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LETTER

Divergent views on trophy hunting in Africa, and what this may mean for research and policy

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Abstract

Over the past decade, trophy hunting in Africa has seen increased public and scientific interest. Much of that attention has come from outside of Africa, with little emphasis on local views. We circulated an online survey through international networks to explore demographic and regional differences in opinion regards support for African trophy hunting, trophy import bans, and outside funding of conservation estates supported by hunting. We received ~5700 responses and found that location, demography, and conservation background influenced opinion. African and North American respondents showed (significantly) more support for trophy hunting than respondents from Europe or other areas, as did respondents with conservation backgrounds. Unlike North Americans, Africans supported external subsidies of wildlife areas presently funded by hunting. Many factors affected opinions on African hunting, but respondent location played a major role. Realistic policy on African trophy hunting should thus integrate African perspectives, in particular those of rural communities.

KEYWORDS

Africa, community-based conservation, conservation aid, conservation policy, trophy hunting, wildlife management

1 | INTRODUCTION

There has been much debate over the past few years around trophy hunting in sub-Saharan Africa. This has led to urgent outside appeals to stop hunting in Africa (Horowitz, 2019), renewed interest in certification (Wanger et al., 2017), and calls for international funding of Africa's wildlife estates (Lindsey et al., 2016).

Despite outside appeals to stop African hunting, many conservation scientists have outlined the deleterious conservation outcomes of bans (see Dickman et al., 2019). The conservation backing for hunting stems from a concern about the longevity of wildlife estates, and the flora and fauna therein (Di Minin et al., 2016). Land that supports wildlife populations in Africa is land that could be used by subsistence farmers, who consequently suffer an opportunity cost (Muposhi et al., 2016). The same people further endure the costs of human–wildlife conflict (Matseketsa et al., 2019). Conservation in Africa is unlikely to be sustainable unless these imbalances are compensated (Sibanda, 2015).

Legal hunting provides income for community-based conservation efforts (Taylor, 2009) and provides meat to poor rural communities (Naidoo et al., 2016). Well-managed hunting concessions may prevent, or slow deforestation (Young et al., 2020). Biologists who support hunting base their views on the complexity of the challenges facing conservation in Africa; large mammal populations, in particular, are in decline through habitat loss, illegal harvest, and retributive killing (Newmark, 2008; Ripple et al., 2015).

Critics of the conduct of the African hunting industry indicate that unregulated hunting may drive species' population decline (Packer et al., 2011), or may disrupt animal age-sex structures (Loveridge et al., 2007). Hunting may also lead to "unnatural selection" (Festa-Bianchet & Mysterud, 2018). A key criticism is that the funds generated by hunting do not reach the intended beneficiaries in rural areas (Nelson et al., 2013).

The pendulation of the hunting debate is a distraction; it shifts attention away from more pressing threats to wildlife (Lindsey et al., 2016). The debate has, however, led to a more serious consideration of alternative funding streams (Lindsey et al., 2020). These include conservation aid, payments for environmental services (Dickman et al., 2011), and carbon offset schemes (sensu Bekessy & Wintle, 2008).

One issue that has emerged in the recent hunting debate is that African views have largely been excluded (Chaukura et al., 2019). The dominance of a Western narrative minifies the views of people in Africa, who may have positive attitudes toward trophy hunting (Angula et al., 2018; Stormer et al., 2019), or negative attitudes where concessions lead to conflict over access (Jew & Bonnington, 2011). Indeed, there is recognition that "western-normative ethical perspectives" dominate the hunting debate, with little consideration for diversity of worldviews (Di Minin et al., 2021). Africans may have different perspectives, and the opinions of all people may be further conditioned by demographic and cultural factors.

To examine the diversity of opinion, we developed three hypotheses around emerging themes in the debate, namely (1) support for trophy hunting differs between Africa and other regions, (2) heightened calls to ban trophy hunting (see Horowitz, 2019) do not reflect African views, and (3) opinions about alternate funding streams to hunting (see Lindsey et al., 2016) differ between Africa and other regions.

2 | METHODS

2.1 | Online survey

To explore social attitudes around trophy hunting in Africa, we designed an online survey that required respondents to state their support (1) for trophy hunting, (2) for blanket import bans on trophies obtained in Africa, and (3) for outside funding of conservation areas set aside for hunting. Information was requested on respondent geographic location, education, and demographic parameters. We limited our survey to 12 questions. We used the free survey platform *Google Forms* (e.g., Kiessling et al., 2019; Saayman et al., 2018).

We attempted to derive an equal sample of responses from people resident in Africa and outside of Africa. All authors used their networks to circulate the survey through email lists within (1) academia, (2) the private and public sector, (3) the nonprofit sector, and (4) the general public (targeted through social media, and flyers posted in urban spaces and University common areas). We requested all respondents to circulate the survey further, thereby helping to increase sample size.

We chose three response variables to assess the respondents' attitudes toward trophy hunting in Africa, *viz.*, point of view on trophy hunting (*HuntingView*), a blanket ban on trophy imports from Africa (*BlanketBan*), and the choice of outside funding (by affluent nations) of the wildlife areas now supported financially by trophy hunting (*OutsideFunding*). We analyzed respondents' views toward regulated hunting with a 5-point Likert scale, asking for a response ranging from "do not support" (1) to "support" (5). Respondents' views on full bans of trophy imports were analyzed through a binary yes/no response. Similarly, the prospect of outside funding was obtained as a yes/no response.

We used demographic and regional groupings, as well as conservation background as predictor variables. We provided three choices to provide information on "*age*" (by decade), "*gender identity*," and "*ethnicity*" following the racial classification system of the United Kingdom Office for National Statistics (https://ons.gov.uk). Respondents could also select their (continental) geographic "*location*." We asked respondents about their employment within, or association with conservation, environmental science,

or wildlife management (*conservationbackground*), and we asked respondents about their educational attainment (*education*) and academic discipline (*edudiscipline*). See Supporting Information for more detail on survey.

2.2 | Analysis of survey data

We received 5721 responses but removed 22 respondents who identified as *nonbinary* (due to the small sample size and because category-merging would be arbitrary) leaving $n = 5699$. The samples across demographic groups are provided in the Supporting Information, and Figure S4 provides the questionnaire.

HuntingView was analyzed using multinomial logistic regression (R package VGAM v1.1-5: (Yee, 2010)). We reduced the number of cells with zero frequencies by recoding the response variable (*HuntingView*) into three categories (i.e., *support/neutral/do not support*) instead of five (the reference category for comparisons was *do not support*). We similarly merged categories within the predictors to reduce zero frequencies: *location* was recoded as four categories (*Africa* (baseline)/*Europe*/*North America*/*Rest of the World* (RoW)), *age* was recoded as the two categories showing greatest differences (*20–29* (baseline)/*30+* years), and *ethnicity* was coded with three categories (*Black* (baseline)/*White/Other+Mixed race*). *Conservationbackground* (baseline: *No*) and *gender* (baseline: *female*) were binary and could not be simplified further.

Exploratory multinomial regressions were computed for main effects and all combinations of interactions, together with log-likelihood tests (to test for a significant reduction in residual deviance: here and elsewhere the significance level was 0.05), calculation of AICs, pseudo-R^2 values, and examination of multicollinearity using generalized variance inflation factors (GVIF) calculated with the R package CAR v3.0-10 (Fox & Weisberg, 2019). This allowed identification of a suitable model. Terms were excluded when they led to singularities in the Hessian matrix or were not significant (when used with other terms). The two "education" predictors were not included as they increased the number of cells with zero frequencies to > 21%, which is not desirable (Tabachnick & Fidell, 2019). This led to five main effects (*location*, *conservationbackgroun*d, *gender*, *age*, *ethnicity*) and four interaction terms (*location*conservationbackground*, *location*gender*, *location*age*, *gender*age*) being included in the final model.

BlanketBan and *OutsideFunding* were analyzed with binary logistic regression (R package *stats* v4.03). The same exploratory approach described for *HuntingView* was used to identify suitable models. The *BlanketBan* model included the five main effects described for *HuntingView* plus the interaction terms *gender*location*, *age*location*, *conservationbackground*location*, *age*gender*, *conservationbackground*gender*, *ethnicity*gender* and *conservationbackground*ethnicity*. The same main effects were included in the *OutsideFunding* model, together with the interaction terms *gender*location*, *conservationbackground*location*, *age*gender*, *ethnicity*gender*. We used similar diagnostic approaches to those for the multinomial regression, as well as Hosmer and Lemeshow tests to investigate model goodness of fit.

3 | RESULTS

3.1 | Trophy hunting view

Over all respondents, 76% supported hunting. The AIC for the favored model containing five main effects and four interaction terms (see Methods) was 6126.7, lower than for the main effects only model (AIC = 6217.9). Pseudo-R^2 values were 0.342 for the Nagelkerke R^2 statistic and 0.216 for the McFadden pseudo-R^2. Squared GVIF (adjusted for degrees of freedom) were close to 1.00 for all predictors (range: 1.06–1.21).

Regional categories within *locality* were significant when compared with *Africa* for both *neutral* and *support* comparisons with the reference category (Figure 1 and Table S2). The exceptions were the *support* response for *N. America*, and neutral response for RoW which did not differ from *Africa*. Odds ratios were < 1 for all significant comparisons which indicated greater support for hunting in *Africa*. Nonetheless, there were significant interactions involving *locality* which take precedence over the main effects. Differences between *gender* categories depended on whether respondents were from *RoW* or *Africa*, with odds ratios of 1.2 (for *neutral* compared to the reference) and 2.5 (for *support* compared to the reference) respectively, that is, divergence between sexes for *RoW* was greater than between sexes for *Africa*. The same effect was detected for *support* in *N. America* where divergence between sexes was greater (odds ratio 1.9) than for *Africa*. The *age*locality* interaction was significant, with differences between *age* categories (for both *neutral* and *support*) being significantly greater in *Europe* than *Africa*. Interaction between age and locality was also significant for *support* for *RoW* versus *Africa*: the odds ratios were > 1 indicating that different age groups had more divergent views for *RoW*.

Conservation background was significant overall: a *support* response was 1.7 times greater among respondents with a conservation background (Table S2). The interaction between *conservationbackground* and *locality*

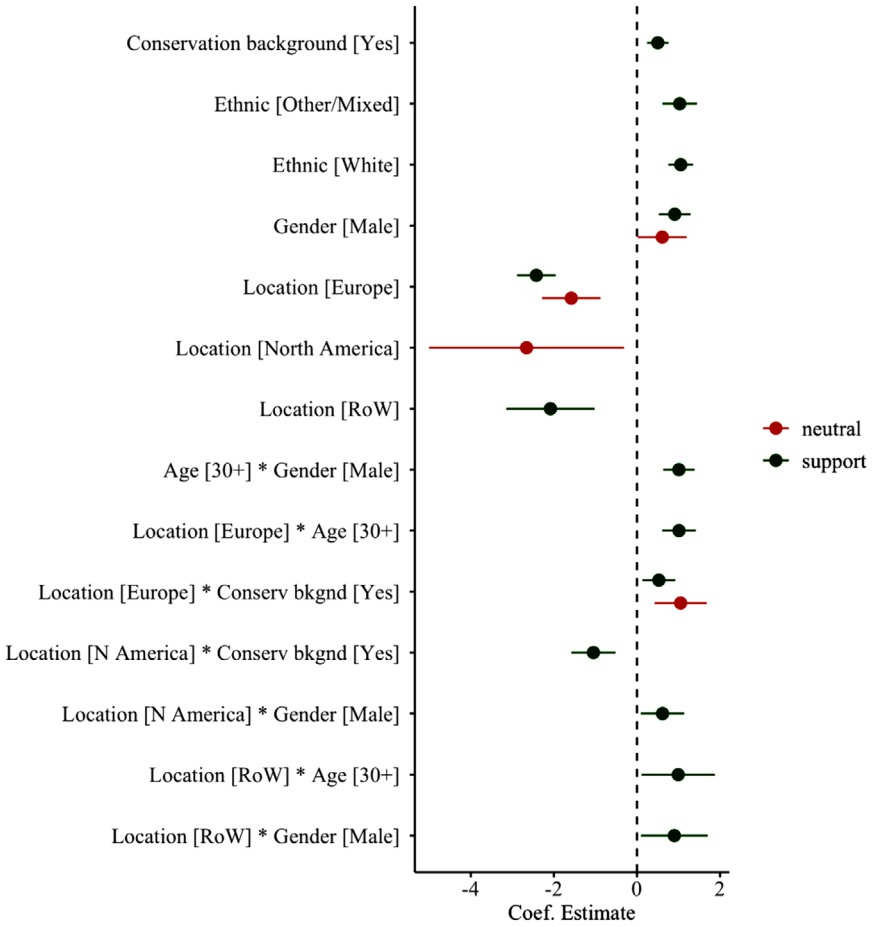

FIGURE 1 Significant coefficients with confidence intervals (95%) for the multinomial logistic regression where the response variable is "*support for trophy hunting in Africa*" (based on a Likert scale with three categories: *agree/neutral/disagree*). The reference category was disagree with coefficients corresponding to the divergence between neutral and support from this reference. Positive coefficients represent a positive deviation from the baseline category(ies) of the predictors. A full table with all results is presented in Table S2

was significant for *Europe* (for both *support* and *neutral* against the reference category) and for *N. America* (for *support* against the reference only). Interestingly, differences between respondents indicating *yes* or *no* for *conservationbackground* were greater in *Europe* and lower in *N. America*, relative to differences between respondents with different conservation backgrounds from *Africa*.

The effect of *gender* was highly significant, but so were its interactions with *locality* (above), and *age* (for *support*). Differences between male and female *support* responses (relative to the reference) were nearly three times greater (odds ratio 2.7) for the older age group, relative to the younger age group, that is, attitudes were more divergent between *male* and *female* in the *30+* category.

There were no differences between ethnic groups in terms of *neutral* responses relative to *do not support*, although respondents from both *White* and *Other+Mixed* ethnic groups showed a higher propensity for *support* relative to *do not support* than *Black* respondents (even though response frequencies revealed generally high support for trophy hunting across all ethnic groups, on average––see Table S1).

3.2 | Import ban on trophies

Over all respondents, 78% opposed an import ban. The AIC for the favored model with seven interactions was 4213.1, substantially lower than the same statistic (AIC = 4292.0) for the main effects only model. A good model fit was identified (Hosmer and Lemeshow test: $X^2_{[7]} = 6.647$, $p = 0.467$), and it was found to explain a very substantial proportion of the variance in the response (Nagelkerke pseudo-$R^2 = 0.431$).

The main effect of locality was significant for both the *RoW* and *Europe*, versus *Africa* (import bans were 4.9 and 7.8 times, respectively, more likely to be supported than in *Africa*) but not for *N. America* (Figure 2 and Table S3). However, interaction terms involving *location* were also significant. There was *gender*location* interaction with differences between genders being greater in *Europe* than in *Africa*, although differences between genders differed significantly less for the corresponding comparison for *N. America*. Similarly, *age*location* interaction indicated less difference between age groups in *Europe*, compared with *Africa*. For *conservationbackground*location*, respondents with different conservation backgrounds were more

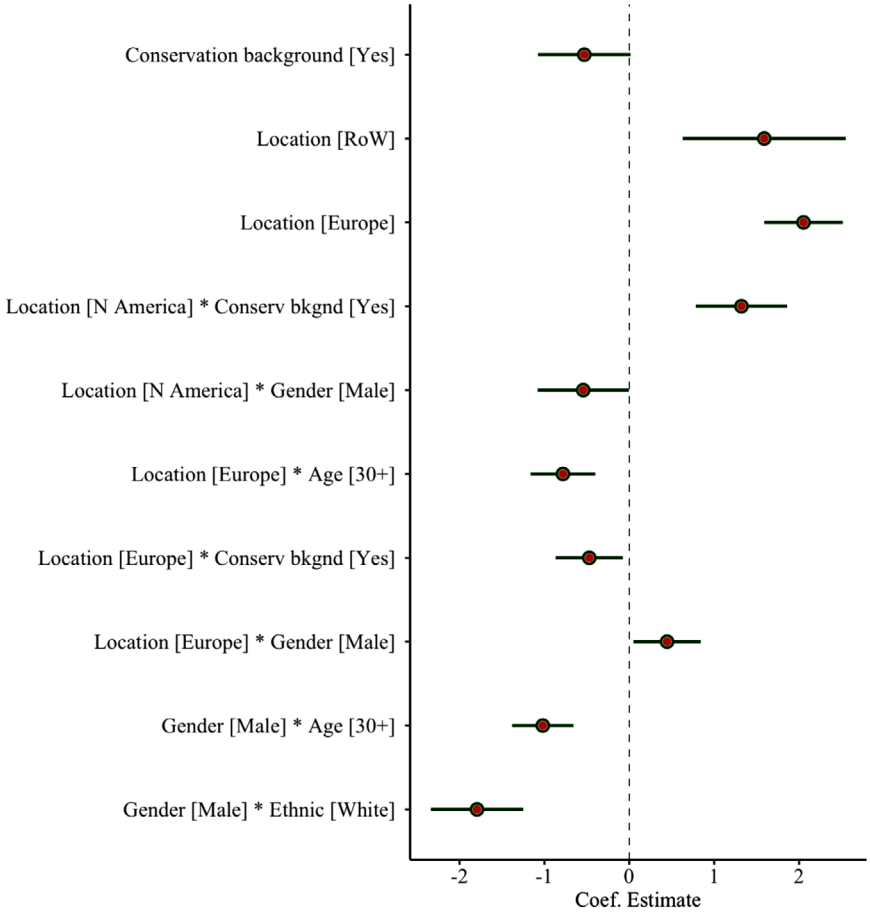

FIGURE 2 Significant coefficients with confidence intervals (95%) for the binomial logistic regression linear on the response variable "*support for a blanket ban on trophy hunting imports*" (*yes/no*). A full table with all results is presented in Table S3

divergent in their views in *N. America*, but less in *Europe*, relative to *Africa*. The difference between age groups differed less for *male* than *female*. Finally, for *ethnicity*gender* interaction, differences between both *White* and *Black* and between *Other+Mixed* and *Black* ethnic groups were smaller for *male* relative to *female*.

3.3 | Outside funding

Over all respondents, 66% supported outside funding. The AIC for the favored model with four interactions was 6510.2, lower than for main effects alone (6536.0). The model fit was good (Hosmer and Lemeshow test: $X^2_{[7]} = 5.935$, $p = 0.547$), while the Nagelkerke pseudo-R^2 statistic was 0.187.

Significant coefficients were obtained for all main effects (Figure 3 and Table S4): *locality* (i.e., lower support for *Outside Funding* for *N. America* compared with *Africa*), *conservationbackground* (greater support for *Yes*), *gender* (greater support for *male*), and *ethnicity* (greater support for *White*). However, several interaction terms were significant and take precedence.

Differences between *conservationbackground* categories were more divergent for *N. America* relative to *Africa* (1.4 times greater). The difference between *male* and *female* categories was smaller for *Europe*, *N. America*, and the *RoW* compared with the *male–female* difference for *Africa*. For the *ethnicity*gender* interaction, differences between *White* and *Black* were smaller for *male* relative to *female*.

4 | DISCUSSION

Location was strongly associated with respondents' attitudes toward trophy hunting; respondents in Africa broadly supported the practice. Age, gender, ethnic group, and conservation background were further associated with respondents' support for trophy hunting, although these factors were typically influenced by location (Figure 1). In Europe, for example, there was substantial divergence by age and gender, but in Africa, these groups had more similar views. Such differences may be cultural. Policy needs to account for diversity to account for imbalance, although we show that views within Africa are less diverse than in some other regions. We note that our online survey likely missed the views of rural African communities, although studies show similar views across age and gender (Angula et al., 2018). Conservation scientists may want to investigate why there is relatively strong African support for

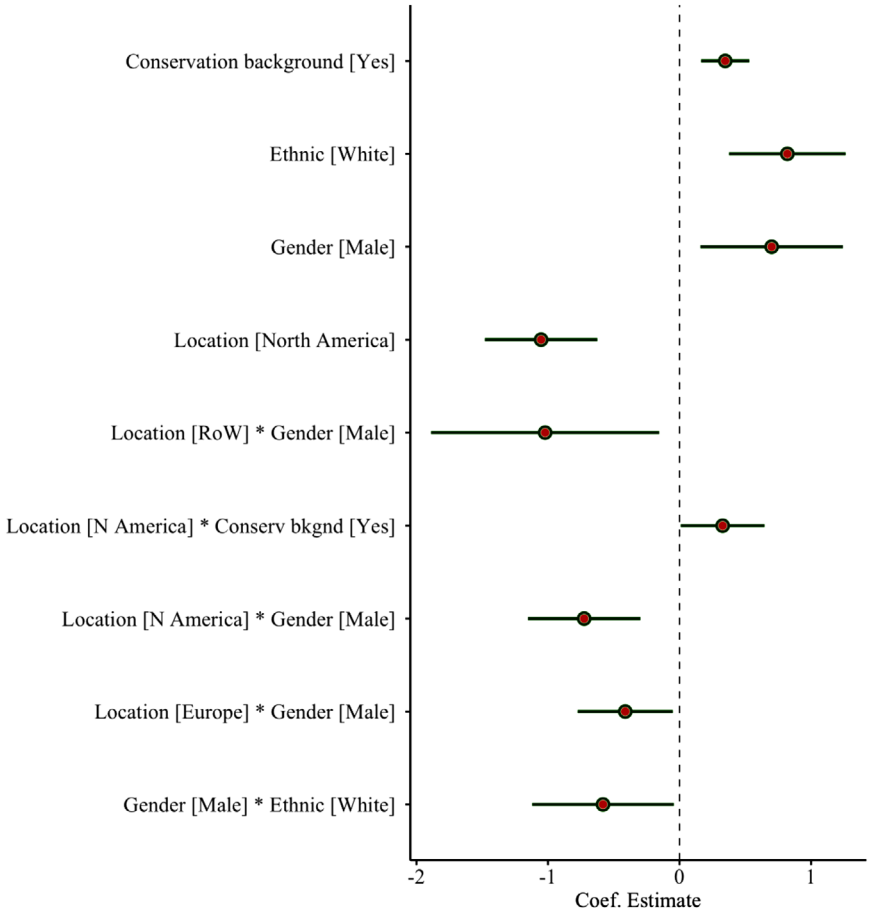

FIGURE 3 Significant coefficients with confidence intervals (95%) for the binomial logistic regression linear on the response variable "*support for outside funding if hunting is phased out*" (*yes/no*). A full table with all results is presented in Table S4

trophy hunting, as a first step in ensuring culturally appropriate policy (see Goldman et al., 2013).

The importance of location is highly significant, particularly as there has been little consideration (to our knowledge) of the implicit bias caused by the most influential opinions originating from outside Africa. Scientists from the Global North have substantial influence; for example, we found that of all scientific papers published on hunting in Africa since 1970, a minority of the authors (~42%) were Africa based (Figures S1–3 and Table S5). African community leaders have notably objected to a lack of inclusion in the hunting debate (Chaukura et al., 2019). Policy on hunting should perhaps be weighted toward African views, given that African rural communities endure the costs of conservation (Jew & Bonnington, 2011).

On blanket bans of trophy imports from Africa (Figure 2), respondents from Europe and RoW again diverged from respondents in Africa (who, in general, were opposed to bans). Despite recent, high-profile calls for blanket bans (Horowitz, 2019), at a global level, only CITES can restrict trade in animal products from endangered species (www.cites.org). At a national level, import bans may be imposed, typically where there is evidence of population decline or mismanagement of hunted species (Casamitjana & Tsang, 2016).

Our survey pertained to bans imposed on taxidermied trophies, not a ban on hunting *per se*. Of interest, Botswana did prohibit trophy hunting in 2014 (now lifted). This impacted the livelihoods of rural communities in negative ways (Blackie, 2019). In 2018, the Botswana Government conducted nationwide consultations with affected rural communities, and there was unanimous opposition to the ban (LaRocco, 2020). Communities are more likely to self-organize to manage natural resources sustainably if those resources have value, and if they have decision-making rights over those resources (Murphree, 2009; Ostrom, 2009). Nonetheless, we note that land tenure insecurities, as seen in government-controlled hunting concessions in Botswana, may impede the involvement of local communities.

We detected African support for outside funding of conservation areas, should hunting be phased out (Figure 3), unlike the divergent North American view which opposed this. Foreign aid for conservation in Africa is already high, but further funding requirements appear inevitable (Lindsey et al., 2020). A caveat is that conservation aid in Africa may be counterproductive (see Bare et al., 2015).

Of note, respondents affiliated with conservation or wildlife management differed in opinion to non-conservationists on all points. Support for hunting among

conservationists may be because they are informed on the debate.

Trophy hunting may be a wicked problem, with no clear-cut solution, that necessitates overcoming inequalities and cultural differences for the best possible outcome (Chan et al., 2020; DeFries & Nagendra, 2017). Our work highlights cultural and geographic differences that need to be incorporated into policy, thereby bringing a multistakeholder perspective to a polarized discussion (see Biggs et al., 2017).

Our online study may not be entirely representative as it was not random, neither geographically nor socioeconomically. Nonetheless, our work has revealed important insights into sentiments toward trophy hunting in Africa. Views on trophy hunting *within* Africa require further investigation, and explicit incorporation into policy.

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AUTHORS' CONTRIBUTIONS

SvH, RPB, and LWT wrote the paper. RPB, LWT, SvH, and TCW conducted analyses. All authors contributed to paper conception.

ETHICS STATEMENT

Human Ethics Permit: 18/NSP/072.

DATA AVAILABILITY STATEMENT

Data available from corresponding author upon reasonable request.

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REFERENCES

Angula, H. N., Stuart-Hill, G., Ward, D., Matongo, G., Diggle, R. W., & Naidoo, R. (2018). Local perceptions of trophy hunting on communal lands in Namibia. *Biological Conservation*, *218*, 26–31.

Bare, M., Kauffman, C., & Miller, D. C. (2015). Assessing the impact of international conservation aid on deforestation in sub-Saharan Africa. *Environmental Research Letters*, *10*, 125010.

Bekessy, S. A., & Wintle, B. A. (2008). Using carbon investment to grow the biodiversity bank. *Conservation Biology*, *22*(3), 510–513.

Biggs, D., Holden, M. H., Braczkowski, A., Cook, C. N., Milner-Gulland, E. J., Phelps, J., Scholes, R. J., Smith, R. J., Underwood, F. M., Adams, V. M., Allan, J., Brink, H., Cooney, R., Gao, Y., Hutton, J., Macdonald-Madden, E., Maron, M., Redford K. H., Sutherland W. J., & Possingham H. P. (2017). Breaking the deadlock on ivory. *Science*, *358*(6369), 1378–1381.

Blackie, I. (2019). The impact of wildlife hunting prohibition on the rural livelihoods of local communities in Ngamiland and Chobe District Areas, Botswana. *Cogent Social Sciences*, *5*, 1558716.

Casamitjana, J. & Tsang, J. (2016). Killing for trophies; An analysis of global hunting trade. https://www.ifaw.org/resources/killing-for-trophies

Chan, K. M. A., Boyd, D. R., Gould, R. K., Jetzkowitz J., Liu J., Muraca B., Naidoo R., Olmsted P., Satterfield T., Selomane O., Singh G. G., Sumaila R., Ngo H. T., Boedhihartono A. K., Agard J., de Aguiar A. P. D., Armenteras D., Balint L., Barrington-Leigh C., …, & Brondízio E. S., (2020). Levers and leverage points for pathways to sustainability. *People and Nature*, *2*, 693–717.

Chaukura, I., Satau, G., Lubilo, R., & Nathinge, H. N. (2019). Communities response (ELetter) to Nowak K. et al. (2019). *Science*, *366*(6464), 434–435. https://doi.org/10.1126/science.aaz4135

DeFries, R., & Nagendra, H. (2017). Ecosystem management as a wicked problem. *Science*, *356*(6335), 265–270.

Di Minin, E., Clements, H. S., Correia, R. A., Cortés-Capano G., Fink C., Haukka A., Hausmann A., Kulkarni R., & Bradshaw C. J. A. (2021). Consequences of recreational hunting for biodiversity conservation and livelihoods. *One Earth*, *4*(2), 238–253.

Di Minin, E., Leader-Williams, N., & Bradshaw, C. J. A. (2016). Banning trophy hunting will exacerbate biodiversity loss. *Trends in Ecology & Evolution*, *31*(2), 99–102.

Dickman, A., Cooney, R., Johnson, P. J., Louis, M. P., & Roe, D. (2019). Trophy hunting bans imperil biodiversity. *Science*, *365*(6456), 874. https://doi.org/10.1126/science.aaz0735

Dickman, A. J., Macdonald, E. A., & Macdonald, D. W. (2011). Biodiversity conservation and poverty traps special feature: A review of financial instruments to pay for predator conservation and encourage human–carnivore coexistence. *Proceedings of the National Academy of Sciences of the United States of America*, *108*(34), 13937–13944.

Festa-Bianchet, M., & Mysterud, A. (2018). Hunting and evolution: Theory, evidence, and unknowns. *Journal of Mammalogy*, *99*(6), 1281–1292.

Fox, J., & Weisberg, S. (2019). *An R companion to applied regression* (3rd ed.). Sage Publications. https://us.sagepub.com/en-us/nam/an-r-companion-to-applied-regression/book246125

Goldman, M. J., de Pinho, J. R., & Perry, J. (2013). Beyond ritual and economics: Maasai lion hunting and conservation politics. *Oryx*, *47*(4), 490–509.

Horowitz, A. (2019). Trophy hunting: A moral imperative for bans. *Science*, *366*(6464), 435-435.

Jew, E., & Bonnington, C. (2011). Socio-demographic factors influence the attitudes of local residents towards trophy hunting activities in the Kilombero Valley, Tanzania. *African Journal of Ecology*, *49*(3), 277–285.

Kiessling, W., Raja, N. B., Roden, V. J., Turvey, S. T., & Saupe, E. E. (2019). Addressing priority questions of conservation science with palaeontological data. *Philosophical Transactions of the Royal Society B-Biological Sciences*, *374*, 20190222.

LaRocco, A. A. (2020). Botswana's hunting ban and the transformation of game-meat cultures, economies and ecologies. *Journal of Southern African Studies*, *46*(4), 723–741. https://doi.org/10.1080/03057070.2020.1773083

Lindsey, P., Allan, J., Brehony, P., Dickman, A., Robson, A., Begg, C., Bhammar, H., Blanken, L., Breuer, T., Fitzgerald, K., Flyman, M., Gandiwa, P., Giva, N., Kaelo, D., Nampindo, S., Nyambe, N., Steiner, K., Parker, A., Roe, D., …, & Tyrrell P. (2020). Conserving Africa's wildlife and wildlands through the COVID-19 crisis and beyond. *Nature Ecology & Evolution*, *4*, 1300–1310.

Lindsey, P. A., Balme, G. A., Funston, P. J., Henschel, P. H., & Hunter, L. T. B. (2016). Life after Cecil: Channelling global outrage into funding for conservation in Africa. *Conservation Letters*, *9*(4), 296–301.

Loveridge, A. J., Searle, A. W., Murindagomo, F., & Macdonald, D. W. (2007). The impact of sport-hunting on the population dynamics of an African lion population in a protected area. *Biological Conservation*, *134*(4), 548–558.

Matseketsa, G., Muboko, N., Gandiwa, E., Kombora, D. M., & Chibememe, G. (2019). An assessment of human–wildlife conflicts in local communities bordering the western part of Save Valley Conservancy, Zimbabwe. *Global Ecology and Conservation*, *20*, e00737.

Muposhi, V. K., Gandiwa, E., Bartels, P., & Makuza, S. M. (2016). Trophy hunting, conservation, and rural development in Zimbabwe: Issues, options, and implications. *International Journal of Biodiversity*, *2016*, 8763980. https://www.hindawi.com/journals/ijbd/contents/year/2016/

Murphree, M. W. (2009). The strategic pillars of communal natural resource management: Benefit, empowerment and conservation. *Biodiversity and Conservation*, *18*(10), 2551–2562.

Naidoo, R., Weaver, L. C., Diggle, R. W., Matongo, G., Stuart-Hill, G., & Thouless, C. (2016). Complementary benefits of tourism and hunting to communal conservancies in Namibia. *Conservation Biology*, *30*(3), 628–638.

Nelson, F., Lindsey, P., & Balme, G. (2013). Trophy hunting and lion conservation: A question of governance? *Oryx*, *47*(4), 501–509.

Newmark, W. D. (2008). Isolation of African protected areas. *Frontiers in Ecology and the Environment*, *6*(6), 321–328.

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

Packer, C., Brink, H., Kissui, B. M., Maliti, H., Kushnir, H., & Caro, T. (2011). Effects of trophy hunting on lion and leopard populations in Tanzania. *Conservation Biology*, *25*(1), 142–153.

Ripple, W. J., Newsome, T. M., Wolf, C., Dirzo, R., Everatt, K. T., Galetti, M., Hayward, M. W., Kerley, G. I., Levi, T., Lindsey, P. A., Macdonald, D. W., Malhi, Y., Painter, L. E., Sandom, C. J., Terborgh J., & Van Valkenburgh B. (2015). Collapse of the world's largest herbivores. *Science Advances*, *1*(4), e1400103.

Saayman, M., van der Merwe, P., & Saayman, A. (2018). The economic impact of trophy hunting in the South African wildlife industry. *Global Ecology and Conservation*, *16*, e00510.

Sibanda, M. (2015). Realms of conservation or "wildlife liberation": A case of Sengwe in Zimbabwe. *Social Dynamics*, *41*, 253–272.

Stormer, N., Weaver, L. C., Stuart-Hill, G., Diggle, R. W., & Naidoo, R. (2019). Investigating the effects of community-based conservation on attitudes towards wildlife in Namibia. *Biological Conservation*, *233*, 193–200.

Tabachnick, B., & Fidell, L. (2019). *Using multivariate statistics* (7th ed.). Boston, MA: Pearson.

Taylor, R. (2009). Community based natural resource management in Zimbabwe: The experience of CAMPFIRE. *Biodiversity and Conservation*, *18*, 2563–2583.

Wanger, T. C., Traill, L. W., Cooney, R., Rhodes, J. R., & Tscharntke, T. (2017). Trophy hunting certification. *Nature Ecology & Evolution*, *1*, 1791–1793.

Yee, T. W. (2010). The VGAM package for categorical data analysis. *Journal of Statistical Software*, *32*, i10. https://www.jstatsoft.org/article/view/v032i10

Young, N. E., Evangelista, P. H., Mengitsu, T., & Leisz, S. (2020). Twenty-three years of forest cover change in protected areas under different governance strategies: A case study from Ethiopia's southern highlands. *Land Use Policy*, *91*, 1044262. 104426.

SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

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