in the mobilization of actors. For instance, we see great white sharks on Cape Cod license plates, taking ownership of their local white shark population (CapeCod.com, 2016). There have also been increasing efforts to aid beached sharks, including forming a line and carrying the shark back to the water (Weber, 2015). We argue that

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there has been an increase in pride toward sharks and that this endemic value is a tool that can shift public attitudes toward animals and marine life.

Background

It is not clear when the public mood began to shift in favor of sharks and away from the criminalization of dangerous shark species (Neff & Hueter, 2013), but historic stereotypes of sharks are now being contested (Neff, 2012). Neff and Hueter (2013, p. 67) recap the long history of demonizing sharks, noting that Victor Coppleson “argued that the only sharks that bit humans were ‘rogue’ sharks that have developed a taste for human flesh” (Coppleson, 1950, 1958). This theory has resonated most in the locations that suffer the most shark bite incidents. Chapman and McPhee (2016, p. 74) report that “While unprovoked shark bites over the last 30 years have been recorded from 56 countries and territories, the majority (84%) have occurred in six: The United States, South Africa, Australia, Brazil, the Bahamas, and Reunion Island.” On top of these incidents is media reporting that sensationalizes the events. Muter et al. (2013, p. 187), examined media reports in Australia and the USA. They report “most media coverage emphasized the risks sharks pose to people.” The legacy of fear of sharks has led to their decline. Shiffman (2014, p. 299) highlights that “nearly 25% of sharks and their relatives are considered threatened with extinction by the International Union for the Conservation of Nature Red List.” Ultimately, as Gibbs and Warren (2015, p. 102) assert, “Somewhat surprisingly, given their iconic status, sharks are very poorly understood.”

Fear of Sharks

Fear of sharks and its relationship to policy preferences is well documented (Pepin-Neff & Wynter, 2018b, 2018a), although debates remain about the extent to which this fear is innate or socially constructed. The influence of “hard-wired, species typical expressions of fear” (LeDoux, 1998, p. 1230) is supported by the broader empirical literature on human–predator relations, such as Prokop and Fančovičová (2010, pp. 418–423) finding that “Participants with a higher fear score ... were more willing to shoot bears.” Such automatic, affective responses have distinct evolutionary benefits, but may leave humans prone to a bias toward fear of natural hazards, such as predators, rather than statistically more salient threats, such as electricity outlets (Navarrete et al., 2012, p. 590). Yet, even innate fears may be extinguished. Pepin-Neff and Wynter (2018a) demonstrate that fear extinction effects can be achieved in the context of sharks in Australia. Crucially, while that study demonstrated that cuing attention to intentionality resulted in an additional fear extinction effect, merely being exposed to sharks in the aquarium environment resulted in both an increase in pride and a decrease in fear, which was associated with lower support for lethal policy responses to shark bite incidents. The present article extended these findings, theorizing that perceived endemic value (pride) actually moderates the relationship between fear and support for policies that kill sharks. Centrally, by capturing measures of fear, pride, and policy preferences in the immediate wake of lethal shark bite incidents, this article was able to assess the relationships between fear and pride in the specific context of policy mobilization leveraging competing emotional frames.

Methods

The survey was conducted by phone through research firm *Field Works* in Ballina between September 18 and 25, 2015, and in Perth between June 8 and 15, 2016. The Ballina sample comprised 500 respondents (49% male; 51% female), while the Perth sample comprised 600 respondents (47% male; 53% female). Each sample was stratified by age to provide a broad reflection of the demographics of each location – the median age in Perth (36) is substantially lower than in Ballina (47) (Australian Bureau of Statistics, 2015). Only respondents above the age of 18 were recruited into the survey. In both cases, surveys were distributed within weeks of major shark bite incidents in these locations. These events were sought to capture the periods of peak salience in which policy debates about shark bite mitigation strategies are most subject to the theorized tension values of fear and pride. Such incidents are key catalyzing events for marine policy, particularly in light of sensationalist media reporting, but the research decision to focus on geographically proximate samples following traumatic events posed some limitations for the survey format. Due to the sensitive nature of the subject matter, and to comply with human research ethics committee requirements, the questionnaire was designed to be as short and non-confrontational as possible, with a median interview time of 4 min. These conditions precluded the deployment of full multi-item scales to capture all aspects of fear and pride. While such concerns are partially mitigated by the fact that both fear and pride are widely understood basic emotions, future designs should seek to address this limitation.

Measures

The focal measures presented in the analysis are as below.

Fear of Sharks: “On a scale of 1–10, how frightened are you of sharks? With one being not frightened at all and 10 being extremely frightened.”

Pride in Sharks: “On a scale of 1–10, how much pride do you have in the local shark population? With one meaning no pride and 10 meaning a lot of pride.”

Perceptions of Intentionality: “When shark bites occur, do you think that it is ...” (“Accidental;” “Intentional;” “Unsure”).

Policy Preferences: “When shark bites happen, how do you think the [Western Australia/New South Wales] Government should respond?” (“Put in shark nets;” “Educate the public;” “Hunt the shark;” “Leave the shark alone;” “Invest in new nonlethal technologies;” “Put in baited drum lines;” “Conduct more research to investigate human–shark interactions”).

Support for Lethal Policies: A binary measure derived from the above policy preferences, where “Conduct more research to investigate human–shark interactions,” “Educate the public;” “Leave the shark alone;” and “Invest in new nonlethal technologies” are coded as 0 (nonlethal) and “Put in shark nets;” “Hunt the shark;” and “Put in baited drum lines” are coded as 1 (lethal).

Results

Respondents’ feelings of fear were modestly associated with support for lethal policies ($r = .18, p < .01$), and there is a stronger inverse association between pride and support for lethal policies ($r = -.35, p < .01$). Breaking the selection of policy preferences down into

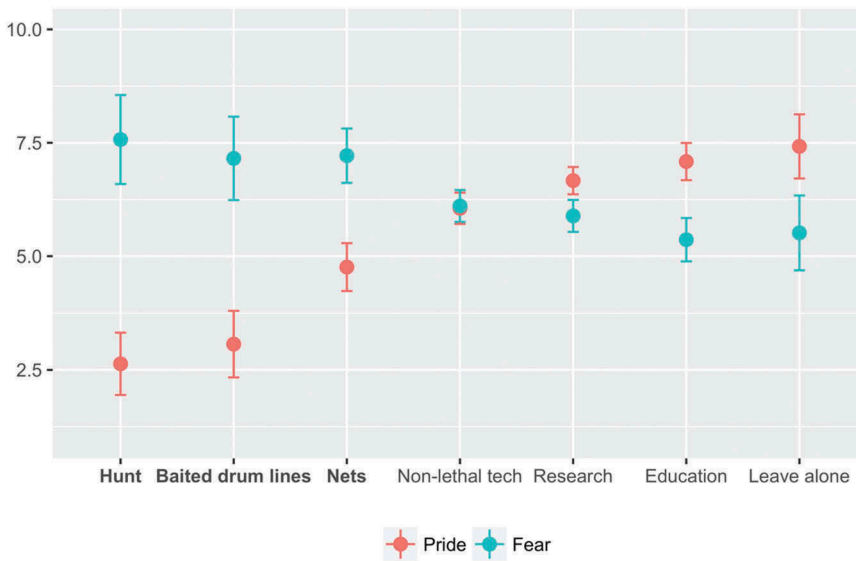


Figure 1. Levels of fear and pride and preferences in response to shark bite incidents.

*Error bars are 95% confidence intervals. ***Pride*: “On a scale of 1–10, how much pride do you have in the local shark population? With 1 meaning no pride and 10 meaning a lot of pride.” ****Fear*: “On a scale of 1–10, how frightened are you of sharks? With 1 being not frightened at all and 10 being extremely frightened.” *****Policy Preferences* “When shark bites happen, how do you think the [Western Australia/New South Wales] Government should respond?”; Lethal: (“Put in shark nets;” “Hunt the shark;” “Put in baited drum lines”); Nonlethal: (“Educate the public;” “Leave the shark alone;” “Invest in new nonlethal technologies;” “Conduct more research to investigate human–shark interactions”).

the individual answers reveals that while levels of fear associated with support for each of the lethal policies (hunts, drum lines, nets) are statistically indistinguishable, this is not the case for pride (Figure 1). Respondents that support shark nets have significantly higher levels of pride ($M = 4.76$, $SD = 2.76$) than those who support the more overt lethal policies of baited drum lines ($M = 3.07$, $SD = 2.42$, $t = 3.8$, $p < .01$) and shark hunts ($M = 2.63$, $SD = 2.18$, $t = 4.9$, $p < .01$).

As Figure 2 demonstrates, at high levels of pride, levels of fear have relatively little impact on policy preferences; at moderate levels of pride, fear has moderate effects on policy preferences; and at low levels of pride, fear has large effects on policy preferences. Pride conditions the effects of fear on support for lethal policies, and hence the interaction term in the binominal regression model: $lethalprefs = fear + pride + (fear * pride) + \epsilon_i$, is also significant ($\beta = -.17$, $p < .05$).

These results indicated little support for lethal policies at high levels of pride, but considerable support for lethal policies at low levels of pride; however, the latter is contingent on a third factor. As Figure 3 highlights, support for lethal policies only rises to levels greater than one-third, and indeed greater than 50%, in the condition that both pride is low and shark bite incidents are perceived to be “intentional” rather than “accidental.” Overall, these results show that this crucial cohort in the policy process – the just under one in five respondents who support lethal policies – do so almost exclusively under the condition of high fear, low pride, and perceptions of intentionality.

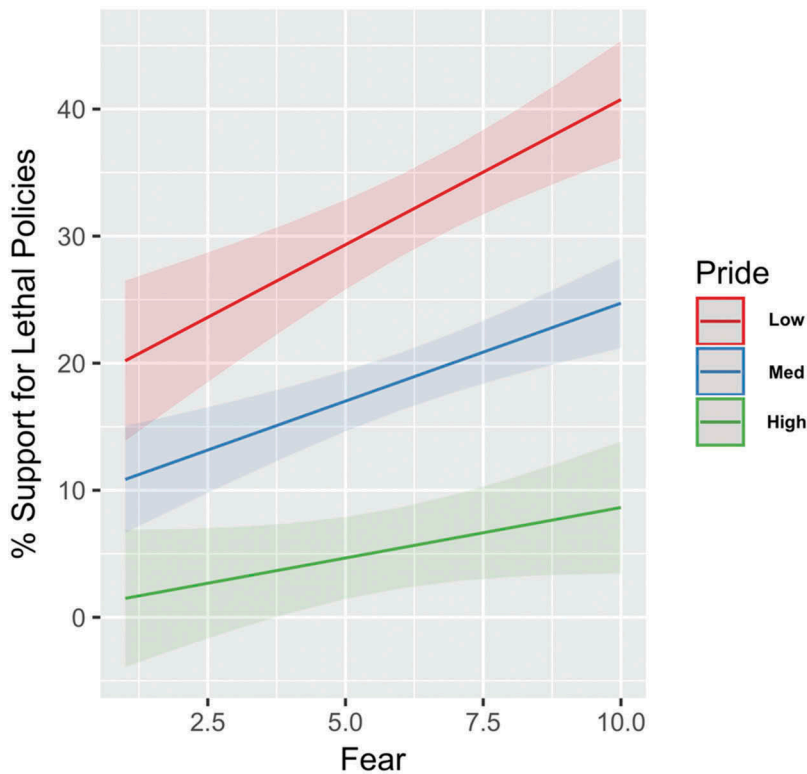


Figure 2. Marginal effects of fear on support for lethality under pride conditions.

Pride:* "On a scale of 1–10, how much pride do you have in the local shark population? With 1 meaning no pride and 10 meaning a lot of pride." *Fear:* "On a scale of 1–10, how frightened are you of sharks? With 1 being not frightened at all and 10 being extremely frightened." ****Policy Preferences* "When shark bites happen, how do you think the [Western Australia/New South Wales] Government should respond?"; Lethal: ("Put in shark nets," "Hunt the shark," "Put in baited drum lines"); Nonlethal: ("Educate the public," "Leave the shark alone," "Invest in new nonlethal technologies," "Conduct more research to investigate human–shark interactions").

Discussion

Lethal policy responses to shark bite incidents are a political fix, ostensibly motivated by the presumption of public support. Despite media narratives asserting widespread support for culls, no empirical support has been presented to warrant such claims. Instead, shark attack reporting by newspapers is used to highlight public concern. Specifically, Muter, Gore, Gledhill, Lamont, and Huveneers (2013, p. 194) noted that "shark attacks were reported at least five times more than conservation concerns or any other shark-related topic." However, the present article again found that in the presence of actual shark bite incidents and the media responses, levels of respondent support for lethal measures in affected communities were only at around 20%.

These data suggested that fear and pride are not merely in tension, pulling policy preferences in opposing direction, but actually interact in important ways. While respondents who preferred lethal policies had higher levels of fear ($M = 7.3$, $SD = 3.18$) than those who preferred nonlethal policies ($M = 5.81$, $SD = 3.21$): $F(1,1065) = 34.4$, $p < .01$, for pride, the gap between those

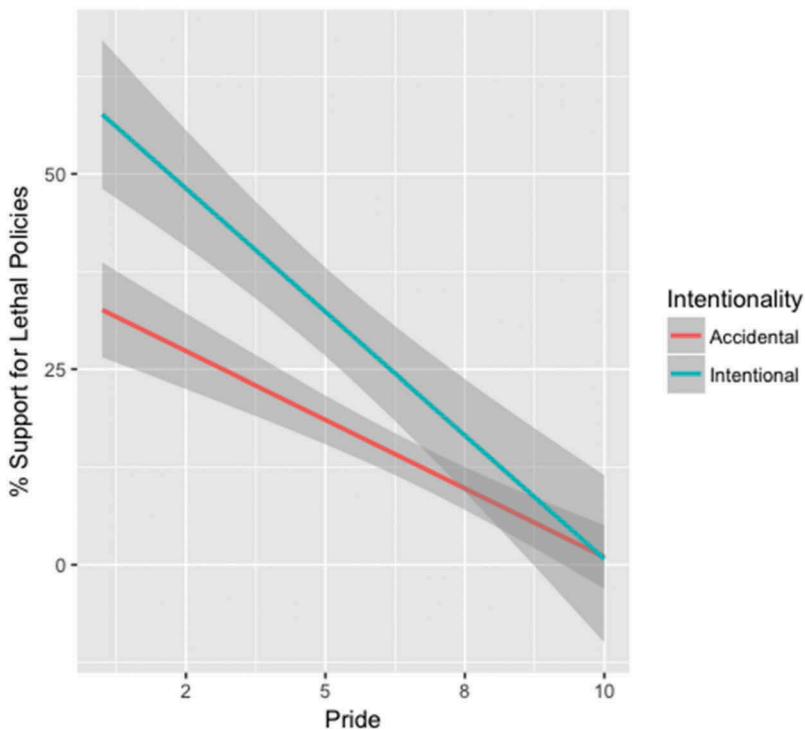


Figure 3. Pride, perceptions of intentionality, and support for lethal policies.

Pride:* "On a scale of 1–10, how much pride do you have in the local shark population? With 1 meaning no pride and 10 meaning a lot of pride." *Intentionality:* "When shark bites occur, do you think that it is ..." ("Accidental," "Intentional," "Unsure") ****Policy Preferences:* "When shark bites happen, how do you think the [Western Australia/New South Wales] Government should respond?" ("Put in shark nets," "Educate the public," "Hunt the shark," "Leave the shark alone," "Invest in new nonlethal technologies," "Put in baited drum lines," "Conduct more research to investigate human–shark interactions").

preferring lethal policies ($M = 3.9$, $SD = 2.7$) and those preferring nonlethal policies ($M = 6.6$, $SD = 2.8$) is nearly twice as large: $F(1,1015) = 145.4, p < .01$.

This article suggests that support for shark bite mitigation strategies that result in the deaths of sharks is nurtured by three conditions: high levels of fear, low levels of pride, and perceptions that shark bites are intentional, rather than accidental. We argue that it is generally only when all three conditions are met that there is considerable support for such policies. For conservation-minded policy makers, this opens up three potential avenues for further reducing support for killing sharks as well as other animals involved in human–wildlife conflicts (HWCs). These include cognitive (changing perceptions of intentionality), positive affect (increasing pride), and negative affect (fear reduction). Previous work has demonstrated that each of these is possible under experimental conditions (Pepin-Neff & Wynter, 2018a).

Reducing fear of natural predators is a major challenge, as there are both evolutionary and media dynamics at play on the side of fear. These further interact, given that sharks make the news almost exclusively in the context of fear frames, and hence there is a significant bias in the

relationship between the salience and valence of the information that publics consume about sharks. Educating the public about intentionality similarly faces obstacles. Intentionality is complex, and there are large existing stores of the dominant intent-based frame stemming from *Jaws* and other media sources (Neff, 2015). Nosal, Keenan, Hastings, and Gneezy (2016, p. 2) states that “many people trace their fear of sharks to the 1975 blockbuster *Jaws*, whose redolent soundtrack has become deeply rooted in popular culture.”

Increasing pride in local shark populations may be the most feasible of the three. Levels of pride are already strong, and the results in this study underscore that pride is actually a considerably stronger predictor of policy preferences than fear. The fact that pride moderates the effects of fear lessens the necessity of trying to combat deep-rooted emotions. Fear itself is not necessarily problematic, but rather what that fear motivates. Pride subverts fear’s effects on policy preferences such that fear may be associated with respect for the power of nature, rather than something to be conquered. Innate fear may not be able to be de-programmed, but pride can be cultivated.

Conclusion

The research question motivating this exploratory article asked what role “pride” plays in shaping policy preferences. We have shown that given the right circumstances, pride toward sharks helps mitigate fear effects and supports nonlethal responses to human–shark interactions, especially shark bite incidents. This creates a fundamentally new dynamic for how sharks are regarded. Rather than being seen as an enemy to be feared and killed, there is more room for shark conservation and education. Pride makes possible a turn toward a “save the sharks” movement and our data suggest that turn has begun. For researchers, the highly emotional nature of these events raises a number of methodological challenges and trade-offs. The present article sacrificed some degree of depth – deployment of fuller scales to capture the complete range of what constitutes fear and pride, as well as more extensive policy options – in order to capture results in the places and times in which emotional responses to shark bite incidents are at their zenith. In part, this was a response to widespread claims about support for lethal policies. Since we have firmly established in multiple locations that this is not the case, future research can shift the focus toward more nuanced questions. There is fertile territory in this domain, including, but not limited to analysis of the demographic and behavioral characteristics of the minority who *do* support lethal policies; experimental manipulation of the framing of the most popular lethal policy, shark nets, as passive culling devices versus a barrier; and full-scale pre-post panel studies to monitor changing attitudes toward sharks over time relative to bite incidents, political rhetoric, and media coverage. In all, we diagnose a special role for pride that can help reconcile shark control and shark conservation, underpin the burgeoning “save the sharks” movement, and provide a way forward in the broader work of HWC management.

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