

Patterns of self-reported fear towards large carnivores among the Norwegian public.

Arne Krogstad: essay for Wildlife Ecology course

Introduction

The article I read was written by Eivind Røskoft, Tore Bjerke, Bjørn Kaltenborn, John D.C. Linnell and Reidar Andersen. All of them are either from Department of Biology at Norwegian University of Science and Technology, or Norwegian Institute for Nature Research in Lillehammer or Trondheim. The purpose of their work is to make a pattern of self-reported fear of four large carnivore species among a representative sample among the Norwegian population. These four species are brown bears, wolves, lynx and wolverines. They also wanted to develop an educational program to help people learn about the biology and the habits of the large carnivores, and to make people gain first-hand outdoor experience in areas with large carnivores. To be able to develop an educational program like this, they had to find out which group of people who needed it the most.

Methods

They decided to use a survey to collect their data and recruited people by telephone. 3500 people were asked to participate, and an additional 800 people living in environment where large carnivores exist were also recruited. So a total of 4300 people of and age of 15 years old or older participated in this survey. All the respondents got a letter and were asked to answer the questions in the best way as possible, and then return the letter as soon as possible. An amazing 73% of the recruited persons completed and returned the questionnaire. The questions they had to answer were related to many things, like outdoor activity, basic values in life, their opinion about acceptable population size and distribution of the large carnivores (brown bear, wolf, lynx and wolverine). Also education, age, sex, where they live (city, town, in an area with one (or several) large carnivore in the environment etc.), acceptable behaviour of these animals and at last their own fear for some species, were important factors. Specifically, this analysis they presented here are focused on responses to the following question:

“To what degree would you say you are afraid of the following animals?”

The list of possible answers included 12 species, including bear, wolf, lynx, and wolverine. The answer options were “not afraid”, “a little afraid”, “very much afraid”, and “don’t know”. Very few respondents selected the last option, so they simply ignored this alternative in their result.

The Results

Self-reported fear, carnivore species, sex and age

From table 1, we can clearly see that women professed to be more afraid of all four carnivores than men did. There were also significant differences in frequencies of self-reported fear among the different age groups for all four carnivore species. The proportion “very much afraid” increased with age for three carnivores, but not for lynx.¹

¹Student essays. http://www.behav.org/Student_essay/

Table 1
Percentage of respondents reporting different levels of fear of bears, wolves, lynx, and wolverines by sex and age group

		Age groups (years)												<i>P</i> , ordinal test (rho)
		15–24		25–34		35–44		45–54		55–64		65+		
		Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	
Bears	not afraid	3	17	3	11	5	17	5	11	4	13	2	8	< .001
	a little afraid	34	47	34	50	31	49	18	46	21	46	16	41	
	very much afraid	64	36	64	39	64	34	76	42	76	41	82	51	
Wolves	not afraid	6	30	7	18	10	24	5	16	6	19	3	11	< .001
	a little afraid	35	48	33	48	28	51	27	53	25	52	13	43	
	very much afraid	59	22	60	34	63	25	67	31	69	30	85	46	
Lynx	not afraid	15	43	15	42	19	55	19	53	16	54	13	40	< .645
	a little afraid	49	42	48	44	45	35	42	38	43	35	30	38	
	very much afraid	36	15	37	14	36	9	39	9	41	10	57	22	
Wolverines	not afraid	19	39	21	38	20	49	17	45	18	52	16	39	< .016
	a little afraid	57	57	57	55	50	46	52	46	41	38	33	46	
	very much afraid	24	4	22	7	30	5	30	9	41	10	51	15	

There were 2697–2921 respondents for each carnivore species. The ordinal tests indicate differences between age groups.

Reported fear in areas with or without large carnivores

Table 2 shows us the comparison between rural respondents who reported that one or more of the species lived in their home area, and rural respondents who reported that none did so. The proportion “very much afraid” of large carnivores was in three of four cases (except wolves) lower in areas with large carnivores than in areas without. With decreasing size of the community, respondents were significantly less likely to be “very much afraid” and more likely to be “not afraid” for lynx and wolverines, but no such effects of community size were found for bears or wolves.

Table 2
Percentage of respondents reporting different levels of fear of bears, wolves, lynx, and wolverines in relation to the size of their community and in relation to whether they live in areas with (one or more) carnivore species or in areas with none

		Community size (number of inhabitants)					Small communities		<i>P</i> , ordinal test (rho)	
		>40,000	10,000–	3000–	500–	<500	With carnivores	Without carnivores	Community size	Small communities
			40,000	10,000	3000					
Bears	not afraid	7	7	6	10	10	12	8	< .052	< .001
	a little afraid	36	36	38	38	36	39	35		
	very much afraid	57	57	56	52	54	49	57		
Wolves	not afraid	12	12	11	15	13	16	13	< .268	< .487
	a little afraid	42	42	39	37	36	35	37		
	very much afraid	47	45	51	49	52	50	50		
Lynx	not afraid	29	31	28	35	40	41	35	< .001	< .014
	a little afraid	41	44	43	43	37	39	40		
	very much afraid	30	25	29	22	23	20	24		
Wolverines	not afraid	28	31	28	32	40	40	34	< .001	< .008
	a little afraid	52	50	52	51	41	45	45		
	very much afraid	21	20	20	17	19	16	21		

Only areas with fewer than 3000 inhabitants are included in this sample. There were 2723 < *N* < 2905 respondents for each carnivore species in the total sample and 1304 < *N* < 1399 respondents for the subsample comparing small communities with or without carnivores. The ordinal tests indicate differences between community groups.

Student essays. http://www.behav.org/Student_essay/

This page was created by Open Office free software. <http://www.openoffice.org/>

Fear and outdoor activities (small game hunting, mountain hiking, berry picking)

People which participated in small game hunting reported that they weren't "very much afraid" of all four species. They also reported "not afraid" more frequently, than those who were less interested in small game hunting. The same appeared to be true for those people which were interested vs. those who weren't interested in mountain hiking. There was also a significant relationship between being interested in picking berries and being "very much afraid" or "not afraid" of wolves, but no such relationship was found for the other carnivore species. All this is shown in table 3.

Table 3

Percentage of respondents reporting different levels of fear of bears, wolves, lynx, and wolverines in relation to their interest in small game hunting (a), berry picking (b), or mountain hiking (c)

		Uninterested			Neither–nor			Interested			Ordinal test (rho)
		a	b	c	a	b	c	a	b	c	
Bears	not afraid	6	8	7	7	9	6	16	8	9	$P_b = .067$
	a little afraid	32	39	29	42	39	39	50	35	37	
	very much afraid	62	53	64	51	51	55	34	57	54	
Wolves	not afraid	10	14	9	10	13	12	23	12	14	$P_b = .378$
	a little afraid	37	43	33	40	42	41	46	36	40	
	very much afraid	53	42	58	50	45	47	31	52	47	
Lynx	not afraid	26	35	28	34	31	30	58	33	35	$P_b = .288$
	a little afraid	44	40	37	42	45	42	32	40	41	
	very much afraid	30	25	35	24	24	28	10	27	23	
Wolverines	not afraid	26	31	26	32	34	31	53	32	34	$P_b = .288$
	a little afraid	51	51	47	53	49	52	39	47	48	
	very much afraid	23	18	27	15	17	18	8	21	18	

There were 2673 <math>N < 2926</math> respondents for each carnivore species. Differences between those that reported different interest levels were tested for each carnivore species with ordinal tests ($P < .001$ unless otherwise stated).

Fear and education

There also seemed to be a close relationship between reduced tendency to be "very much afraid" and increased tendency to be "not afraid" of the four carnivore species with increasing education level. That means that higher educated peoples don't fear large carnivores as much as lower educated peoples do.

Table 4

Percentage of respondents reporting different levels of fear of bears, wolves, lynx, and wolverines in relation to their education level

		Education level			N	P, ordinal test (rho)
		Primary school	High school	College/university		
Bears	not afraid	7	9	9	2868	<.001
	a little afraid	29	37	41		
	very much afraid	65	55	50		
Wolves	not afraid	12	13	13	2865	<.001
	a little afraid	30	37	46		
	very much afraid	58	50	41		
Lynx	not afraid	28	33	37	2841	<.001
	a little afraid	39	41	43		
	very much afraid	33	27	20		
Wolverines	not afraid	28	33	34	2692	<.001
	a little afraid	46	49	50		
	very much afraid	26	19	16		

The ordinal tests indicate differences between education groups.

Conclusion

They have shown that Norwegians are more afraid of bears than of the other three large carnivore species and in general, are most afraid of the largest and most dangerous species: 57% reported that they were “very much afraid” of bears, and 48% said the same for wolves. The level of self-reported fear is surprisingly high in some groups, compared to previous studies. Most feared is the brown bear and the wolf. That maybe have an easy explanation, because both bears and wolves have been reported to kill humans.

This study have also shown that many factors can affect people’s self-reported fear of wild carnivores in Norway.

Generally, women, the elderly, persons with less formal education, and rural inhabitants have, in previous studies, expressed more negative attitudes towards large carnivores. In this study, women in all age classes expressed more fear of the carnivores than men.

The article i read didn’t state how they could develop an educational program to reduce the fear among the Norwegian population towards the large carnivores. If i can draw a conclusion, it seems like the knowledge form large carnivores among the Norwegian people isn’t too good. I think a good idea would be to develop an educational program which can be used in the schools in Norway. Im speaking about my own experience, and I must admitt that the schools in Norway doesn’t focus very much on the large carnivores we have in our country. I see them as a recourse for our country, and we have to protect them. At least hunting them down is forbidden, and that is a good thing. Anyway there are some occurrences of illega hunting. So a wider knowledge about those animals is the key to reducing the fear among the population.

I have always been interested in our large carnivores. Nevertheless im born in the ctity of Trondheim, and spent all my life there. But i find this animals very facinating.

References

Evolution and Human Behavior (2003)

Patterns of self-reported fear towards large carnivores among the Norwegian public, by

Røskaft, Bjerke, Kaltenborn, D.C. Linnell, Andersen