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Modeling intentions to sanction among anglers in a catch-and-release recreational fishery for golden dorado (*Salminus brasiliensis*) in Salta, Argentina

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ABSTRACT

Catch-and-release (C&R) angling is a powerful tool for reducing impacts on recreationally targeted fishes. Although C&R can be mandated in fisheries through regulation, voluntary adoption and informal management are often critical due to minimal enforcement opportunities. Anglers themselves may play a role in increasing C&R adoption through interpersonal sanctioning (i.e., self-policing). To date, little research has examined factors that predict the willingness of anglers to sanction others' behavior. We present results from surveys (n = 49) with anglers in Argentina to explore their motivations to sanction other anglers within their stakeholder community. Anglers with the strongest intentions to sanction were younger and more open to adopting best practices, identified fishing as important to their lifestyle, and expressed high environmental concern relative to other anglers. Our findings highlight the role that recreational anglers can play in promoting best practices via interpersonal sanctioning and identify barriers that inhibit this type of action.

KEYWORDS

Best practices; catch-and-release fishing; communication; golden dorado; recreational fishery; sanctioning

Introduction

Catch-and-release (C&R) recreational angling is a growing and popular leisure activity world-wide (Arlinghaus & Cooke, 2009). Wide ranging scientific work has determined that stress impacts could be minimized through the adoption of C&R as a conservation tool. Best practices can be integrated into formal management through regulations (Arlinghaus & Cooke, 2009), or adopted voluntarily through a conservation ethic within a community of recreational anglers (Cooke, Suski, et al., 2013; Stensland & Aas, 2014). Informal voluntary mechanisms such as interpersonal sanctioning have rarely been explored as a means of motivating more effective self-governance in the context of C&R angling, especially in non-Western contexts. In this research note, we present survey evidence examining the predictors of interpersonal sanctioning in a C&R fishery for golden dorado in rural Argentina.

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The concept of interpersonal sanctioning stems from research on social norms and public goods dilemmas (e.g., Ostrom, Walker, & Gardner, 1992; Yamagishi, 1986). Negative sanctioning is the process of providing some form of social punishment to others for engaging in actions deemed inappropriate (Nolan, 2013). When public goods are depleted through misuse, the diffusion of responsibility and the absence or failure of formal governance sanctions can be effective to alleviate this tragedy of the commons (Ostrom et al., 1992). Sanctioning can embody a variety of forms depending on the individual context and the actors involved, ranging from formal economic actions (e.g., fines) to relatively informal social actions (e.g., social exclusion). While social norms have been studied by environmental psychologists (e.g., Biel & Thogersen, 2007), the factors motivating individuals to engage in interpersonal sanctioning to mitigate norm violations or help establish new social norms are inadequately understood (Swim, 2013).

Research suggests that sanctioning can serve an important function in encouraging a broader community conservation ethic where environmental transgressions are confronted and sustainable behavior encouraged (Nolan, 2013; Swim, 2013; Swim & Bloodhart, 2013). Swim and Bloodhart (2013), for example, observed that admonishing individuals for anti-environmental behavior (e.g., elevator usage over stairs) directly boosted subsequent pro-environmental behavior rates. Schultz, Nolan, Cialdini, Goldstein, and Griskevicius (2007) found that communicating disapproval with current energy consumption via placing a cartoon frowning face on a household flyer helped motivate reductions in energy use. Nolan (2013) discovered that college students were motivated to engage in sanctioning when they believed the sanctions would motivate recycling behavior. While limited, the research suggests that informal social sanctions can be effective in recreational fishing contexts (Svensson, 2011); the motivations for sanctioning and its predictors are not well understood.

Literature on interpersonal sanctioning primarily originates from studies outside the United States on issues such as recycling (e.g., Nolan, 2013) and energy conservation (e.g., Schultz et al., 2007). This gap in the literature raises questions about the extent to which interpersonal sanctioning may become generalized and manifested in specific conservation contexts, such as C&R. Context-specific predictors that motivate interpersonal sanctioning in conservation settings are not well understood (Ostrom, 2009).

Continuing the work of Nolan (2013) and Swim and Bloodhart (2013) we focused on informal modes of sanctioning in the context of C&R. As part of a broader interdisciplinary investigation of C&R in Argentina (Gagne et al., 2017), we developed a measure of sanctioning intentions, and explored predictors of anglers' motivations to engage in interpersonal sanctioning of other anglers who engage in actions considered antithetical to best practices (e.g., prolonged air exposure). To identify potential predictors of sanctioning motivations, we drew from literature in environmental psychology highlighting the importance of environmental values, awareness of best practices and environmental risks, and certain demographics characteristics (Hornsey, Harris, Bain, & Fielding, 2016) such as age and years spent fishing in motivating conservation behaviors. Table S1 provides a brief conceptual overview of these predictors (hosted at: osf.io/7thvz).

We expected that factors signifying greater environmental concern (e.g., the perception that one is more concerned about the environment than other anglers) and valuing fishing as a key part of one's lifestyle and identity would predict individuals' willingness to intervene and sanction others who practice potentially harmful C&R techniques. We

also anticipated that individuals who were more aware/supportive of best practices themselves (in this case, not engaging in prolonged air exposure) would be more willing to sanction. Also included were context-specific demographics, such as how many years individuals have spent fishing, and how much of their time per year they devote to fishing.

Method

Participants and procedures

Data were obtained in the golden dorado (*Salminus brasiliensis)* recreational fishery on the Juramento River in the Salta province of Argentina. Recreational angling has a strong presence on the Juramento River while formal enforcement capacity is limited and often nonexistent, due in part to budget constraints, to the lack of enforcement personnel stationed in the area, and the remote nature of this location (Personal communication with recreational fishing guide, 2015). Between May 10 and July 15, 2015, 49 surveys were completed with electronic tablets in the field (27%) and through local social media outlets (73%), with a completion rate of 58%. Nearly all respondents (96%) estimated that 80%–100% of their fishing was C&R. Table 1 provides demographic and angler segmentation information on the sample.

Table 1. Social-demographic and angling summary of anglers from the dorado angler sample.

Socio-demographics and other covariates	Count	%	Socio-demographics and other covariates	Count	%	Socio-demographics and other covariates	Count	%
Do you practice catch-and-release and/or catch-and-keep? (*n* = 48)			*Age* (*n* = 47)			*Are you a member of a fishing club* (*n* = 42)		
Catch-and-release	41	85	<20 yrs	2	4	No	32	76
Catch-and-keep	0	0	20–29 yrs	4	9	Yes	10	24
Both	7	15	30–39 yrs	17	36	*Province of origin* (*n* = 42)		
			40–49 yrs	16	34	Salta	18	43
Gender (*n* = 47)			50–59 yrs	4	9	Jujuy	4	10
Female	1	2	60–69 yrs	4	8	Cordoba	5	12
Male	46	98	>70 yrs	0	0	Buenos Aires	6	14
						Other	9	21
How many conversations a month about management and regulation? (*n* = 48)			*Avidity: how may days did you fish in the last 12 months* (*n* = 49)			*Gear* (*n* = 35)		
0 times	5	10	<10 days	7	14	Fly	22	63
0–2 times	11	23	10–29 days	10	20	Spin	1	3
3–5 times	7	15	30–50 days	18	37	Fly and Spin	8	23
5 + times	25	52	>50 days	14	29	Other	4	11
Average air exposure (*n* = 47)			*What other species do you target?* (*n* = 38)			*What countries have you fished in?* (*n* = 44)		
0 min	3	6	Trout/Salmon	10	26	Bolivia	18	41
0–1:00 min	23	49	Surubi (Catfish)	5	13	Cuba	7	16
1:01–2:00 min	14	30	Boga	5	13	Mexico	8	18
2:01–3:00 min	6	13	Marine species	18	47	Brazil	11	25
3:01+ min	1	2						
Income USD (*n* = 28)			*Where do you share management information and knowledge?* (*n* = 47)			*Where do you receive recreational fishing information generally?* (*n* = 43)		
0–10,000	9	32	Industry websites	5	11	Industry websites	11	26
10,000–25,000	8	29	Personal blogs	3	6	Personal blogs	3	7
25,000–50,000	4	14	Social media	22	47	Social media	19	44
50,000–75,000	4	14	Pers. conversation	16	34	Pers. conversation	9	21
75,000–100,000	2	7	Govt. paper material	1	2	Govt. paper material	0	0
>100,000	1	4	Govt. web material	0	0	Govt. web material	1	2

Measures

A four-item measure of sanctioning intentions was developed based on past literature. Items related to sanctioning asked about likelihood, willingness, and perceived responsibility to sanction (Table S1). Relationships among the items were explored using a combination of correlation plots, principal components analysis, and a reliable composite measure was derived from these items (M = 4.80, SD = 1.59, α = .81, PC1 = 65%). Predictors of sanctioning intentions included measures of environmental concern, the importance of fishing for one's lifestyle, intentions to engage in best practices (in this case, the likelihood of zero air exposure), familiarity with management practices, concern about tensions in the fishery, and perceived threats to harvest. Age, fishing days per year, years fishing, importance of fishing for golden dorado, and the perceived community impacts of C&R were also included (Table 1).

Analysis

Least absolute shrinkage and selection operator (LASSO; Tibshirani, 1996) regression was performed to assess the predictors of sanctioning intentions using 10-fold cross validation to assess the optimal lambda (Hastie, Tibshirani, & Friedman, 2009). LASSO uses regularization and penalization (i.e., setting weak predictors to be exactly zero) to address overfitting and adapt to contexts with sample size constraints and multiple predictor variables (McNeish, 2015). This approach confers vital benefits including reducing the likelihood of bias due to the small sample size, and producing more parsimonious model results in cases with many predictor variables.

Results

The likelihood of zero air exposure, environmental concern, and importance of fishing for one's lifestyle all positively predicted sanctioning intentions and had the largest coefficient values in the model (Table 2). Age negatively predicted sanctioning intentions, while management familiarity, tension concern, and harvest threat had small, positive coefficients. Fishing days per year, years fishing, importance of fishing for golden dorado, and community impact returned coefficients of zero in this model, suggesting their lack of

Table 2. Results of LASSO regression predicting sanctioning intentions.

Predictors	*B*	*% of B's > 0*
Fishing Days Per Year	0.00	0.00
Years Fishing	0.00	0.00
Age	−0.104	51.86
Management Familiarity	0.044	51.86
Dorado Importance	0.000	6.80
Fishing Significance	0.224	88.10
Tension Concern	0.035	54.68
Harvest Threat	0.008	22.68
Likelihood of Zero Air Exposure	0.409	100.00
Community Impact	0.000	0.00
Environmental Concern	0.224	90.76

Note. B's denote standardized regression coefficients. % of B's >0 denotes number of B's in the 5,000 resamples which were greater than 0.

contribution to sanctioning intentions in this model. As LASSO produces slightly different estimates across iterations, we performed a resampling process to calculate the percentage of times each coefficient emerged as greater than zero when running the same analysis 5,000 times (Table 2). Likelihood of zero air exposure was greater than 0 in 100% of the 5,000 resamples. Relative environmental concern was greater than zero in 91% of samples, followed by 88% for importance of fishing for one's lifestyle. Age, management familiarity (both at 52%), and tension concern (55%) were greater than zero in slightly more than 50% of samples, whereas harvest threat (23%) and importance of fishing for dorado (7%) emerged as non-zero on fewer occasions. In all 5,000 samples, fishing days per year, years fishing, and perceived community impact returned a coefficient of zero.

Given our limited sample size and number of possible predictors, we also performed Bayesian regression with regularizing priors and conventional multiple regression with AICc model selection to assess the convergence of results across techniques. These additional analyses also provide more information regarding the relative effect size and importance of each predictor, while adjusting for our modeling constraints in different ways. The strictest regression technique we employed, LASSO, is presented in the main text, though the results were convergent across all of these methods, speaking to the stability of the model, and nature of the gradient of penalization and regularization for regression estimate procedures. Further details and results of these analyses are reported in online supplementary materials (hosted at: osf.io/7thvz).

Discussion and conclusion

While past literature has explored the role that sanctioning plays in promoting conservation behavior (Czopp, 2013; Nolan, 2013), almost no studies have examined specific factors that underlie intentions to sanction, nor has past research considered interpersonal sanctioning motives in specific resource management contexts such as C&R angling. Our study explored sanctioning intentions in a recreational fishery context. Findings highlighted the diversity of factors that guide anglers' willingness to embrace responsibility for promoting the success of conservation initiatives such as C&R, not only with respect to their own behavior but also regarding the actions of other anglers. Identifying anglers willing to adopt best practices provides an estimate of human capital predisposed to engage in pro-environmental behavior (Nolan, 2013). It is important to consider strategies to facilitate knowledge acquisition and capacity building to engage in best practices. In contexts where management is limited, this may be beneficial.

The emergence of importance of fishing to one's lifestyle as a key predictor suggests that anglers who strongly self-identify as dorado anglers see the potential social costs of sanctioning as worth the pro-environmental return. At nearly the same level of importance was the measure of relative environmental concern. These findings align with past research on conservation behavior more broadly (Corner, Markowitz, & Pigeon, 2014; Hornsey et al., 2016). Our measure of environmental concern was also a *relative* measure, suggesting that the perception that one is more concerned than one's peers may be particularly important in increasing a sense of responsibility to take personal action. Younger aged anglers reported greater motivations to sanction than older anglers. Age of the angler as a relatively weak but persistent predictor (consistent with Hornsey et al., 2016) suggests it will be important to explore the motivation in younger fishers to

promote self-regulation. This work expands on the growing body of psychological research on interpersonal sanctioning and pro-environmental behavior (e.g., Nolan, 2013; Swim & Bloodhart, 2013) while conducting the research in a field setting, examining a different conservation context, and identifying predictors of sanctioning intentions.

While our results are consistent with the literature, broad inferences should be made with considerable caution, as this study presents results from a relatively localized recreational fishery. The sample size we could recruit was limited due to the size and remote location of the fishery, time, and budgetary constraints. Respondents of our sample reported moderate-to-high levels of environmental concern, sanctioning intentions, and importance of fishing for their lifestyle. Also, we cannot rule out the possibility that measurement differences may have occurred, such as an effect of different sampling modes (on-site vs. online), language translation effects, or an interview effect. The anglers in the sample region were primarily working professionals (e.g., lawyers, engineers), came from other cities/countries, and did not engage in illegal harvesting. While the potential sampling bias does raise questions about broad generalizability, our goal was to examine interpersonal sanctioning in this specific C&R context with stakeholders interested in producing more sustainable C&R. To this end, we adopted multiple analytic strategies to investigate the stability of the models across different forms of statistical inference. Therefore, even if only a subset of anglers are willing to engage in sanctioning in the context of C&R, this would not alter the substantive interpretation of our results but might instead limit broad generalization.

Several further caveats regarding measurement are warranted. First, the measurement variability in both demographic characteristics and attitudinal measures is likely to have been constrained due to the smaller, non-representative sample (e.g., underrepresentation of females). Future investigations would benefit by expanding and validating these results in other samples. Due to survey space limitations, we utilized short measures designed for this specific study, as opposed to other existing measures of environmental concern. While we selected face-valid measures and the results converge with past literature, future investigations that are less limited by budget and time constraints might consider employing other common measures of environmental concern. There are also likely to be other interesting psychological and behavioral dynamics involved in sanctioning that we were unable to explore here. For example, given that past research has found that certain personality traits are predictive of environmental engagement (e.g., Markowitz, Goldberg, Ashton, & Lee, 2012), future research might consider integrating these dynamics to better understand sanctioning-related intentions and attitudes as well. We note that our sanctioning intentions outcome measure might not be considered strictly as an intention measure, as the items that make up this composite include measures of both intention and perceived responsibility to take action. While at a theoretical level we believe these constructs to be distinct (though likely to be predicted by similar demographic characteristics and attitudes), these items were highly correlated with the intention items, and a composite outcome was created for parsimony.

The goal of human dimensions research in recreational fisheries is to understand human thoughts, actions, and feedbacks regarding fish, fishing, and governance (Hunt, Sutton, & Arlinghaus, 2013). The key feedbacks in the present context were ecological impacts of C&R and the behavioral change needed to reduce negative impacts. At least on the Juramento River, in the face of limited enforcement of guidelines, our findings suggest

that an alternative framework that encourages interpersonal confrontation and sanctioning may have positive impacts. Here, younger anglers who are more receptive to conservation best practices, concerned about environmental protection, and who value fishing for their lifestyle should be recognized as playing an influential, critical, and oftentimes underappreciated role in conservation of the fishery through their willingness to encourage others to adopt best practices.

The results of systematic scientific studies focused on golden dorado, C&R stress response (Gagne et al., 2017) cannot by themselves influence the management of the recreational fishery; rather, they need to work in concert with an understanding of how the angler community can influence the adoption of best practices. Our results emphasize that sanctioning, at least in this system, is likely performed by a subset of anglers. It will be important to closely outline the varied cost-benefit rationalizations that anglers go through as they demonstrate their intentions to sanction with direct action (or not). The identification of this potentially influential actor group highlights that conservation outcomes can benefit by focusing efforts on studying humans and fish not as isolated but rather as interacting entities within a coupled human and natural system (Liu et al., 2007). Our research provides a first effort at identifying the factors that support sanctioning willingness among recreational anglers, identifying a new study area moving forward. Future work will benefit other fisheries by cross-validating our model with survey development and deployment in additional recreational fisheries, as well as by exploring the relationship between sanctioning intentions and actions.

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References

Arlinghaus, R., & Cooke, S. J. (2009). Recreational fisheries: Socioeconomic importance, conservation issues and management challenges. In Barney Dickson, Jon Hutton, & William M. Adams (Eds.), *Recreational Hunting, Conservation and Rural Livelihoods* (pp. 39–58). Blackwell Publishing Ltd. ISBN: 978-1-405-16785-7

Biel, A., & Thogersen, J. (2007). Activation of social norms in social dilemmas: A review of the evidence and reflections on the implications for environmental behavior. *Journal of Economic Psychology*, *28*(1), 93–112.

Cooke, S. J., Suski, C. D., Arlinghaus, R., & Danylchuk, A. J. (2013). Voluntary institutions and behaviours as alternatives to formal regulations in recreational fisheries management. *Fish and Fisheries*, *14*(4), 439–457. doi: 10.1111/j.1467-2979.2012.00477.x

Corner, A., Markowitz, E., & Pigeon, N. F. (2014). Public engagement with climate change: The role of human values. *WIREs Climate Change*, *5*(3), 411–422.

Czopp, A. M. (2013). The passive activist: Negative consequences of failing to confront antienvironmental statements. *Ecopsychology*, *5*(1), 17–23.

Gagne, T. O., Ovitz, K. L., Griffin, L. P., Brownscombe, J. W., Cooke, S. J., & Danylchuk, A. J. (2017). Evaluating the consequences of catch-and-release recreational angling on golden dorado (Salminus brasiliensis) in Salta, Argentina. *Fisheries Research*, *186*, 625–633.

Hastie, T., Tibshirani, R., & Friedman, J. (2009). *The elements of statistical learning: Data mining, inference, and prediction* (2nd ed.). New York, NY, USA: Springer-Verlag.

Hornsey, M. J., Harris, E. A., Bain, P. G., & Fielding, K. S. (2016). Meta-analyses of the determinants and outcomes of belief in climate change. *Nature Climate Change*, *6*, 622–626.

Hunt, L. M., Sutton, S. G., & Arlinghaus, R. (2013). Illustrating the critical role of human dimensions research for understanding and managing recreational fisheries within a social-ecological systemframework. *Fisheries Management and Ecology*, *20*(2–3), 111–124.

Liu, J., Dietz, T., Carpenter, S. R., Alberti, M., Folke, C., Moran, E., … Taylor, W. W. (2007). Complexity of coupled human and natural systems. *Science*, *317* (5844), 1513–1516.

Markowitz, E. M., Goldberg, L. R., Ashton, M. C., & Lee, K. (2012). Profiling the 'pro-environmental individual: A personality perspective. *Journal of Personality*, *80*(1), 81–111.

McNeish, D. M. (2015). Using Lasso for predictor selection and to assuage overfitting: A method long overlooked in behavioral sciences. *Multivariate Behavioral Research*, *50*(5), 471–484.

Nolan, J. M. (2013). Creating a culture of conservation: Willingness to confront environmental transgressors. *Ecopsychology*, *5*(1), 3–8.

Ostrom, E. (2009). A general framework for analyzing sustainability of social-ecological systems. *Science*, *325*(5939), 419–422.

Ostrom, E., Walker, J., & Gardner, R. (1992). Covenants with and without a sword: Self-governance is possible. *American Political Science Review*, *86*(2), 404–417.

Schultz, W. P., Nolan, J. M., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2007). The constructive, destructive, and reconstructive power of social norms. *Psychological Science*, *18* (5), 429–434.

Stensland, S., & Aas, Ø. (2014). The role of social norms and informal sanctions in catch-and-release angling. *Fisheries Management and Ecology*, *21*(4), 288–298.

Svensson, G. (2011). *Not everybody has good manners: Fishing tourists' norm violations and local mangement in the Reisa River (Doctoral Thesis)*. Retrieved from The Arctic University of Norway. In *Tidskriftet utmark* (pp. 1).

Swim, J. K. (2013). Confronting for conservation. *Ecopsychology*, *5*(1), 1–2.

Swim, J. K., & Bloodhart, B. (2013). Admonishment and praise: Interpersonal mechanisms for promoting proenvironmental behavior. *Ecopsychology*, *5*(1), 24–35.

Tibshirani, R. (1996). Regression shrinkage and selection via the Lasso. *Journal of the Royal Statistical Society*, *58*(1), 267–288.

Yamagishi, T. (1986). The provision of a sanctioning system as a public good. *Journal of Personality and Social Psychology*, *51*(1), 110–116.