2014

Gender in Conservation: Comparing the Effectiveness of Fines and Empathy Nudging

Natalia V. Czap
University of Michigan - Dearborn, nczap@umich.edu

Hans J. Czap
University of Michigan - Dearborn, hczap@umich.edu

Gary D. Lynne Prof
University of Nebraska-Lincoln, GLYNNE1@UNL.EDU

Mark E. Burbach
University of Nebraska-Lincoln, mburbach1@unl.edu

CORNHUSKER ECONOMICS

University of Nebraska–Lincoln Extension

January 15, 2014

Institute of Agriculture & Natural Resources
Department of Agricultural Economics
http://agecon.unl.edu/cornhuskereconomics

Gender in Conservation: Comparing the Effectiveness of Fines and Empathy Nudging

Market Report	Yr Ago	4 Wks Ago	1/10/14
Livestock and Products, Weekly Average			
Nebraska Slaughter Steers, 35-65% Choice, Live Weight	$ +	$130.41	$140.46
Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb.	173.83	198.37	211.23
Nebraska Feeder Steers, Med. & Large Frame 750-800 lb.	151.36	169.83	172.88
Choice Boxed Beef, 600-750 lb. Carcass	193.81	201.32	210.00
Western Corn Belt Base Hog Price Carcass, Negotiated	82.30	78.43	77.18
Pork Carcass Cutout, 185 lb. Carcass, 51-52% Lean	83.42	88.81	83.33
Slaughter Lambs, Ch. & Pr., Heavy, Wooled, South Dakota, Direct	107.75	155.87	159.00
National Carcass Lamb Cutout, FOB	299.16	355.63	368.54
Crops, Daily Spot Prices			
Wheat, No. 1, H.W. Imperial, bu.	7.42	6.32	5.96
Corn, No. 2, Yellow Nebraska City, bu.	7.22	4.18	4.21
Soybeans, No. 1, Yellow Nebraska City, bu.	13.78	12.90	12.86
Grain Sorghum, No. 2, Yellow Dorchester, cwt.	11.96	7.18	7.30
Oats, No. 2, Heavy Minneapolis, MN , bu.	3.81	3.75	4.21
Feed			
Alfalfa, Large Square Bales, Good to Premium, RFV 160-185 Northeast Nebraska, ton	247.50	225.00	+
Alfalfa, Large Rounds, Good Platte Valley, ton	230.00	135.00	130.00
Grass Hay, Large Rounds, Good Nebraska, ton	212.50	115.00	107.50
Dried Distillers Grains, 10% Moisture, Nebraska Average	270.00	224.00	177.50
Wet Distillers Grains, 65-70% Moisture, Nebraska Average	103.50	62.50	62.50

+ No Market

Environmental policies representing traditional economic framing are typically designed using predicted behavior of a representative consumer, without consideration of personality differences. The experience of the business community suggests, however, that accounting for individual differences (heterogeneity) cannot only give better understanding, but perhaps help in nudging individuals' toward more environmentally friendly decisions. In this article we consider one aspect of such differences – gender.

Laboratory and field studies on various economic and environmental contexts demonstrate that gender is often a significant and economically relevant correlation with behavior: women have been shown more likely to report higher environmental concern, to share common pool resources and have a greater capacity to be empathetic with others. We further explored these findings in the context of downstream water pollution. We wanted to investigate if there are gender differences in behavior when it comes to the ownership of property, the response to fines and to empathy nudging.

In one of our experiments conducted at the Experimental and Behavioral Economics Laboratory at the University of Nebraska-Lincoln, we analyzed the difference between environmental and sharing behavior of men and women. Out of 432 participants (both student and non-student residents of Lincoln), 51 percent were female. We used a framed laboratory experiment representing a downstream water pollution situation with two players: Upstream Farmer (UF) and Downstream Water User (DWU). Depending on the treatment, we assigned the property rights on land to UF or DWU. The property rights owner decided how much land to place under conservation. The more land under conservation,

the lower the chemical runoff and soil erosion, and thus the higher the quality of drinking water in the rivers and lakes downstream. Conservation is costly for UF, so DWU could compensate UF for that extra expense. We also varied the type of feedback the non-property rights owner could send to the property rights owner: no feedback, impose a monetary fine, or use emotional feedback (emoticon frowney/sad face) to nudge for empathy.

The results showed that men were more likely than women to receive one frowney, while women were more likely than men to receive two frowneys (Figure 1). That is, men tend to either do badly on conservation tillage (CT) or on the transfer, receiving frowneys more often than women. As compared to emotional feedback, fines were applied a little bit more reluctantly. Overall, male property right owners received fines more often than females. This was driven by both more sharing and higher conservation levels being chosen by females (Figure 2).

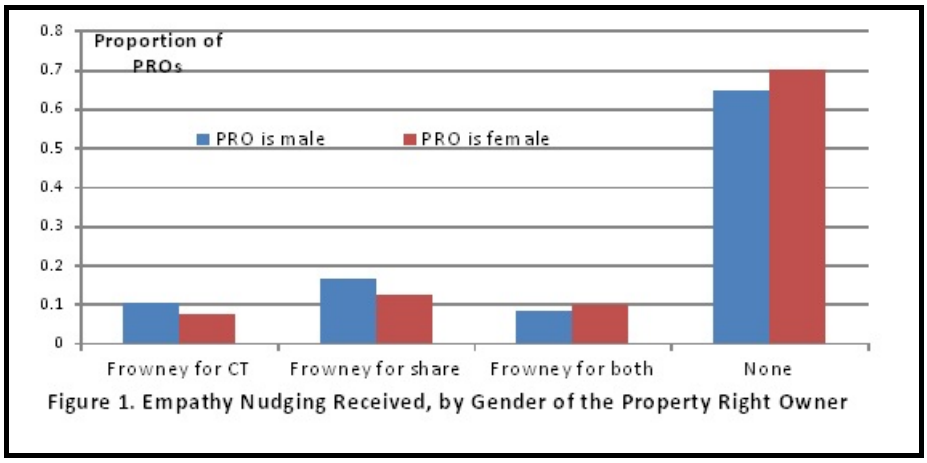

Figure 1. Empathy Nudging Received, by Gender of the Property Right Owner

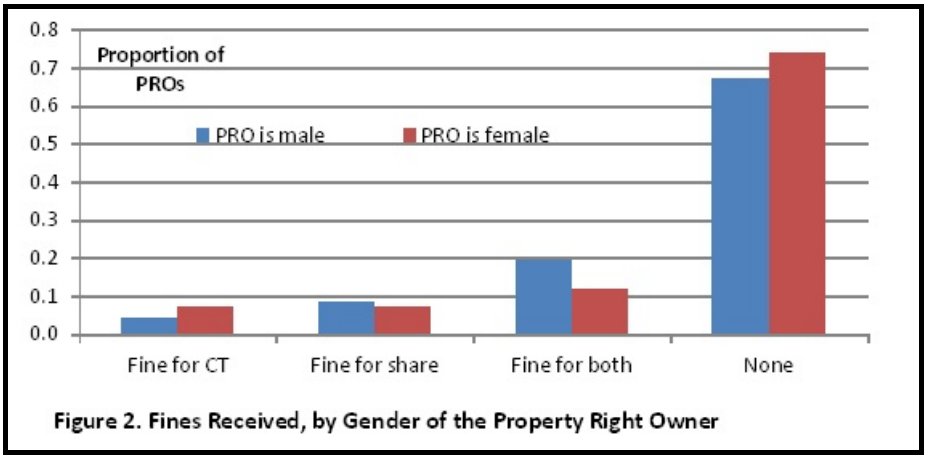

Figure 2. Fines Received, by Gender of the Property Right Owner

Generally, we found that imposing monetary fines is counterproductive, no matter the gender, as it decreases environmentally friendly behavior. This contradicts the traditional economic perspective which assumes that fines will result in less environmental damage. Behavioral economics offers two possible explanations. The first explanation is that individuals do not like being fined or punished, get upset and take revenge. The second explanation is that the fine changes the focus from intrinsic motivation to protect the environment to a purely pecuniary dimension, and hence, may cause subjects to disregard the environmental impact. This finding suggests that imposing fines is not an effective environmental policy.

The same cannot be said about threatening to impose a fine. Females in the position of the DWU are much more responsive to the threat of monetary fines and behave more environmentally friendly. Females are also more significantly affected by empathy nudging than their male counterparts. We also find that if the property rights are assigned to DWUs, no matter the gender, this leads to higher levels of conservation, and to more sharing and equitable payoff outcomes for both parties involved. This calls for a greater customization of environmental policy to recognize heterogeneity, thus appealing to different genders and personalities. Heterogeneity also points to introducing empathy nudging as an instrument to move people towards more conservation behavior.

This research was funded by a USDA grant (Award #2012-70002-19387). Special thanks to University of Nebraska-Lincoln students Shannon Moncure and Stephanie Kennedy for their assistance in conducting the experiment.

Dr. Natalia V. Czap
Department of Social Sciences (Economics)
University of Michigan-Dearborn
nczap@umich.edu

Dr. Hans J. Czap
Department of Management
University of Michigan-Dearborn
hczap@umich.edu

Dr. Gary D. Lynne, (402) 472-8281
Department of Agricultural Economics
and School of Natural Resources
University of Nebraska-Lincoln
glynne1@unl.edu

Dr. Mark E. Burbach
School of Natural Resources
University of Nebraska-Lincoln
mburbach1@unl.edu