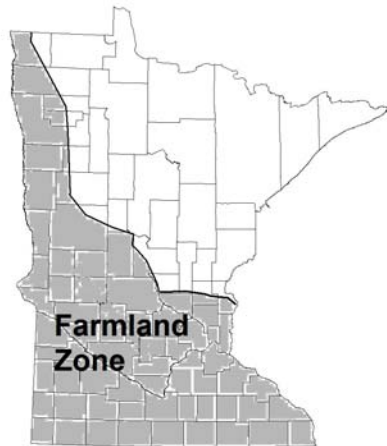


Small Game Hunter Lead Shot Communication Study



Appendices

A cooperative study conducted by:

Minnesota Cooperative Fish and Wildlife Research Unit
Minnesota Department of Natural Resources

Small Game Hunter Lead Shot Communication Study

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Appendix A: Methodology

Introduction

Study Purpose and Objectives

In a recent report to the Minnesota Department of Natural Resources, the Nontoxic Shot Advisory Committee (NSAC) agreed that further restrictions on the use of lead shot are inevitable at some future time. While no consensus on specific regulations was reached, the NSAC did agree that more restrictive regulations on the use of lead shot in shotgun hunting are warranted. Five viable options were identified as deserving further consideration. Currently, there is potential legislation that would restrict the use of lead shot on public and/or private land in the farmland/prairie zone of Minnesota in the next few years.

The NSAC recognized that for more restrictive regulations to be implemented successfully, the impacted public must be well-informed and accepting of such regulations. The purpose of this study was to provide information about small game hunter perceptions and knowledge of using toxic/non-toxic shot and help identify appropriate message points for information and education programs addressing the issue of restricting the use of lead shot. Specific objectives of this study were to:

1. Identify levels of use of lead and non-toxic shot in the farmland zone by small game hunters;
2. Identify attitudes toward restrictions on toxic shot;
3. Identify support/opposition for restrictions on the use of toxic shot;
4. Identify the key beliefs affecting attitudes toward restrictions on toxic shot;
5. Identify the influence of conservation/stewardship values in shaping attitudes and beliefs about restricting the use of toxic shot;
6. Develop and test the effectiveness of targeted messages in changing attitude, beliefs, and behaviors concerning restrictions on the use of toxic shot.

These appendices relate to the sixth objective.

Methods

Treatments

Based on a review of the literature on persuasive messaging, we developed one control and nine treatment messages (Appendix B). Previous research suggested that more persuasive messages might include those that: (a) were validated by a respected source, (b) used aligned descriptive and injunctive norms, (c) used narrative messages rather than statistical or factual ones, (d) used qualifiers when message recipients were predisposed to counter-argue a claim, (e) expressed personal values, or (f) activated social and/or personal norms (Areni, 2003; Cialdini, 2003; Eisend, 2007; Hullett & Boster, 2001; Paracchio & Meyers-Levy, 1997; Pechmann, 1990; Polyorat, et al., 2007; Weber et al., 2006). Therefore, we developed messages including: (a) control message, (b) basic factual message, (c) basic factual message with declarative statement from the Minnesota Department of Natural Resources, (d) basic factual message with concession question, (e) basic factual message with a qualifier statement, (f) value-expressive message, (g) social-adjusive message with aligned norms, (h) social-adjusive message with non-aligned norms, (i) third-person narrative message, and (j) first-person narrative message.

Sampling

The population of interest in this study included all Minnesota residents who hunt small game. The sampling frame used to draw the study sample was the Minnesota Department of Natural Resource's

(DNR) Electronic Licensing System (ELS). A random sample of Minnesota resident small game hunters in the ELS was drawn. The initial study sample included 4,800 individuals. The sample was divided into a control group and nine treatment groups. The control communication and survey was mailed to 1,200 people and each of the nine treatment communications with surveys was distributed to 400 people. The target sample size was $n = 300$ for the control and $n = 100$ for each of the treatments. ($n = 1,200$ overall).

Data Collection

Data were collected using a mail-back survey generally following a process outlined by Dillman (2000). We constructed a relatively straightforward questionnaire and created personalized cover letters describing the purpose of the study. Potential study respondents were contacted once in January 2008. Business-reply envelopes were included in the mailing. We made only one contact with potential respondents to minimize the influence of outside information and dosage effects to the persuasive messages on reported attitudes.

Survey Instrument

The data collection instrument was an 8-page self-administered survey with the control or treatment communication on the cover page, 5 pages of questions, a page for comments, and contact information on the back cover (Appendix C). The questionnaire addressed the following topics:

- Message quality,
- Narrative versus factual nature of the message,
- Message involvement,
- Evaluation of the message,
- Likelihood of supporting a ban on lead shot in the Minnesota farmland zone,
- Agreement with message recommendations, outcome involvement, and behavioral intentions,
- Importance of values associated with conformity and freedom, and
- Background hunting small game.

Data Entry and Analysis

Data were keypunched and the data were analyzed on a PC using the Statistical Program for the Social Sciences (SPSS for Windows 15.0). We computed basic descriptive statistics and frequencies for the overall results and by treatment. Treatments were compared using one-way analysis of variance and cross-tabulations.

Several statistics presented in the report are used to show the association between variables. Pearson product moment correlations are used to show the linear relationship between two measured (interval-level) variables. Pearson correlations range from -1.0 (perfect negative association) to 1.0 (perfect positive association), with 0 indicating no linear association (Norusis, 2002). The chi-square statistic is used to test whether two categorical variables are independent. The chi-square statistic is not a good measure of association (Norusis, 2002), so the Cramer's V statistic is provided to show the strength of the relationship. Values for Cramer's V range from 0.0 (no association) to 1.0 (perfect association) (Norusis, 2002). Analysis of variance (ANOVA) is used to test hypotheses about differences in two or more population means (Norusis, 2002). In this report ANOVA is used to compare: (a) the means of measured (interval-level) variables based on one multiple-category (polytomous) variable, or (b) the means of multiple interval-level variables. ANOVA produces the F ratio. Large values for the F ratio indicate that the sample means vary more than you would expect (Norusis, 2002). The Games-Howell post-hoc test is used associated with ANOVA to compare multiple means. Toothaker (1993) recommends using the

Games-Howell post-hoc test over other tests for the situation of unequal (or equal) sample sizes and unequal or unknown variances. The correlation ratio (η) is calculated for one-way ANOVA calculations in this report, to indicate the strength of the relationship. Like the Cramer's V statistic, η ranges from 0.0 (no association) to 1.0 (perfect association) (Norusis, 2002).

Scales of multiple items (i.e. questions) were included in the survey to measure constructs like message involvement. The reliability of items that make up a scale indicates the extent to which the scale yields consistent results over repeated observations (Eagly and Chaiken, 1993). Other ways of thinking about the reliability of a measure are: (a) "the extent to which it is free from random error" (Eagly and Chaiken, 1993, p. 64), or (b) "how well scores on the measuring instrument correlate with themselves" (Eagly and Chaiken, 1993, p. 64). We use Cronbach's alpha (α) to report the reliability of the scales in this report.

Survey Response Rate

Of the 4,800 questionnaires mailed, 106 were undeliverable, one was sent to a deceased person, and 12 were sent to people who had moved out of the state. Of the 4,694 remaining surveys, a total of 2,127 were returned before the cut-off date for response, resulting in an overall response rate of 45.4%. An additional 184 surveys were returned after the cut-off date for a total response rate of 49.4%. Surveys were collected through March 28, 2008. Response rates for the different treatments are summarized in Table I-1.

Table I-1: Response rates by treatment

	Initial sample size	Number invalid	Valid sample size	Number of full surveys returned	Response rate %	Number of late surveys returned	Total surveys returned	Total response rate %
Control	1,200	30	1,170	541	46.2%	45	586	50.1%
Treatment 1	400	13	387	163	42.1%	18	181	46.8%
Treatment 2	400	12	388	186	47.9%	15	201	51.8%
Treatment 3	400	11	389	170	43.7%	13	183	47.0%
Treatment 4	400	10	390	168	43.1%	17	185	47.4%
Treatment 5	400	5	395	183	46.3%	13	196	49.6%
Treatment 6	400	9	391	204	52.2%	20	224	57.3%
Treatment 7	400	5	395	168	42.5%	11	179	45.3%
Treatment 8	400	10	390	175	44.9%	15	190	48.7%
Treatment 9	400	14	386	169	43.8%	17	186	48.2%
Total	4,800	119	4,681	2,127	45.4%	184	2,311	49.4%

Appendix B: Tables of Survey Results

Section 1: Message Quality

Respondents agreed slightly that all messages, including the control message, were (a) believable (Table 1-1), (b) convincing (Table 1-2), (c) compelling (Table 1-3), (d) logical (Table 1-4), and (e) conveyed in a straightforward way (Table 1-6). Respondents disagreed slightly that the reasoning in the messages was unsound (Table 1-5). There were significant differences in the mean rating of message quality for all items. Through post-hoc analysis, we found that the control message was rated significantly less believable, convincing, compelling, logical and using reasoning that was more unsound.

Based on research conducted by Hullett & Bolster (2003), we constructed a scale of message quality, which included whether the message was believable, convincing, compelling, and logical ($\alpha = 0.941$). Using this scale we found that the control message had significantly lower message quality, while the basic factual, aligned social-adjustive message, non-aligned social-adjustive message, and first-person narrative message had higher message quality.

Section 1: Message Quality

Table 1-1: The message is believable.

	N	Extremely disagree	Quite disagree	Slightly disagree	Neutral	Slightly agree	Quite agree	Extremely agree	Mean
Control	518	7.7%	9.1%	8.7%	13.5%	18.0%	32.2%	10.8%	4.65 ^a
Basic	158	5.1%	5.7%	7.6%	7.0%	19.0%	40.5%	15.2%	5.11 ^{ab}
DNR declaration	180	7.2%	8.3%	6.1%	10.0%	18.3%	36.1%	13.9%	4.88 ^{ab}
Concession question	159	2.5%	9.4%	9.4%	8.2%	15.1%	38.4%	17.0%	5.07 ^{ab}
Qualifier	161	6.8%	9.3%	6.2%	6.2%	15.5%	39.8%	16.1%	4.98 ^{ab}
Value expressive	177	10.7%	7.9%	7.9%	6.8%	19.2%	33.9%	13.6%	4.72 ^{ab}
Social adjustive – norms aligned	197	5.6%	7.1%	6.6%	8.6%	15.7%	40.1%	16.2%	5.07 ^{ab}
Social adjustive – norms not aligned	163	3.1%	4.3%	5.5%	12.9%	20.2%	39.3%	14.7%	5.20 ^b
3 rd person narrative	170	5.9%	5.3%	6.5%	9.4%	19.4%	41.8%	11.8%	5.04 ^{ab}
1 st person narrative	165	4.8%	8.5%	7.9%	9.1%	13.9%	38.8%	17.0%	5.03 ^{ab}
	$\chi^2=59.298$ n.s.; Cramer's V = 0.069								F=2.848** $\eta=0.111$

n.s. = not significant, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Table 1-2: The message is convincing.

	N	Extremely disagree	Quite disagree	Slightly disagree	Neutral	Slightly agree	Quite agree	Extremely agree	Mean
Control	513	7.4%	11.5%	11.9%	20.1%	19.1%	22.2%	7.8%	4.30 ^a
Basic	158	7.0%	6.3%	8.9%	11.4%	21.5%	32.9%	12.0%	4.81 ^b
DNR declaration	177	9.0%	7.9%	9.0%	14.7%	18.6%	27.7%	13.0%	4.61 ^{ab}
Concession question	159	5.7%	8.2%	8.8%	12.6%	21.4%	31.4%	11.9%	4.78 ^{ab}
Qualifier	161	8.7%	6.2%	9.9%	9.3%	18.0%	36.6%	11.2%	4.76 ^{ab}
Value expressive	177	9.6%	10.2%	8.5%	12.4%	17.5%	30.5%	11.3%	4.55 ^{ab}
Social adjustive – norms aligned	196	5.6%	8.7%	4.6%	16.8%	15.8%	36.2%	12.2%	4.86 ^b
Social adjustive – norms not aligned	163	2.5%	3.7%	9.2%	17.2%	28.2%	30.7%	8.6%	4.91 ^b
3 rd person narrative	168	5.4%	4.8%	11.9%	15.5%	23.2%	28.6%	10.7%	4.75 ^{ab}
1 st person narrative	164	4.3%	11.0%	4.3%	11.0%	26.8%	31.1%	11.6%	4.85 ^b
	$\chi^2=96.389$ ***; Cramer's V = 0.089								F=3.926*** $\eta=0.131$

n.s. = not significant, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Section 1: Message Quality

Table 1-3: I find the message to be compelling.

	N	Extremely disagree	Quite disagree	Slightly disagree	Neutral	Slightly agree	Quite agree	Extremely agree	Mean
Control	510	9.4%	10.8%	9.6%	30.4%	17.5%	14.9%	7.5%	4.10 ^a
Basic	154	7.8%	7.8%	6.5%	24.0%	22.7%	18.8%	12.3%	4.52 ^{ab}
DNR declaration	178	7.9%	7.3%	8.4%	23.6%	21.9%	20.2%	10.7%	4.48 ^{ab}
Concession question	160	5.0%	13.1%	7.5%	25.0%	18.8%	23.1%	7.5%	4.39 ^{ab}
Qualifier	160	9.4%	6.9%	11.9%	18.8%	18.1%	23.8%	11.3%	4.46 ^{ab}
Value expressive	177	10.2%	10.7%	7.3%	23.7%	20.9%	18.1%	9.0%	4.25 ^{ab}
Social adjustive – norms aligned	196	5.6%	10.2%	7.1%	26.0%	19.9%	21.9%	9.2%	4.47 ^{ab}
Social adjustive – norms not aligned	160	3.8%	7.5%	8.8%	24.4%	27.5%	21.3%	6.9%	4.56 ^b
3 rd person narrative	169	7.1%	7.7%	11.2%	25.4%	19.5%	21.9%	7.1%	4.37 ^{ab}
1 st person narrative	164	7.9%	7.9%	7.3%	22.0%	20.1%	25.6%	9.1%	4.52 ^{ab}
	$\chi^2=59.362$ n.s.; Cramer's V = 0.070								F=2.249* $\eta=0.100$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Table 1-4: The message seems logical.

	N	Extremely disagree	Quite disagree	Slightly disagree	Neutral	Slightly agree	Quite agree	Extremely agree	Mean
Control	509	9.0%	10.6%	8.1%	12.8%	22.0%	26.7%	10.8%	4.51 ^a
Basic	156	7.1%	5.1%	6.4%	7.7%	15.4%	34.6%	23.7%	5.18 ^{ab}
DNR declaration	175	8.0%	5.1%	6.9%	13.1%	20.0%	31.4%	15.4%	4.88 ^{ab}
Concession question	158	3.2%	7.6%	8.9%	5.1%	22.2%	38.0%	15.2%	5.10 ^b
Qualifier	160	10.0%	6.3%	6.9%	6.9%	20.6%	29.4%	20.0%	4.90 ^{ab}
Value expressive	174	8.6%	8.0%	8.6%	9.2%	20.1%	28.7%	16.7%	4.77 ^{ab}
Social adjustive – norms aligned	196	6.1%	6.1%	7.1%	10.2%	15.8%	33.7%	20.9%	5.08 ^b
Social adjustive – norms not aligned	161	1.2%	5.0%	8.1%	12.4%	17.4%	37.9%	18.0%	5.25 ^b
3 rd person narrative	167	7.2%	5.4%	6.6%	12.0%	21.0%	34.1%	13.8%	4.92 ^{ab}
1 st person narrative	164	4.3%	6.7%	6.7%	12.8%	15.9%	36.0%	17.7%	5.08 ^b
	$\chi^2=83.825^{**}$; Cramer's V = 0.083								F=4.658 ^{***} $\eta=0.143$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Section 1: Message Quality

Table 1-5: The reasoning used in the message was unsound.

	N	Extremely disagree	Quite disagree	Slightly disagree	Neutral	Slightly agree	Quite agree	Extremely agree	Mean
Control	514	8.8%	19.3%	15.8%	26.8%	11.7%	11.3%	6.4%	3.73 ^a
Basic	157	12.7%	28.7%	15.3%	16.6%	11.5%	9.6%	5.7%	3.37 ^{ab}
DNR declaration	175	10.3%	20.6%	13.7%	24.6%	12.0%	10.3%	8.6%	3.73 ^{ab}
Concession question	160	7.5%	31.3%	14.4%	20.0%	12.5%	11.9%	2.5%	3.44 ^{ab}
Qualifier	161	11.2%	26.1%	12.4%	24.2%	8.1%	11.2%	6.8%	3.53 ^{ab}
Value expressive	176	12.5%	22.7%	10.2%	22.7%	12.5%	13.1%	6.3%	3.64 ^{ab}
Social adjustive – norms aligned	193	8.3%	26.4%	14.5%	18.7%	11.9%	14.5%	5.7%	3.66 ^{ab}
Social adjustive – norms not aligned	161	9.3%	28.0%	18.6%	23.0%	8.7%	8.1%	4.3%	3.35 ^{ab}
3 rd person narrative	168	12.5%	25.6%	15.5%	20.8%	7.7%	9.5%	8.3%	3.48 ^{ab}
1 st person narrative	166	11.4%	31.3%	13.3%	22.3%	11.4%	6.0%	4.2%	3.26 ^b
	$\chi^2=58.702$ n.s.; Cramer's V = 0.069								F=2.041* $\eta=0.095$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Table 1-6: The message conveyed the key information in a straightforward way.

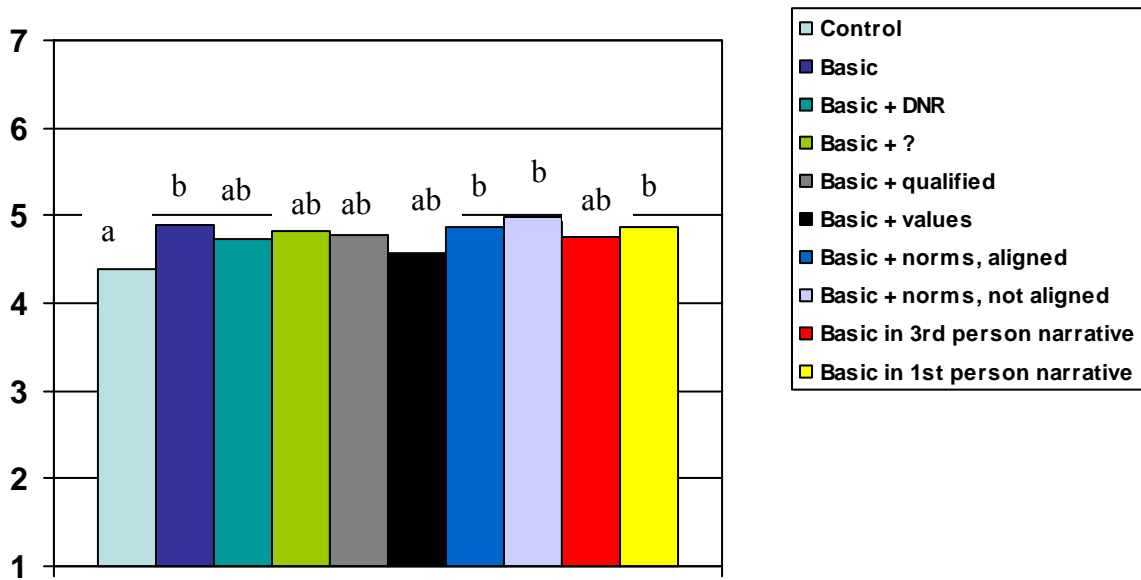
	N	Extremely disagree	Quite disagree	Slightly disagree	Neutral	Slightly agree	Quite agree	Extremely agree	Mean
Control	514	5.8%	8.4%	8.9%	17.1%	20.6%	30.2%	8.9%	4.65 ^{ab}
Basic	160	5.0%	5.6%	7.5%	10.6%	16.3%	37.5%	17.5%	5.10 ^{ab}
DNR declaration	176	7.4%	3.4%	8.0%	14.8%	16.5%	36.9%	13.1%	4.93 ^{ab}
Concession question	160	3.1%	7.5%	5.6%	13.1%	21.3%	38.8%	10.6%	5.01 ^{ab}
Qualifier	159	2.5%	7.5%	8.8%	13.8%	13.8%	40.3%	13.2%	5.03 ^{ab}
Value expressive	177	7.9%	5.6%	9.0%	13.6%	18.6%	31.1%	14.1%	4.79 ^{ab}
Social adjustive – norms aligned	197	4.1%	7.1%	8.6%	11.7%	15.2%	39.1%	14.2%	5.01 ^{ab}
Social adjustive – norms not aligned	162	1.9%	8.0%	6.8%	14.2%	23.5%	33.3%	12.3%	4.99 ^{ab}
3 rd person narrative	168	8.3%	6.5%	10.1%	14.3%	17.3%	33.9%	9.5%	4.65 ^{ab}
1 st person narrative	165	6.7%	6.1%	9.1%	10.3%	17.0%	38.8%	12.1%	4.90 ^{ab}
	$\chi^2=59.671$ n.s.; Cramer's V = 0.070								F=2.282* $\eta=0.100$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Section 1: Message Quality

Figure 1-1: Scaled message quality by treatment.



Notes: 1=extremely low evaluation, 7=extremely high evaluation

F=3.906, p<0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Section 2: Factual Versus Narrative Communication

Respondents agreed slightly that all treatment messages were (a) persuasive (Table 2-1), (b) conversational (Table 2-2), (c) fact-oriented (Table 2-3), (d) dramatic (Table 2-4), and (e) telling a story (Table 2-5). There were significant differences in the mean rating of narrative quality for all items. Through post-hoc analysis, we found that the control message was rated significantly less persuasive, conversational, fact-oriented, dramatic, and ‘telling a story.’

Based on research conducted by Polyorat (2007), we constructed a scale to test the narrative manipulation of the messages, which included whether the message was dramatic, and ‘telling a story.’ Using this scale ($r = 0.490$), we found that the control message was perceived as having significantly lower narrative quality compared to all treatment messages. Unlike Polyorat (2007), there was no difference in our factual versus narrative messages in perception of narrative quality.

Section 2: Factual Versus Narrative Communication

Table 2-1: The message is NOT PERSUASIVE...PERSUASIVE

	N	Extremely	Quite	Slightly	Neutral	Slightly	Quite	Extremely	Mean
Control	517	9.1%	14.3%	9.7%	24.0%	25.3%	14.3%	3.3%	3.98 ^a
Basic	157	4.5%	7.0%	5.7%	11.5%	35.0%	29.9%	6.4%	4.81 ^b
DNR declaration	181	9.4%	8.3%	9.9%	11.6%	26.5%	29.3%	5.0%	4.45 ^b
Concession question	160	3.8%	10.0%	7.5%	13.1%	30.6%	30.0%	5.0%	4.67 ^b
Qualifier	161	6.8%	6.8%	8.7%	8.7%	36.6%	24.2%	8.1%	4.66 ^b
Value expressive	177	9.0%	9.6%	7.9%	17.5%	25.4%	23.2%	7.3%	4.40 ^{ab}
Social adjustive – norms aligned	195	4.6%	6.7%	10.3%	9.7%	32.3%	27.7%	8.7%	4.76 ^b
Social adjustive – norms not aligned	162	3.1%	6.2%	13.0%	10.5%	35.8%	27.2%	4.3%	4.69 ^b
3 rd person narrative	172	5.2%	8.1%	10.5%	14.5%	30.8%	26.7%	4.1%	4.54 ^b
1 st person narrative	168	3.0%	6.5%	11.3%	10.7%	29.8%	31.5%	7.1%	4.81 ^b
$\chi^2=149.226^{***}$; Cramer's V = 0.270									F=8.813 ^{***} $\eta=0.193$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Table 2-2: The message is NOT CONVERSATIONAL...CONVERSATIONAL

	N	Extremely	Quite	Slightly	Neutral	Slightly	Quite	Extremely	Mean
Control	515	4.9%	8.2%	9.5%	17.7%	24.1%	27.4%	8.3%	4.63 ^a
Basic	158	4.4%	3.2%	7.0%	13.9%	25.9%	29.1%	16.5%	5.07 ^b
DNR declaration	182	3.3%	7.1%	8.8%	14.8%	20.9%	30.2%	14.8%	4.93 ^{ab}
Concession question	161	1.9%	6.2%	9.9%	13.7%	32.9%	28.0%	7.5%	4.83 ^{ab}
Qualifier	160	1.9%	6.3%	9.4%	16.9%	28.8%	26.9%	10.0%	4.85 ^{ab}
Value expressive	176	4.0%	8.0%	8.0%	13.6%	26.7%	26.7%	13.1%	4.84 ^{ab}
Social adjustive – norms aligned	196	3.6%	5.1%	10.7%	19.9%	26.0%	25.0%	9.7%	4.73 ^{ab}
Social adjustive – norms not aligned	162	1.9%	.6%	8.0%	14.8%	35.8%	26.5%	12.3%	5.11 ^b
3 rd person narrative	171	5.8%	3.5%	8.2%	21.6%	25.1%	26.3%	9.4%	4.73 ^{ab}
1 st person narrative	166	4.8%	4.2%	7.8%	15.7%	25.9%	31.3%	10.2%	4.89 ^{ab}
$\chi^2=65.337$ n.s.; Cramer's V = 0.073									F=2.256 [*] $\eta=0.099$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Section 2: Factual Versus Narrative Communication

Table 2-3: The message is NOT FACT ORIENTED...FACT ORIENTED

	N	Extremely	Quite	Slightly	Neutral	Slightly	Quite	Extremely	Mean
Control	518	16.6%	13.5%	11.2%	17.4%	20.8%	15.3%	5.2%	3.79 ^a
Basic	158	8.2%	10.8%	6.3%	14.6%	19.6%	27.8%	12.7%	4.61 ^b
DNR declaration	182	13.2%	11.5%	7.7%	14.3%	28.0%	19.2%	6.0%	4.14 ^{ab}
Concession question	160	7.5%	10.6%	11.3%	12.5%	25.6%	24.4%	8.1%	4.44 ^b
Qualifier	157	10.8%	12.7%	8.9%	12.7%	23.6%	21.7%	9.6%	4.29 ^{ab}
Value expressive	174	12.1%	11.5%	8.6%	7.5%	23.0%	25.9%	11.5%	4.41 ^b
Social adjustive – norms aligned	196	7.1%	12.8%	12.8%	12.2%	20.9%	25.5%	8.7%	4.38 ^b
Social adjustive – norms not aligned	161	8.7%	3.1%	9.9%	11.8%	32.3%	26.7%	7.5%	4.66 ^b
3 rd person narrative	172	8.7%	12.2%	14.0%	15.7%	23.8%	18.6%	7.0%	4.17 ^{ab}
1 st person narrative	167	6.0%	10.8%	13.2%	18.0%	13.8%	31.7%	6.6%	4.44 ^b
$\chi^2=118.766^{***}$; Cramer's V = 0.098									F=6.165 ^{***} $\eta=0.163$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Table 2-4: The message is NOT DRAMATIC...DRAMATIC

	N	Extremely	Quite	Slightly	Neutral	Slightly	Quite	Extremely	Mean
Control	517	10.1%	16.4%	9.3%	41.0%	14.5%	7.2%	1.5%	3.61 ^a
Basic	157	5.7%	6.4%	6.4%	22.9%	33.8%	16.6%	8.3%	4.55 ^b
DNR declaration	181	4.4%	6.1%	8.8%	28.2%	28.7%	17.7%	6.1%	4.48 ^b
Concession question	161	4.3%	2.5%	8.7%	26.7%	29.2%	20.5%	8.1%	4.68 ^b
Qualifier	160	3.8%	2.5%	8.8%	34.4%	30.0%	13.8%	6.9%	4.53 ^b
Value expressive	174	1.7%	9.2%	5.7%	29.3%	24.1%	20.1%	9.8%	4.64 ^b
Social adjustive – norms aligned	198	3.5%	10.6%	9.1%	32.3%	23.7%	14.1%	6.6%	4.31 ^b
Social adjustive – norms not aligned	161	1.2%	5.0%	6.2%	36.0%	32.3%	13.0%	6.2%	4.57 ^b
3 rd person narrative	171	2.9%	8.8%	13.5%	33.9%	24.6%	9.4%	7.0%	4.25 ^b
1 st person narrative	168	3.0%	5.4%	8.9%	20.8%	32.1%	22.0%	7.7%	4.71 ^b
$\chi^2=234.345^{***}$; Cramer's V = 0.138									F=19.668 ^{***} $\eta=0.283$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Section 2: Factual Versus Narrative Communication

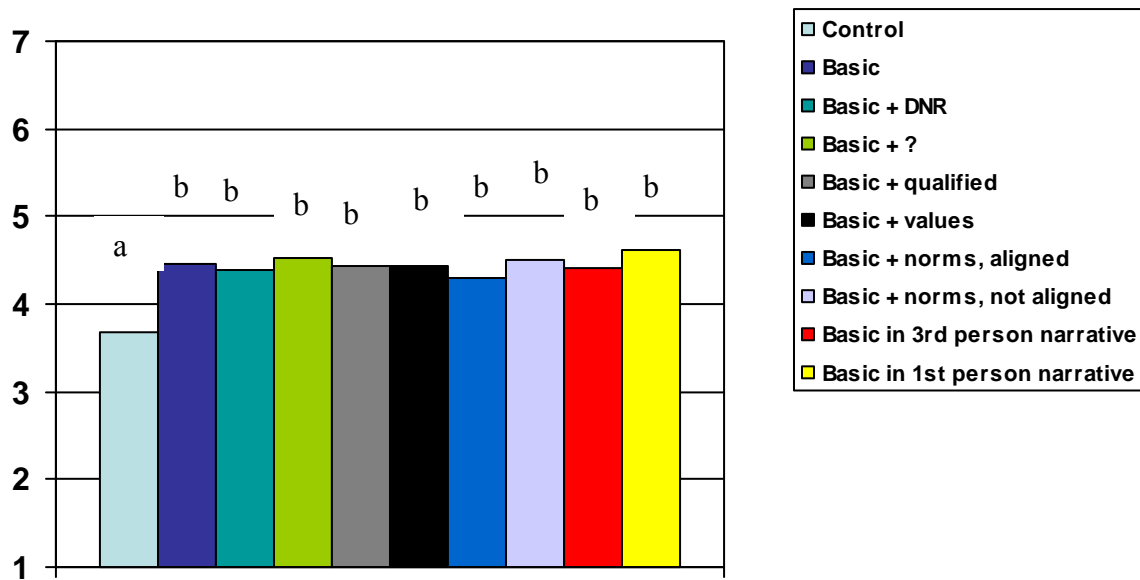
Table 2-5: The message is NOT TELLING A STORY...TELLING A STORY

	N	Extremely	Quite	Slightly	Neutral	Slightly	Quite	Extremely	Mean
Control	519	11.0%	15.4%	10.8%	27.6%	23.7%	9.2%	2.3%	3.75 ^a
Basic	158	8.2%	7.0%	8.9%	24.1%	28.5%	16.5%	7.0%	4.35 ^b
DNR declaration	183	8.7%	9.8%	7.7%	22.4%	25.7%	20.2%	5.5%	4.29 ^b
Concession question	161	6.8%	9.3%	8.1%	23.0%	25.5%	21.1%	6.2%	4.39 ^b
Qualifier	159	5.0%	11.9%	7.5%	26.4%	27.0%	14.5%	7.5%	4.32 ^b
Value expressive	176	8.0%	9.1%	8.5%	25.0%	26.7%	17.6%	5.1%	4.27 ^b
Social adjustive – norms aligned	196	6.6%	11.2%	10.7%	24.0%	21.9%	17.9%	7.7%	4.28 ^b
Social adjustive – norms not aligned	161	4.3%	4.3%	8.1%	32.3%	32.3%	14.3%	4.3%	4.44 ^b
3 rd person narrative	172	7.0%	4.1%	10.5%	19.8%	28.5%	23.3%	7.0%	4.56 ^b
1 st person narrative	167	3.0%	9.6%	10.8%	19.8%	28.1%	21.6%	7.2%	4.54 ^b
$\chi^2=109.031^{***}$; Cramer's V = 0.094									F=7.794 ^{***} $\eta=0.182$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Figure 2-1: Scaled message narrative



Notes: 1=non-narrative, 7=extremely narrative

F=16.277, p<0.001

Letters a, ab, b indicate significant differences in SNK post-hoc test.

Section 3: Message Involvement

Five questions were asked to evaluate respondents' involvement with the messages. Respondents agreed slightly that all messages were (a) conveyed clearly (Table 3-1), (b) easy to understand (Table 3-2), (c) interesting (Table 3-3), (d) involving (Table 3-4), and (e) credible (Table 3-5). There were significant differences in the mean rating all items used to measure message involvement. Through post-hoc analysis, we found that the control message was found to be conveyed less clearly, less easy to understand, less interesting, less involving, and less credible.

Based on research conducted by Paracchio and Levy (1997) and Polyorat (2007), we constructed a scale to test message involvement ($\alpha = 0.862$). This scale included all five items. Using this scale we found that the control message was perceived as having significantly lower message involvement compared to all treatment messages. The basic factual message, two social-adjustive treatment messages, and the first-person narrative message were rated to have greater message involvement.

Section 3: Message Involvement

Table 3-1: The information in the message is: NOT CONVEYED CLEARLY...CONVEYED CLEARLY

	N	Extremely	Quite	Slightly	Neutral	Slightly	Quite	Extremely	Mean
Control	516	6.8%	7.8%	11.2%	14.7%	24.0%	27.9%	7.6%	4.55 ^a
Basic	157	3.8%	5.1%	6.4%	9.6%	21.7%	35.0%	18.5%	5.19 ^b
DNR declaration	180	6.7%	9.4%	10.0%	6.7%	18.3%	38.9%	10.0%	4.77 ^{ab}
Concession question	158	2.5%	7.6%	12.7%	11.4%	21.5%	36.7%	7.6%	4.82 ^{ab}
Qualifier	161	3.1%	6.2%	9.3%	10.6%	21.1%	36.6%	13.0%	5.02 ^b
Value expressive	174	5.7%	6.9%	6.9%	13.2%	23.0%	29.9%	14.4%	4.88 ^{ab}
Social adjustive – norms aligned	195	3.1%	5.6%	4.6%	12.8%	20.0%	41.5%	12.3%	5.15 ^b
Social adjustive – norms not aligned	159	3.8%	2.5%	5.7%	14.5%	23.3%	42.1%	8.2%	5.10 ^b
3 rd person narrative	173	5.8%	8.1%	8.1%	13.9%	17.3%	38.7%	8.1%	4.77 ^{ab}
1 st person narrative	168	1.8%	6.5%	10.7%	8.3%	26.2%	35.1%	11.3%	5.01 ^b
	$\chi^2=90.940^{**}$; Cramer's V = 0.086								F=4.421 ^{***} ; $\eta=0.139$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Table 3-2: The information in the message is: DIFFICULT TO UNDERSTAND...EASY TO UNDERSTAND

	N	Extremely	Quite	Slightly	Neutral	Slightly	Quite	Extremely	Mean
Control	516	4.3%	3.1%	8.3%	20.2%	15.9%	35.9%	12.4%	4.97 ^b
Basic	157	1.3%	3.2%	3.2%	12.1%	12.1%	36.9%	31.2%	5.66 ^b
DNR declaration	181	3.3%	3.3%	5.0%	12.7%	14.9%	41.4%	19.3%	5.34 ^{ab}
Concession question	158	2.5%	4.4%	8.2%	14.6%	15.2%	40.5%	14.6%	5.15 ^{ab}
Qualifier	159	.6%	3.1%	5.7%	15.7%	13.8%	40.3%	20.8%	5.43 ^b
Value expressive	177	1.7%	4.5%	5.1%	18.6%	12.4%	35.6%	22.0%	5.31 ^{ab}
Social adjustive – norms aligned	197	.5%	3.0%	5.1%	17.8%	9.6%	41.6%	22.3%	5.47 ^b
Social adjustive – norms not aligned	160	.6%	3.1%	7.5%	16.9%	13.1%	40.0%	18.8%	5.34 ^{ab}
3 rd person narrative	173	1.7%	2.9%	5.2%	19.7%	11.0%	42.2%	17.3%	5.31 ^{ab}
1 st person narrative	168	3.0%	4.2%	6.0%	17.3%	12.5%	34.5%	22.6%	5.26 ^{ab}
	$\chi^2=77.027^{**}$; Cramer's V = 0.079								F=4.436 ^{***} ; $\eta=0.139$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Section 3: Message Involvement

Table 3-3: The information in the message is: NOT INTERESTING...INTERESTING

	N	Extremely	Quite	Slightly	Neutral	Slightly	Quite	Extremely	Mean
Control	515	4.1%	6.6%	10.7%	16.9%	26.2%	26.8%	8.7%	4.70 ^a
Basic	156	3.2%	3.2%	4.5%	12.8%	26.3%	34.0%	16.0%	5.22 ^b
DNR declaration	181	2.8%	4.4%	9.4%	13.8%	24.9%	30.4%	14.4%	5.02 ^{ab}
Concession question	158	3.8%	8.2%	4.4%	17.1%	25.9%	31.6%	8.9%	4.84 ^{ab}
Qualifier	159	2.5%	3.8%	6.9%	20.1%	22.0%	32.7%	11.9%	5.01 ^{ab}
Value expressive	173	2.9%	5.2%	7.5%	14.5%	28.3%	22.5%	19.1%	5.04 ^{ab}
Social adjustive – norms aligned	197	3.6%	4.6%	4.1%	21.8%	20.3%	34.5%	11.2%	4.99 ^{ab}
Social adjustive – norms not aligned	161	3.1%	2.5%	7.5%	14.9%	28.0%	31.7%	12.4%	5.07 ^{ab}
3 rd person narrative	173	3.5%	5.2%	8.1%	20.8%	27.7%	27.2%	7.5%	4.76 ^{ab}
1 st person narrative	167	3.0%	4.2%	8.4%	16.8%	25.7%	29.3%	12.6%	4.96 ^{ab}
	$\chi^2=66.665$ n.s.; Cramer's V = 0.074								F=2.767** $\eta=0.110$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Table 3-4: The information in the message is: NOT INVOLVING...INVOLVING

	N	Extremely	Quite	Slightly	Neutral	Slightly	Quite	Extremely	Mean
Control	515	5.6%	9.5%	9.9%	27.8%	23.3%	17.7%	6.2%	4.31 ^a
Basic	157	3.8%	3.8%	4.5%	21.7%	29.9%	24.2%	12.1%	4.91 ^{ab}
DNR declaration	182	4.9%	4.4%	7.7%	19.8%	25.3%	28.6%	9.3%	4.79 ^{ab}
Concession question	158	4.4%	5.1%	7.6%	26.6%	23.4%	27.8%	5.1%	4.63 ^b
Qualifier	160	2.5%	4.4%	10.6%	26.3%	23.1%	26.9%	6.3%	4.69 ^b
Value expressive	174	3.4%	5.7%	6.9%	26.4%	28.2%	19.0%	10.3%	4.68 ^b
Social adjustive – norms aligned	197	3.0%	3.6%	7.6%	27.4%	24.9%	26.9%	6.6%	4.75 ^{ab}
Social adjustive – norms not aligned	159	1.3%	4.4%	6.3%	27.0%	30.2%	22.6%	8.2%	4.81 ^{ab}
3 rd person narrative	172	2.9%	4.1%	8.7%	25.6%	25.0%	27.9%	5.8%	4.73 ^{ab}
1 st person narrative	168	2.4%	4.2%	11.3%	20.2%	31.0%	24.4%	6.5%	4.73 ^{ab}
	$\chi^2=77.719^*$; Cramer's V = 0.080								F=4.286***; $\eta=0.136$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Section 3: Message Involvement

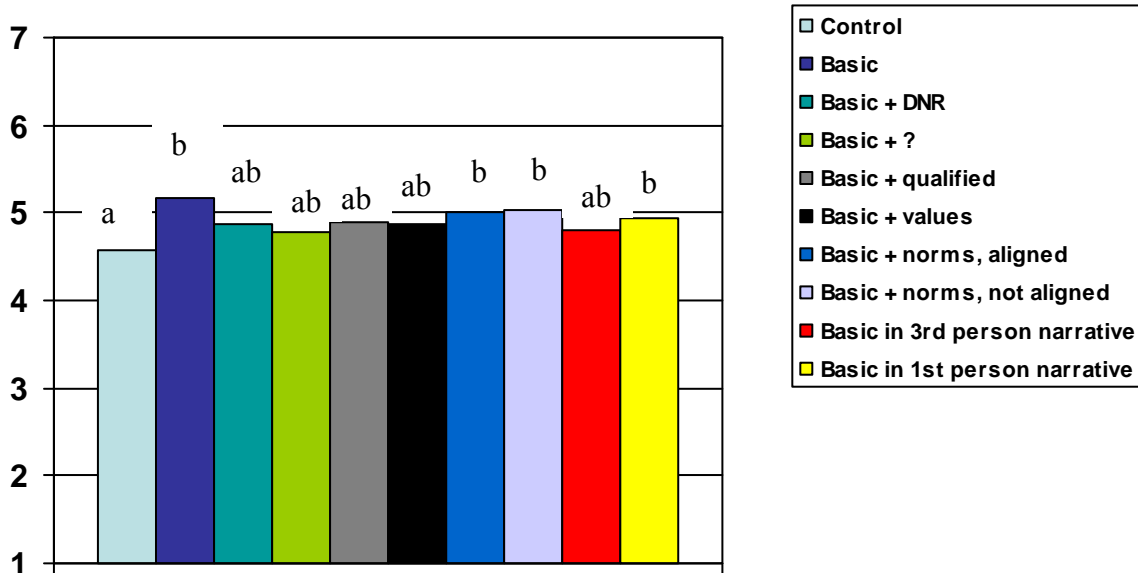
Table 3-5: The information in the message is: NOT CREDIBLE...CREDIBLE

	N	Extremely	Quite	Slightly	Neutral	Slightly	Quite	Extremely	Mean
Control	516	10.1%	8.9%	8.9%	20.2%	22.1%	23.3%	6.6%	4.31 ^a
Basic	158	8.9%	8.2%	5.7%	10.8%	22.2%	25.9%	18.4%	4.80 ^{ab}
DNR declaration	181	9.4%	9.4%	12.7%	13.3%	20.4%	24.3%	10.5%	4.41 ^{ab}
Concession question	158	7.6%	8.2%	8.9%	20.3%	18.4%	30.4%	6.3%	4.50 ^{ab}
Qualifier	160	8.1%	13.8%	8.8%	17.5%	18.8%	26.3%	6.9%	4.31 ^{ab}
Value expressive	173	11.0%	8.7%	6.9%	15.0%	16.8%	30.1%	11.6%	4.54 ^{ab}
Social adjustive – norms aligned	196	7.7%	7.7%	7.7%	15.3%	22.4%	30.6%	8.7%	4.64 ^{ab}
Social adjustive – norms not aligned	159	3.8%	5.0%	9.4%	19.5%	21.4%	32.7%	8.2%	4.81 ^b
3 rd person narrative	172	11.6%	4.7%	8.7%	20.9%	20.3%	26.7%	7.0%	4.42 ^{ab}
1 st person narrative	167	7.8%	6.6%	12.0%	10.8%	22.8%	26.3%	13.8%	4.68 ^{ab}
$\chi^2=81.747^{**}$; Cramer's V = 0.082									F=2.362* $\eta=0.102$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Figure 3-1: Scaled message involvement



Notes: 1=non-narrative, 7=extremely narrative

F=5.055, p<0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Section 4: Message Evaluation

Six questions were asked to measure respondents' evaluation of a ban on lead shot in the farmland zone of Minnesota. On average, respondents agreed just slightly that a ban was: (a) beneficial (Table 4-1), (b) good (Table 4-2), (c) wise (Table 4-3), (d) worthwhile (Table 4-4), (e) appealing (Table 4-5) and (f) important (Table 4-6). There were significant differences in the mean rating all items used to measure message involvement. Through post-hoc analysis, we found that respondents who received the control message felt that a ban would be less beneficial, good, wise, worthwhile, appealing and important.

We constructed a scale, including the six items described, to test the overall evaluation of a ban on lead shot in the farmland zone ($\alpha = 0.977$). Using this scale we found that respondents who received the control message had a lower evaluation of a ban compared to respondents who received the treatment messages. Respondents who received the basic factual message, the two normative treatment messages, and the two narrative messages rated a ban more positively.

Section 4: Message Evaluation

Table 4-1: A ban on lead shot in the farmland zone of Minnesota is: HARMFUL...BENEFICIAL

	N	Extremely	Quite	Slightly	Neutral	Slightly	Quite	Extremely	Mean
Control	523	6.9%	7.1%	8.4%	25.8%	16.8%	22.6%	12.4%	4.56 ^a
Basic	160	3.8%	6.3%	3.1%	16.9%	19.4%	25.6%	25.0%	5.19 ^b
DNR declaration	183	8.2%	4.9%	7.1%	14.2%	19.7%	26.8%	19.1%	4.89 ^{ab}
Concession question	161	6.8%	9.3%	5.0%	16.8%	19.3%	24.2%	18.6%	4.80 ^{ab}
Qualifier	162	6.2%	6.8%	6.8%	16.7%	19.8%	24.1%	19.8%	4.88 ^{ab}
Value expressive	177	5.6%	6.2%	6.2%	18.6%	19.8%	24.9%	18.6%	4.90 ^{ab}
Social adjustive – norms aligned	198	4.5%	4.5%	7.1%	15.2%	17.7%	27.8%	23.2%	5.13 ^b
Social adjustive – norms not aligned	162	4.9%	1.2%	8.0%	14.2%	21.6%	34.0%	16.0%	5.12 ^b
3 rd person narrative	173	7.5%	1.7%	3.5%	20.2%	21.4%	30.1%	15.6%	4.99 ^{ab}
1 st person narrative	168	6.5%	4.2%	4.8%	18.5%	16.7%	25.0%	24.4%	5.07 ^b
	$\chi^2=86.534^{**}$; Cramer's V = 0.084								F=3.861 ^{***} ; $\eta=0.129$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Table 4-2: A ban on lead shot in the farmland zone of Minnesota is: BAD...GOOD

	N	Extremely	Quite	Slightly	Neutral	Slightly	Quite	Extremely	Mean
Control	522	9.8%	10.5%	10.7%	18.4%	16.3%	21.5%	12.8%	4.37 ^a
Basic	160	6.9%	5.6%	3.8%	15.0%	19.4%	27.5%	21.9%	5.04 ^b
DNR declaration	184	10.9%	8.2%	7.1%	12.5%	17.9%	22.8%	20.7%	4.70 ^{ab}
Concession question	161	8.1%	7.5%	8.7%	15.5%	18.0%	24.8%	17.4%	4.72 ^{ab}
Qualifier	161	8.1%	8.7%	5.0%	14.9%	19.3%	23.0%	21.1%	4.82 ^{ab}
Value expressive	176	6.3%	9.1%	9.7%	16.5%	13.1%	26.1%	19.3%	4.77 ^{ab}
Social adjustive – norms aligned	197	6.6%	7.1%	7.6%	14.2%	14.7%	28.9%	20.8%	4.93 ^b
Social adjustive – norms not aligned	161	5.6%	2.5%	8.1%	14.3%	21.1%	28.6%	19.9%	5.08 ^b
3 rd person narrative	173	8.1%	2.9%	5.8%	20.2%	19.1%	29.5%	14.5%	4.86 ^b
1 st person narrative	168	7.7%	3.0%	8.3%	18.5%	15.5%	20.8%	26.2%	4.98 ^b
	$\chi^2=82.015^{**}$; Cramer's V = 0.081								F=4.284 ^{***} ; $\eta=0.136$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Section 4: Message Evaluation

Table 4-3: A ban on lead shot in the farmland zone of Minnesota is: FOOLISH...WISE

	N	Extremely	Quite	Slightly	Neutral	Slightly	Quite	Extremely	Mean
Control	521	13.8%	9.4%	9.4%	17.1%	15.7%	21.1%	13.4%	4.29 ^a
Basic	160	8.8%	5.6%	5.6%	14.4%	13.8%	25.6%	26.3%	5.01 ^b
DNR declaration	184	13.6%	7.1%	4.9%	15.8%	16.3%	22.8%	19.6%	4.61 ^{ab}
Concession question	161	10.6%	8.1%	8.7%	17.4%	13.0%	24.2%	18.0%	4.59 ^{ab}
Qualifier	163	15.3%	6.1%	7.4%	9.2%	18.4%	22.7%	20.9%	4.61 ^{ab}
Value expressive	178	10.1%	9.6%	5.1%	15.2%	14.6%	26.4%	19.1%	4.70 ^{ab}
Social adjustive – norms aligned	196	11.7%	6.1%	6.1%	13.3%	12.8%	26.0%	24.0%	4.83 ^b
Social adjustive – norms not aligned	162	5.6%	6.8%	8.0%	15.4%	14.2%	28.4%	21.6%	4.98 ^b
3 rd person narrative	173	10.4%	2.9%	4.6%	17.3%	21.4%	26.0%	17.3%	4.84 ^b
1 st person narrative	168	8.9%	5.4%	10.1%	18.5%	10.1%	20.8%	26.2%	4.83 ^b
$\chi^2=78.821^*$; Cramer's V = 0.080									F=3.711 ^{***} ; $\eta=0.126$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Table 4-4: A ban on lead shot in the farmland zone of Minnesota is: NOT WORTHWHILE... WORTHWHILE

	N	Extremely	Quite	Slightly	Neutral	Slightly	Quite	Extremely	Mean
Control	523	15.5%	10.5%	9.8%	12.4%	16.6%	22.0%	13.2%	4.23 ^a
Basic	160	8.1%	6.3%	5.0%	12.5%	18.8%	23.8%	25.6%	5.01 ^b
DNR declaration	184	13.6%	7.6%	8.7%	8.2%	17.9%	25.5%	18.5%	4.60 ^{ab}
Concession question	161	14.9%	7.5%	6.8%	12.4%	15.5%	23.0%	19.9%	4.55 ^{ab}
Qualifier	162	13.6%	10.5%	7.4%	6.2%	19.1%	23.5%	19.8%	4.56 ^{ab}
Value expressive	176	10.8%	9.7%	5.7%	9.7%	17.0%	25.6%	21.6%	4.76 ^{ab}
Social adjustive – norms aligned	197	10.7%	7.6%	6.6%	11.7%	15.2%	25.9%	22.3%	4.80 ^b
Social adjustive – norms not aligned	162	6.2%	6.2%	6.2%	12.3%	19.1%	28.4%	21.6%	5.04 ^b
3 rd person narrative	173	10.4%	4.6%	7.5%	13.9%	19.7%	27.2%	16.8%	4.76 ^b
1 st person narrative	168	10.1%	7.7%	9.5%	11.3%	13.7%	19.0%	28.6%	4.82 ^b
$\chi^2=71.762$ n.s.; Cramer's V = 0.076									F=4.357 ^{***} ; $\eta=0.137$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Section 4: Message Evaluation

Table 4-5: A ban on lead shot in the farmland zone of Minnesota is: UNAPPEALING...APPEALING

	N	Extremely	Quite	Slightly	Neutral	Slightly	Quite	Extremely	Mean
Control	520	15.0%	10.8%	13.3%	20.2%	13.1%	17.9%	9.8%	3.98 ^a
Basic	160	9.4%	5.6%	10.6%	18.8%	11.3%	23.8%	20.6%	4.71 ^b
DNR declaration	184	12.5%	9.8%	8.2%	16.3%	15.2%	22.8%	15.2%	4.41 ^{ab}
Concession question	160	13.1%	7.5%	8.8%	16.9%	18.8%	21.3%	13.8%	4.39 ^{ab}
Qualifier	163	11.7%	11.7%	9.2%	14.1%	16.6%	22.1%	14.7%	4.37 ^{ab}
Value expressive	176	12.5%	9.7%	9.1%	13.6%	18.2%	23.3%	13.6%	4.40 ^{ab}
Social adjustive – norms aligned	198	9.6%	7.6%	8.1%	19.7%	14.6%	23.7%	16.7%	4.60 ^b
Social adjustive – norms not aligned	162	5.6%	4.9%	10.5%	14.8%	22.2%	26.5%	15.4%	4.85 ^b
3 rd person narrative	172	11.6%	4.1%	9.9%	22.7%	19.2%	22.7%	9.9%	4.41 ^{ab}
1 st person narrative	167	6.0%	7.8%	11.4%	19.2%	12.0%	24.0%	19.8%	4.74 ^b
$\chi^2=85.852^{**}$; Cramer's V = 0.083									F=5.156 ^{***} ; $\eta=0.149$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Table 4-6: A ban on lead shot in the farmland zone of Minnesota is: NOT IMPORTANT...IMPORTANT

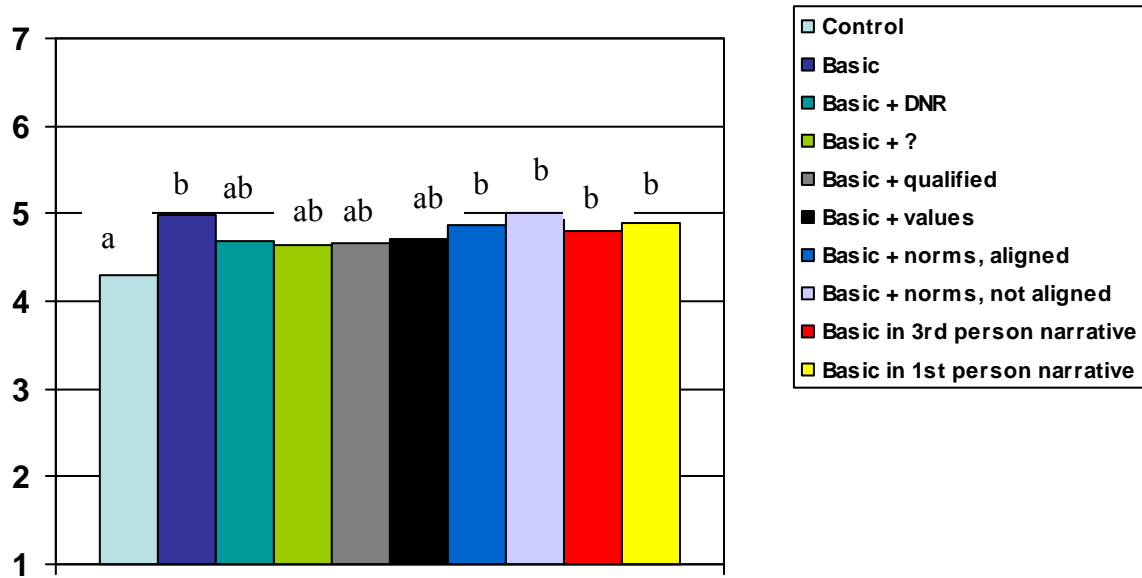
	N	Extremely	Quite	Slightly	Neutral	Slightly	Quite	Extremely	Mean
Control	522	10.9%	9.6%	9.0%	16.9%	17.2%	22.6%	13.8%	4.43 ^a
Basic	160	9.4%	6.3%	5.6%	10.0%	16.3%	26.3%	26.3%	5.01 ^b
DNR declaration	184	9.2%	7.1%	6.0%	10.9%	19.6%	26.6%	20.7%	4.87 ^{ab}
Concession question	160	11.9%	6.3%	5.6%	13.8%	16.3%	25.0%	21.3%	4.76 ^{ab}
Qualifier	163	13.5%	7.4%	8.6%	8.6%	16.0%	26.4%	19.6%	4.64 ^{ab}
Value expressive	177	9.6%	10.7%	5.6%	9.6%	16.9%	25.4%	22.0%	4.78 ^{ab}
Social adjustive – norms aligned	196	9.2%	6.1%	7.7%	11.2%	17.9%	25.5%	22.4%	4.89 ^{ab}
Social adjustive – norms not aligned	161	4.3%	6.8%	6.8%	12.4%	21.1%	26.7%	21.7%	5.06 ^b
3 rd person narrative	173	9.2%	6.4%	4.6%	12.1%	20.2%	26.6%	20.8%	4.91 ^{ab}
1 st person narrative	168	8.3%	5.4%	8.9%	11.9%	16.7%	23.2%	25.6%	4.95 ^{ab}
$\chi^2=59.337$ n.s.; Cramer's V = 0.069									F=3.057 ^{**} ; $\eta=0.115$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Section 4: Message Evaluation

Figure 4-1: Scaled message evaluation by treatment.



Notes: 1=extremely low evaluation, 7=extremely high evaluation

F=4.412, p<0.001

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Section 5: Agreement With Message Recommendations, Outcome Involvement, Behavioral Intentions

Four questions were asked to measure respondents' agreement with message recommendations (Tables 5-1 to 5-4), four questions were asked to measure respondents' outcome involvement (5-5 to 5-8), and five questions measured behavioral intentions (5-9 to 5-13).

We constructed three scales to measure overall agreement with message recommendations ($\alpha = 0.960$), outcome involvement ($\alpha = 0.618$), and behavioral intentions ($\alpha = 0.942$). Using these scales, we found that respondents who received the control message agreed less with the message recommendations, while respondents who received the basic factual and first-person narrative messages agreed more (Figure 5-1). We found no significant differences among the control and treatment groups in outcome involvement (Figure 5-2). However, respondents who received the basic factual, non-aligned social-adjusive, and first-person narrative messages reported stronger intentions to support a ban on lead shot in the farmland zone, while those who received the control message reported weaker intentions, compared to other treatment groups (Figure 5-3).

Section 5: Agreement With Message Recommendations

Table 5-1: I think that a ban on lead shot in the Minnesota farmland zone is a good idea.

	N	Extremely Disagree	Quite Disagree	Slightly Disagree	Neutral	Slightly Agree	Quite Agree	Extremely agree	Mean
Control	527	18.8%	14.6%	11.8%	6.6%	16.7%	19.4%	12.1%	3.94
Basic	163	10.4%	8.0%	6.7%	9.8%	19.0%	25.8%	20.2%	4.77
DNR declaration	182	15.9%	8.2%	11.0%	6.0%	16.5%	24.7%	17.6%	4.43
Concession question	165	15.8%	10.3%	8.5%	10.9%	10.9%	26.1%	17.6%	4.39
Qualifier	168	17.9%	8.9%	5.4%	3.6%	20.2%	25.0%	19.0%	4.51
Value expressive	182	16.5%	9.3%	7.1%	7.7%	16.5%	22.5%	20.3%	4.47
Social adjustive – norms aligned	202	14.4%	9.9%	6.9%	9.9%	14.4%	26.2%	18.3%	4.52
Social adjustive – norms not aligned	164	10.4%	11.0%	9.1%	9.8%	10.4%	31.7%	17.7%	4.65
3 rd person narrative	175	13.7%	8.6%	5.7%	15.4%	17.1%	26.3%	13.1%	4.45
1 st person narrative	167	10.2%	7.8%	7.2%	12.0%	13.2%	28.7%	21.0%	4.80
$\chi^2=97.156^{***}$; Cramer's V = 0.088									F=4.532 ^{***} , $\eta=0.139$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Table 5-2: I support a ban on lead shot in the Minnesota farmland zone.

	N	Extremely Disagree	Quite Disagree	Slightly Disagree	Neutral	Slightly Agree	Quite Agree	Extremely agree	Mean
Control	526	20.2%	15.0%	10.1%	10.1%	13.5%	17.9%	13.3%	3.89
Basic	162	13.0%	6.8%	6.2%	17.9%	13.0%	22.2%	21.0%	4.62
DNR declaration	181	17.1%	8.3%	12.7%	8.8%	12.2%	22.1%	18.8%	4.32
Concession question	166	18.7%	10.8%	8.4%	10.2%	10.2%	24.7%	16.9%	4.24
Qualifier	168	18.5%	11.9%	1.8%	7.1%	17.3%	26.8%	16.7%	4.40
Value expressive	182	19.2%	9.3%	5.5%	11.5%	10.4%	25.8%	18.1%	4.35
Social adjustive – norms aligned	202	16.8%	7.4%	9.4%	6.9%	15.3%	25.7%	18.3%	4.47
Social adjustive – norms not aligned	164	12.8%	9.8%	10.4%	9.1%	11.6%	26.8%	19.5%	4.55
3 rd person narrative	174	15.5%	10.3%	6.9%	13.8%	16.1%	24.1%	13.2%	4.30
1 st person narrative	167	10.8%	10.2%	10.2%	9.0%	10.2%	26.9%	22.8%	4.69
$\chi^2=91.965^{**}$; Cramer's V = 0.086									F=3.744 ^{***} , $\eta=0.126$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Section 5: Agreement With Message Recommendations

Table 5-3: The Minnesota Department of Natural Resources should ban lead shot in the Minnesota farmland zone.

	N	Extremely Disagree	Quite Disagree	Slightly Disagree	Neutral	Slightly Agree	Quite Agree	Extremely agree	Mean
Control	527	22.0%	15.2%	10.2%	11.0%	12.1%	16.7%	12.7%	3.77
Basic	163	15.3%	8.0%	8.0%	15.3%	10.4%	22.7%	20.2%	4.47
DNR declaration	182	17.6%	9.3%	12.6%	8.8%	9.9%	23.6%	18.1%	4.27
Concession question	165	18.8%	11.5%	9.7%	7.9%	12.7%	21.8%	17.6%	4.20
Qualifier	168	20.8%	9.5%	4.2%	9.5%	15.5%	23.2%	17.3%	4.28
Value expressive	182	20.9%	9.9%	4.4%	10.4%	11.5%	23.6%	19.2%	4.30
Social adjustive – norms aligned	201	20.9%	8.5%	7.5%	9.5%	13.4%	22.4%	17.9%	4.25
Social adjustive – norms not aligned	162	13.0%	12.3%	8.6%	11.7%	9.9%	25.3%	19.1%	4.46
3 rd person narrative	175	18.3%	9.7%	6.9%	16.0%	12.0%	24.6%	12.6%	4.18
1 st person narrative	168	13.1%	10.7%	8.9%	8.3%	11.9%	24.4%	22.6%	4.59
	$\chi^2=74.667^*$; Cramer's V = 0.077								F=3.558*** $\eta=0.123$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Table 5-4: I do not think there should be a ban on lead shot in the Minnesota farmland zone.

	N	Extremely Disagree	Quite Disagree	Slightly Disagree	Neutral	Slightly Agree	Quite Agree	Extremely agree	Mean
Control	524	14.1%	15.6%	13.9%	8.8%	13.0%	15.3%	19.3%	4.14
Basic	163	19.6%	20.2%	11.7%	14.1%	11.7%	10.4%	12.3%	3.58
DNR declaration	182	22.5%	19.2%	8.2%	12.1%	12.6%	11.5%	13.7%	3.63
Concession question	164	14.0%	30.5%	7.9%	11.0%	9.8%	9.8%	17.1%	3.70
Qualifier	168	21.4%	16.7%	11.9%	10.7%	8.9%	11.9%	18.5%	3.79
Value expressive	181	16.6%	26.0%	8.3%	13.3%	7.7%	7.7%	20.4%	3.75
Social adjustive – norms aligned	202	19.3%	23.3%	12.4%	9.9%	10.4%	10.4%	14.4%	3.57
Social adjustive – norms not aligned	162	24.1%	24.1%	7.4%	12.3%	8.6%	13.0%	10.5%	3.38
3 rd person narrative	174	14.4%	23.0%	10.3%	17.8%	8.0%	10.9%	15.5%	3.77
1 st person narrative	168	22.6%	23.8%	9.5%	10.1%	11.3%	12.5%	10.1%	3.42
	$\chi^2=91.380^{**}$; Cramer's V = 0.085								F=3.304** $\eta=0.119$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Section 5: Agreement With Message Recommendations

Table 5-5: Whether or not lead shot is banned in the Minnesota farmland zone is very important to me.

	N	Extremely Disagree	Quite Disagree	Slightly Disagree	Neutral	Slightly Agree	Quite Agree	Extremely agree	Mean
Control	526	3.6%	6.1%	4.0%	28.3%	22.1%	20.5%	15.4%	4.82
Basic	163	2.5%	4.3%	6.1%	30.1%	18.4%	20.2%	18.4%	4.92
DNR declaration	183	3.3%	3.3%	6.0%	28.4%	20.2%	21.3%	17.5%	4.93
Concession question	166	3.6%	5.4%	6.0%	27.7%	21.1%	19.9%	16.3%	4.82
Qualifier	168	2.4%	4.8%	5.4%	28.6%	20.2%	21.4%	17.3%	4.93
Value expressive	182	3.8%	4.9%	4.9%	30.2%	14.3%	23.6%	18.1%	4.90
Social adjustive – norms aligned	202	2.5%	4.0%	4.0%	26.2%	19.3%	24.3%	19.8%	5.08
Social adjustive – norms not aligned	164	1.8%	6.1%	4.3%	27.4%	20.1%	20.7%	19.5%	4.98
3 rd person narrative	174	1.7%	4.0%	8.0%	36.8%	14.4%	19.0%	16.1%	4.79
1 st person narrative	167	1.2%	9.0%	5.4%	26.3%	18.6%	23.4%	16.2%	4.87
	$\chi^2=37.148$ n.s.; Cramer's V = 0.054								F=0.680 n.s. $\eta=0.054$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Table 5-6: A ban on lead shot in the Minnesota farmland zone directly affects me.

	N	Extremely Disagree	Quite Disagree	Slightly Disagree	Neutral	Slightly Agree	Quite Agree	Extremely agree	Mean
Control	524	5.5%	8.0%	7.1%	18.9%	20.4%	19.3%	20.8%	4.82
Basic	162	10.5%	7.4%	4.9%	25.9%	14.8%	16.7%	19.8%	4.56
DNR declaration	183	4.4%	7.1%	11.5%	25.7%	19.1%	14.8%	17.5%	4.62
Concession question	165	3.6%	10.9%	6.1%	21.8%	20.6%	18.8%	18.2%	4.74
Qualifier	168	6.5%	6.0%	9.5%	22.0%	17.9%	19.6%	18.5%	4.71
Value expressive	182	5.5%	8.2%	5.5%	24.2%	15.9%	23.1%	17.6%	4.76
Social adjustive – norms aligned	202	5.0%	8.4%	5.4%	22.3%	19.3%	17.8%	21.8%	4.83
Social adjustive – norms not aligned	163	8.0%	5.5%	5.5%	28.2%	22.1%	17.2%	13.5%	4.56
3 rd person narrative	174	9.8%	6.3%	8.6%	22.4%	14.4%	19.5%	19.0%	4.60
1 st person narrative	168	4.2%	10.1%	4.8%	26.2%	17.3%	20.8%	16.7%	4.71
	$\chi^2=56.128$ n.s.; Cramer's V = 0.067								F=0.733 n.s. $\eta=0.056$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Section 5: Agreement With Message Recommendations

Table 5-7: The outcome of the decision to ban lead shot in the farmland zone is not relevant to me.

	N	Extremely Disagree	Quite Disagree	Slightly Disagree	Neutral	Slightly Agree	Quite Agree	Extremely agree	Mean
Control	525	24.4%	22.9%	20.0%	16.2%	9.5%	4.6%	2.5%	2.87
Basic	163	25.2%	20.9%	17.2%	17.2%	8.6%	6.1%	4.9%	3.01
DNR declaration	183	23.5%	19.1%	20.2%	24.0%	7.1%	3.3%	2.7%	2.93
Concession question	165	15.8%	23.6%	23.6%	19.4%	8.5%	4.8%	4.2%	3.13
Qualifier	167	22.8%	24.6%	22.2%	15.0%	7.2%	4.8%	3.6%	2.88
Value expressive	182	18.1%	28.6%	15.9%	23.1%	7.1%	4.4%	2.7%	2.97
Social adjustive – norms aligned	202	23.3%	24.3%	21.8%	19.3%	5.4%	2.5%	3.5%	2.81
Social adjustive – norms not aligned	164	23.2%	17.7%	25.0%	17.7%	6.1%	6.7%	3.7%	3.01
3 rd person narrative	174	21.8%	23.0%	17.8%	19.5%	5.7%	6.9%	5.2%	3.06
1 st person narrative	168	20.2%	27.4%	17.3%	21.4%	6.5%	5.4%	1.8%	2.90
	$\chi^2=49.153$ n.s.; Cramer's V = 0.063								F=0.724 n.s. $\eta=0.056$

n.s. = not significant, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5-8: The final decision regarding whether lead shot is banned in the Minnesota farmland zone or not will have an impact on my life.

	N	Extremely Disagree	Quite Disagree	Slightly Disagree	Neutral	Slightly Agree	Quite Agree	Extremely agree	Mean
Control	525	8.6%	13.5%	9.0%	26.3%	17.5%	14.5%	10.7%	4.17
Basic	163	10.4%	6.7%	11.7%	25.8%	17.8%	18.4%	9.2%	4.26
DNR declaration	183	8.7%	7.7%	12.0%	30.6%	18.0%	13.1%	9.8%	4.20
Concession question	166	7.2%	12.7%	7.2%	27.1%	27.1%	9.6%	9.0%	4.19
Qualifier	167	8.4%	12.0%	11.4%	26.3%	21.0%	10.8%	10.2%	4.13
Value expressive	182	9.3%	15.4%	7.7%	27.5%	14.8%	14.3%	11.0%	4.10
Social adjustive – norms aligned	202	10.9%	10.4%	9.9%	27.2%	14.4%	15.3%	11.9%	4.17
Social adjustive – norms not aligned	165	9.1%	7.9%	12.7%	27.9%	21.8%	15.2%	5.5%	4.13
3 rd person narrative	174	12.6%	9.8%	10.3%	27.0%	17.2%	14.4%	8.6%	4.04
1 st person narrative	167	9.0%	10.2%	13.8%	33.5%	16.8%	8.4%	8.4%	3.98
	$\chi^2=56.129$ n.s.; Cramer's V = 0.067								F=0.397n.s. $\eta=0.041$

n.s. = not significant, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Section 5: Agreement With Message Recommendations

Table 5-9: Would you be likely or unlikely to support a ban on using lead shot to hunt small game in the farmland zone of Minnesota within the next 5 years?

	N	Extremely unlikely	Quite unlikely	Slightly unlikely	Neutral	Slightly likely	Quite likely	Extremely likely	Mean
Control	502	23.5%	13.3%	9.8%	7.2%	13.5%	18.1%	14.5%	3.86
Basic	157	12.7%	9.6%	8.3%	5.1%	15.3%	25.5%	23.6%	4.71
DNR declaration	181	21.0%	9.4%	9.9%	3.3%	11.0%	23.8%	21.5%	4.31
Concession question	157	18.5%	14.0%	7.0%	6.4%	10.8%	24.2%	19.1%	4.26
Qualifier	159	19.5%	10.7%	3.8%	6.9%	15.7%	27.0%	16.4%	4.35
Value expressive	172	20.9%	9.3%	6.4%	4.7%	12.2%	25.6%	20.9%	4.38
Social adjustive – norms aligned	193	16.6%	9.8%	5.7%	6.2%	14.5%	27.5%	19.7%	4.53
Social adjustive – norms not aligned	152	14.5%	8.6%	8.6%	8.6%	11.8%	28.3%	19.7%	4.59
3 rd person narrative	167	17.4%	9.0%	7.8%	12.0%	12.0%	28.1%	13.8%	4.32
1 st person narrative	164	13.4%	10.4%	7.3%	7.3%	14.6%	21.3%	25.6%	4.66
	$\chi^2=73.372^*$; Cramer's V = 0.078								F=3.873***, $\eta=0.131$

n.s. = not significant, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5-10: I intend to support a ban on lead shot in the Minnesota farmland zone.

	N	Extremely Disagree	Quite Disagree	Slightly Disagree	Neutral	Slightly Agree	Quite Agree	Extremely agree	Mean
Control	525	22.9%	11.8%	7.6%	17.9%	13.3%	15.0%	11.4%	3.78
Basic	162	13.0%	9.9%	6.8%	20.4%	9.9%	21.6%	18.5%	4.43
DNR declaration	182	19.8%	8.2%	9.9%	16.5%	12.1%	17.0%	16.5%	4.10
Concession question	166	19.3%	12.0%	6.0%	18.1%	10.8%	22.9%	10.8%	4.01
Qualifier	166	19.9%	10.2%	3.6%	12.7%	21.1%	18.7%	13.9%	4.16
Value expressive	181	20.4%	9.9%	3.3%	20.4%	11.6%	20.4%	13.8%	4.09
Social adjustive – norms aligned	202	18.8%	9.9%	4.5%	18.8%	11.9%	23.3%	12.9%	4.16
Social adjustive – norms not aligned	164	13.4%	8.5%	9.1%	17.1%	10.4%	25.6%	15.9%	4.43
3 rd person narrative	174	18.4%	6.9%	7.5%	22.4%	12.1%	24.1%	8.6%	4.10
1 st person narrative	167	13.8%	9.6%	7.2%	15.6%	14.4%	24.0%	15.6%	4.41
	$\chi^2=74.427^*$; Cramer's V = 0.077								F=2.830** $\eta=0.110$

n.s. = not significant, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Section 5: Agreement With Message Recommendations

Table 5-11: I believe I will oppose a ban on lead shot in the Minnesota farmland zone.

	N	Extremely Disagree	Quite Disagree	Slightly Disagree	Neutral	Slightly Agree	Quite Agree	Extremely agree	Mean
Control	520	18.8%	13.7%	10.8%	16.5%	9.8%	11.5%	18.8%	3.95
Basic	163	25.2%	14.1%	9.2%	20.9%	6.1%	11.7%	12.9%	3.55
DNR declaration	181	21.5%	15.5%	11.0%	12.2%	11.6%	7.7%	20.4%	3.82
Concession question	166	17.5%	22.3%	8.4%	16.3%	7.8%	10.8%	16.9%	3.75
Qualifier	164	18.9%	20.1%	9.8%	17.1%	2.4%	11.0%	20.7%	3.80
Value expressive	178	22.5%	19.1%	13.5%	14.6%	5.6%	8.4%	16.3%	3.52
Social adjustive – norms aligned	199	22.1%	21.6%	11.1%	14.1%	8.0%	10.1%	13.1%	3.47
Social adjustive – norms not aligned	161	19.3%	21.7%	6.8%	17.4%	11.8%	7.5%	15.5%	3.65
3 rd person narrative	174	16.7%	19.5%	10.9%	21.3%	6.9%	6.9%	17.8%	3.74
1 st person narrative	164	21.3%	24.4%	9.8%	14.6%	6.7%	9.1%	14.0%	3.45
	$\chi^2=65.473$ n.s.; Cramer's V = 0.073								F=1.641 n.s. $\eta=0.084$

n.s. = not significant, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5-12: I plan to oppose a ban on lead shot in the Minnesota farmland zone.

	N	Extremely Disagree	Quite Disagree	Slightly Disagree	Neutral	Slightly Agree	Quite Agree	Extremely agree	Mean
Control	520	20.2%	16.5%	8.5%	19.0%	9.2%	9.0%	17.5%	3.78
Basic	162	26.5%	16.7%	8.0%	22.2%	8.0%	6.2%	12.3%	3.36
DNR declaration	180	25.0%	14.4%	8.9%	20.0%	6.7%	6.1%	18.9%	3.63
Concession question	165	18.2%	26.1%	6.1%	20.0%	7.3%	7.3%	15.2%	3.55
Qualifier	166	20.5%	22.9%	7.2%	17.5%	3.6%	9.0%	19.3%	3.65
Value expressive	181	24.3%	22.1%	7.2%	17.7%	4.4%	9.4%	14.9%	3.44
Social adjustive – norms aligned	201	24.4%	19.9%	8.5%	17.4%	8.5%	7.0%	14.4%	3.44
Social adjustive – norms not aligned	164	22.6%	21.3%	9.8%	17.7%	9.8%	6.1%	12.8%	3.40
3 rd person narrative	172	20.3%	20.3%	12.2%	18.6%	5.8%	5.2%	17.4%	3.55
1 st person narrative	166	24.7%	25.3%	8.4%	18.1%	6.0%	7.8%	9.6%	3.17
	$\chi^2=52.589$ n.s.; Cramer's V = 0.065								F=1.664 n.s. $\eta=0.085$

n.s. = not significant, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

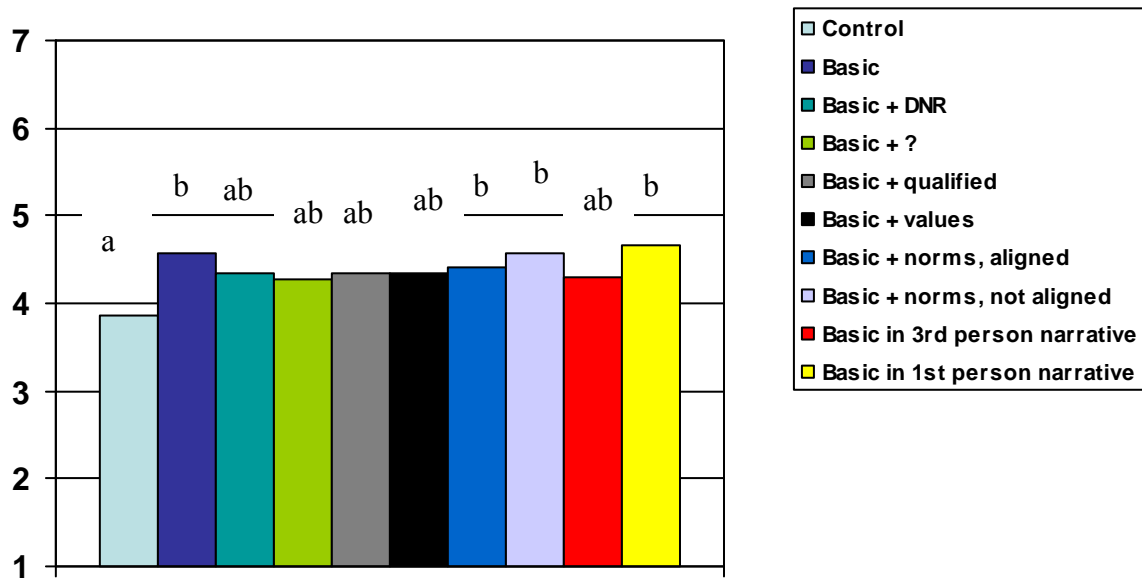
Section 5: Agreement With Message Recommendations

Table 5-13: I will support a ban on lead shot in the Minnesota farmland zone.

	N	Extremely Disagree	Quite Disagree	Slightly Disagree	Neutral	Slightly Agree	Quite Agree	Extremely agree	Mean
Control	527	21.4%	13.7%	8.0%	17.3%	12.0%	15.2%	12.5%	3.80
Basic	162	14.8%	8.0%	9.9%	17.3%	10.5%	21.0%	18.5%	4.38
DNR declaration	183	16.9%	6.6%	10.4%	17.5%	13.1%	17.5%	18.0%	4.28
Concession question	166	21.1%	9.0%	7.2%	15.7%	10.2%	24.1%	12.7%	4.08
Qualifier	168	19.0%	10.7%	3.0%	14.9%	18.5%	17.9%	16.1%	4.21
Value expressive	182	18.7%	10.4%	5.5%	16.5%	10.4%	20.9%	17.6%	4.23
Social adjustive – norms aligned	202	19.3%	6.4%	6.4%	14.4%	13.9%	23.3%	16.3%	4.32
Social adjustive – norms not aligned	165	12.1%	9.7%	9.1%	17.0%	9.7%	24.2%	18.2%	4.48
3 rd person narrative	175	20.0%	8.0%	8.0%	20.6%	9.1%	23.4%	10.9%	4.05
1 st person narrative	167	12.6%	10.8%	9.0%	13.8%	12.0%	24.6%	17.4%	4.45
$\chi^2=72.335^*$; Cramer's V = 0.076									F=3.002** $\eta=0.113$

n.s. = not significant, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 5-1: Scaled agreement with message recommendations by treatment.



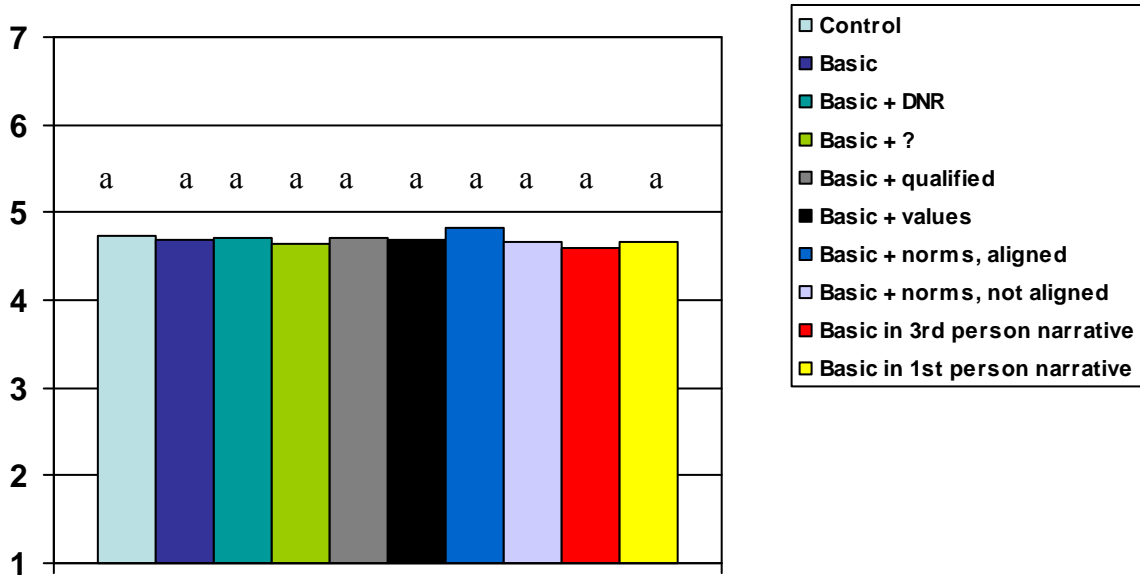
Notes: 1=extremely low evaluation, 7=extremely high evaluation

F=4.112, $p < 0.001$, $\eta=0.132$

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

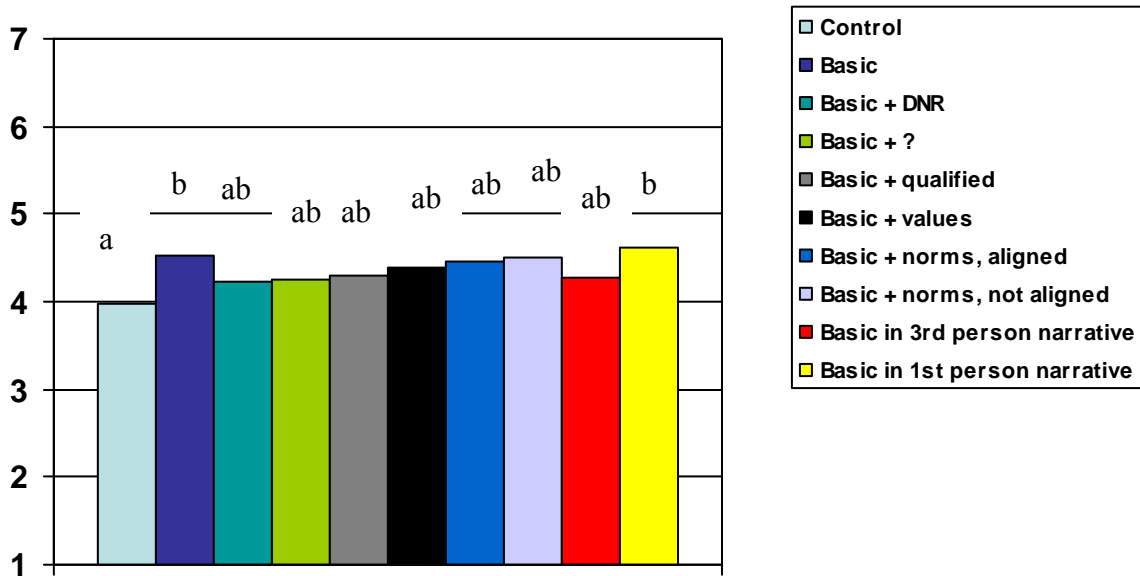
Section 5: Agreement With Message Recommendations

Figure 5-2: Scaled outcome involvement by treatment.



Notes: 1=extremely low evaluation, 7=extremely high evaluation
 $F=0.574$, n.s., $\eta=0.050$
 Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Figure 5-3: Scaled behavioral intentions by treatment.



Notes: 1=extremely low evaluation, 7=extremely high evaluation
 $F=2.691$, $p<0.01$, $\eta=0.107$
 Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Section 6: Values

Survey recipients were asked to respond to nine items derived from Hullett and Boster (2001) addressing values related to conformity and self direction. Three items addressed conformity (Tables 6-1 to 6-3), and six items addressed self direction (Tables 6-4 to 6-9). On average, respondents rated all of the items quite important.

We constructed two scales to measure the importance of conformity ($\alpha = 0.946$) and self-direction ($\alpha = 0.954$). We found no significant differences among the control and treatment groups in the importance of conformity (Figure 6-1) or self-direction (Figure 6-2) values. Unlike Hullett and Boster (2001), we did not find significant relationships between self-direction values and message quality for the values-expressive message, nor conformity values and message quality for the social adjustive message with norms aligned. We found significant positive relationships between both self-direction values ($r = 0.234^{**}$) and conformity values ($r = 0.262^{**}$) with the message quality for the social adjustive messages with non-aligned norms.

Section 6: Values

Table 6-1: How important is the following value to you: politeness (being courteous, having good manners)

	N	Extremely Un-important	Quite Un-important	Slightly Un-important	Neutral	Slightly Important	Quite Important	Extremely important	Mean
Control	527	2.5%	1.3%	0.6%	0.4%	3.6%	44.8%	46.9%	6.23
Basic	161	1.9%	0.6%	0.0%	0.0%	5.0%	40.4%	52.2%	6.35
DNR declaration	182	1.1%	1.1%	0.0%	1.6%	4.9%	45.6%	45.6%	6.27
Concession question	166	1.2%	4.8%	0.6%	1.2%	5.4%	41.0%	45.8%	6.11
Qualifier	164	0.0%	1.8%	0.0%	1.8%	3.7%	46.3%	46.3%	6.32
Value expressive	182	1.6%	2.2%	0.5%	1.6%	2.7%	38.5%	52.7%	6.28
Social adjustive – norms aligned	202	2.0%	0.5%	0.5%	1.5%	4.5%	41.6%	49.5%	6.29
Social adjustive – norms not aligned	163	1.8%	1.8%	1.8%	1.2%	4.3%	41.1%	47.9%	6.19
3 rd person narrative	174	1.1%	0.6%	0.0%	4.0%	1.1%	48.9%	44.3%	6.27
1 st person narrative	167	0.6%	3.6%	0.6%	0.0%	5.4%	41.9%	47.9%	6.23
$\chi^2=68.520$ n.s.; Cramer's V = 0.074									F=0.660 n.s.; $\eta=0.053$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Table 6-2: How important is the following value to you: Honoring of parents and elders (showing respect)

	N	Extremely Un-important	Quite Un-important	Slightly Un-important	Neutral	Slightly Important	Quite Important	Extremely important	Mean
Control	527	2.7%	0.8%	0.2%	0.2%	3.0%	35.9%	57.3%	6.37
Basic	161	1.9%	0.6%	0.0%	0.6%	1.9%	32.3%	62.7%	6.48
DNR declaration	181	1.1%	1.1%	0.0%	0.6%	6.1%	39.2%	51.9%	6.35
Concession question	166	3.6%	2.4%	0.0%	1.8%	5.4%	26.5%	60.2%	6.23
Qualifier	165	0.6%	1.2%	0.0%	2.4%	2.4%	31.5%	61.8%	6.47
Value expressive	182	3.3%	0.5%	0.5%	0.5%	3.8%	29.1%	62.1%	6.37
Social adjustive – norms aligned	202	2.5%	0.0%	0.0%	1.5%	3.5%	34.2%	58.4%	6.40
Social adjustive – norms not aligned	165	2.4%	1.8%	1.2%	2.4%	1.8%	33.9%	56.4%	6.27
3 rd person narrative	175	1.1%	1.1%	0.0%	3.4%	2.3%	34.9%	57.1%	6.38
1 st person narrative	167	2.4%	1.8%	0.0%	0.0%	5.4%	26.9%	63.5%	6.39
$\chi^2=71.912$ n.s.; Cramer's V = 0.076									F=0.738 n.s.; $\eta=0.056$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Section 6: Values

Table 6-3: How important is the following value to you: Obedience (being dutiful, meeting obligations)

	N	Extremely Un-important	Quite Un-important	Slightly Un-important	Neutral	Slightly Important	Quite Important	Extremely important	Mean
Control	525	2.1%	1.1%	0.0%	1.0%	5.0%	41.7%	49.1%	6.27
Basic	160	1.3%	1.3%	0.0%	0.6%	5.6%	40.0%	51.3%	6.33
DNR declaration	182	1.1%	1.1%	0.0%	1.6%	8.8%	46.7%	40.7%	6.19
Concession question	165	1.2%	5.5%	0.0%	2.4%	8.5%	37.0%	45.5%	6.04
Qualifier	164	0.0%	1.8%	0.0%	4.3%	9.1%	40.9%	43.9%	6.19
Value expressive	181	2.2%	2.2%	0.0%	1.1%	5.5%	33.1%	55.8%	6.28
Social adjustive – norms aligned	201	2.5%	0.5%	0.0%	3.5%	6.0%	42.8%	44.8%	6.17
Social adjustive – norms not aligned	165	1.2%	3.6%	1.8%	3.6%	4.2%	41.2%	44.2%	6.07
3 rd person narrative	175	1.1%	0.6%	0.6%	4.6%	4.6%	46.9%	41.7%	6.18
1 st person narrative	166	1.2%	2.4%	0.6%	0.6%	3.6%	39.2%	52.4%	6.30
$\chi^2=96.109^{***}$; Cramer's V = 0.088									F=1.338 n.s.; $\eta=0.076$

n.s. = not significant, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6-4: How important is the following value to you: Freedom (freedom of action and thought)

	N	Extremely Un-important	Quite Un-important	Slightly Un-important	Neutral	Slightly Important	Quite Important	Extremely important	Mean
Control	524	2.5%	0.8%	0.0%	0.8%	4.4%	26.5%	65.1%	6.44
Basic	160	1.3%	1.3%	0.0%	1.9%	1.9%	30.6%	63.1%	6.46
DNR declaration	181	1.7%	0.0%	0.6%	1.7%	5.0%	27.1%	64.1%	6.46
Concession question	165	3.0%	1.8%	1.2%	1.2%	1.8%	27.9%	63.0%	6.33
Qualifier	164	0.6%	1.2%	0.0%	3.0%	3.0%	32.3%	59.8%	6.43
Value expressive	182	2.2%	1.6%	0.5%	1.1%	3.3%	22.5%	68.7%	6.44
Social adjustive – norms aligned	201	2.5%	0.5%	0.0%	2.0%	3.0%	25.9%	66.2%	6.45
Social adjustive – norms not aligned	164	2.4%	1.8%	0.6%	1.8%	3.0%	23.2%	67.1%	6.39
3 rd person narrative	175	1.1%	0.6%	0.6%	4.6%	5.7%	31.4%	56.0%	6.31
1 st person narrative	167	2.4%	1.8%	0.0%	0.0%	6.6%	25.7%	63.5%	6.38
$\chi^2=58.681$ n.s.; Cramer's V = 0.069									F=0.405 n.s.; $\eta=0.042$

n.s. = not significant, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Section 6: Values

Table 6-5: How important is the following value to you: Self-respect (belief in one's own worth)

	N	Extremely Un-important	Quite Un-important	Slightly Un-important	Neutral	Slightly Important	Quite Important	Extremely important	Mean
Control	522	2.3%	1.0%	0.0%	0.2%	3.4%	32.6%	60.5%	6.41
Basic	160	1.9%	0.6%	0.0%	0.6%	1.9%	30.6%	64.4%	6.49
DNR declaration	181	1.7%	0.0%	0.0%	1.1%	6.1%	34.3%	56.9%	6.40
Concession question	166	1.8%	4.2%	0.0%	1.8%	1.2%	28.3%	62.7%	6.32
Qualifier	164	1.2%	0.6%	0.6%	1.8%	4.3%	34.1%	57.3%	6.39
Value expressive	182	3.3%	1.1%	0.5%	1.6%	3.8%	25.3%	64.3%	6.35
Social adjustive – norms aligned	202	2.0%	0.5%	0.0%	2.0%	4.0%	33.7%	57.9%	6.38
Social adjustive – norms not aligned	162	2.5%	1.2%	1.9%	1.2%	3.7%	31.5%	58.0%	6.29
3 rd person narrative	175	1.1%	0.6%	0.0%	5.1%	4.0%	32.0%	57.1%	6.35
1 st person narrative	167	2.4%	1.8%	0.0%	0.0%	6.0%	32.3%	57.5%	6.32
	$\chi^2=89.465^{**}$; Cramer's V = 0.085								F=0.493 n.s.; $\eta=0.046$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Table 6-6: How important is the following value to you: Creativity (uniqueness, imagination)

	N	Extremely Un-important	Quite Un-important	Slightly Un-important	Neutral	Slightly Important	Quite Important	Extremely important	Mean
Control	525	1.9%	1.3%	0.8%	3.2%	16.6%	43.2%	33.0%	5.93
Basic	161	0.6%	1.9%	0.6%	3.1%	12.4%	45.3%	36.0%	6.05
DNR declaration	182	1.6%	0.0%	1.6%	3.8%	15.4%	41.2%	36.3%	6.00
Concession question	165	1.2%	4.8%	1.2%	5.5%	11.5%	37.0%	38.8%	5.87
Qualifier	165	0.6%	1.2%	1.2%	4.8%	15.8%	39.4%	37.0%	6.00
Value expressive	181	1.7%	1.7%	1.1%	6.6%	12.7%	32.6%	43.6%	5.99
Social adjustive – norms aligned	202	2.5%	0.0%	0.5%	5.0%	15.8%	42.6%	33.7%	5.94
Social adjustive – norms not aligned	163	0.6%	3.7%	1.8%	3.7%	24.5%	32.5%	33.1%	5.78
3 rd person narrative	175	0.0%	1.1%	1.1%	7.4%	17.7%	43.4%	29.1%	5.89
1 st person narrative	166	1.2%	3.0%	0.6%	3.0%	9.6%	45.2%	37.3%	6.02
	$\chi^2=76.670^{**}$; Cramer's V = 0.078								F=0.823 n.s.; $\eta=0.060$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Section 6: Values

Table 6-7: How important is the following value to you: Independence (being self-reliant, self-sufficient)

	N	Extremely Un-important	Quite Un-important	Slightly Un-important	Neutral	Slightly Important	Quite Important	Extremely important	Mean
Control	526	2.3%	1.1%	0.0%	1.1%	6.3%	35.7%	53.4%	6.29
Basic	161	1.9%	0.6%	0.0%	0.6%	3.7%	38.5%	54.7%	6.38
DNR declaration	182	1.6%	0.0%	0.0%	2.7%	7.7%	35.7%	52.2%	6.31
Concession question	166	3.0%	1.8%	0.6%	1.8%	3.6%	34.3%	54.8%	6.23
Qualifier	165	0.6%	1.2%	0.0%	3.6%	7.9%	38.2%	48.5%	6.25
Value expressive	181	2.2%	1.7%	0.0%	1.1%	7.2%	26.5%	61.3%	6.34
Social adjustive – norms aligned	202	2.0%	0.5%	0.0%	2.0%	7.4%	33.7%	54.5%	6.31
Social adjustive – norms not aligned	164	1.8%	2.4%	0.6%	1.8%	6.7%	37.8%	48.8%	6.18
3 rd person narrative	175	0.6%	1.1%	0.0%	5.7%	5.1%	37.7%	49.7%	6.26
1 st person narrative	167	2.4%	1.8%	0.0%	0.6%	6.0%	34.1%	55.1%	6.29
	$\chi^2=59.449$ n.s.; Cramer's V = 0.069								F=0.426 n.s.; $\eta=0.043$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Table 6-8: How important is the following value to you: Choosing own goals (selecting own purposes)

	N	Extremely Un-important	Quite Un-important	Slightly Un-important	Neutral	Slightly Important	Quite Important	Extremely important	Mean
Control	524	2.1%	1.1%	0.2%	1.1%	6.3%	37.0%	52.1%	6.28
Basic	161	1.9%	.6%	0.0%	1.2%	5.6%	41.6%	49.1%	6.29
DNR declaration	182	1.6%	0.0%	0.5%	1.1%	7.7%	45.1%	44.0%	6.24
Concession question	166	2.4%	2.4%	0.6%	2.4%	4.2%	37.3%	50.6%	6.18
Qualifier	165	0.0%	1.8%	0.0%	2.4%	9.1%	40.0%	46.7%	6.25
Value expressive	182	2.2%	2.2%	0.0%	2.7%	6.6%	32.4%	53.8%	6.22
Social adjustive – norms aligned	202	2.5%	0.0%	0.0%	2.0%	5.9%	40.6%	49.0%	6.27
Social adjustive – norms not aligned	165	2.4%	1.2%	0.6%	2.4%	5.5%	39.4%	48.5%	6.19
3 rd person narrative	175	0.6%	1.1%	0.0%	5.7%	6.9%	41.7%	44.0%	6.18
1 st person narrative	167	2.4%	1.8%	0.0%	3.6%	3.6%	34.7%	53.9%	6.24
	$\chi^2=54.388$ n.s.; Cramer's V = 0.066								F=0.260 n.s.; $\eta=0.034$

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

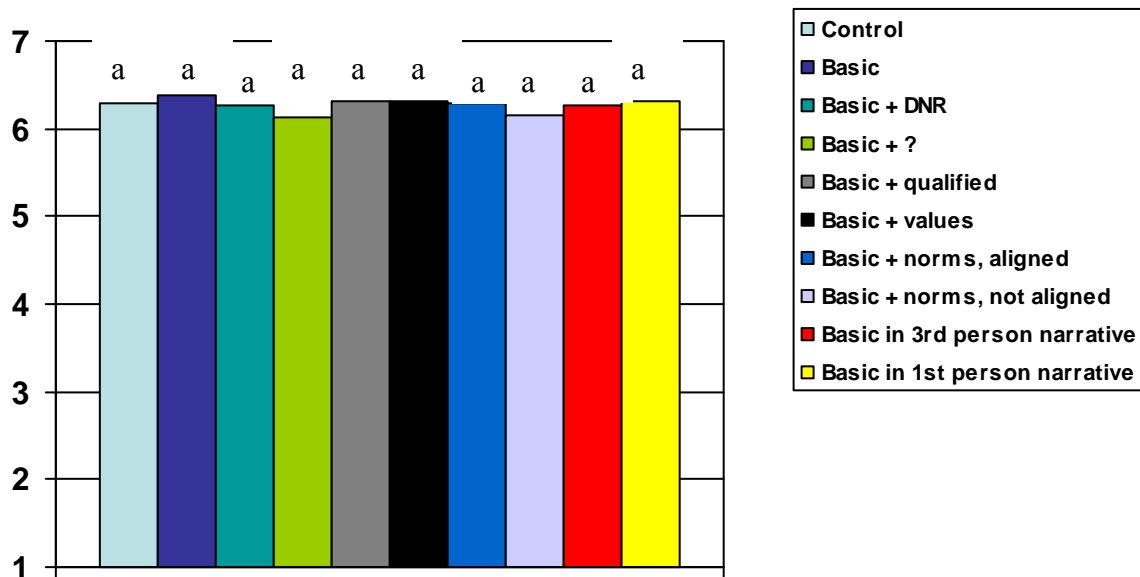
Section 6: Values

Table 6-9: How important is the following value to you: Curiosity (being interested in everything, exploring)

	N	Extremely Un-important	Quite Un-important	Slightly Un-important	Neutral	Slightly Important	Quite Important	Extremely important	Mean
Control	526	1.9%	1.5%	0.8%	2.9%	16.3%	43.3%	33.3%	5.93
Basic	161	0.6%	1.2%	0.6%	3.7%	16.1%	39.8%	37.9%	6.04
DNR declaration	182	1.1%	0.5%	2.2%	4.9%	17.0%	41.2%	33.0%	5.92
Concession question	166	0.6%	4.8%	1.8%	4.2%	17.5%	31.9%	39.2%	5.86
Qualifier	165	0.0%	2.4%	1.8%	4.8%	15.2%	42.4%	33.3%	5.93
Value expressive	182	2.2%	1.6%	1.1%	7.7%	10.4%	36.8%	40.1%	5.93
Social adjustive – norms aligned	202	1.5%	.5%	1.0%	4.5%	16.8%	40.1%	35.6%	5.98
Social adjustive – norms not aligned	165	1.2%	2.4%	1.8%	6.1%	19.4%	35.2%	33.9%	5.81
3 rd person narrative	175	0.0%	1.1%	1.1%	8.0%	18.9%	39.4%	31.4%	5.89
1 st person narrative	167	0.6%	3.6%	1.2%	3.6%	16.2%	35.3%	39.5%	5.95
$\chi^2=60.413$ n.s.; Cramer's V = 0.069									F=0.487 n.s. $\eta=0.046$

n.s. = not significant, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 6-1: Scaled importance of conformity value by treatment.



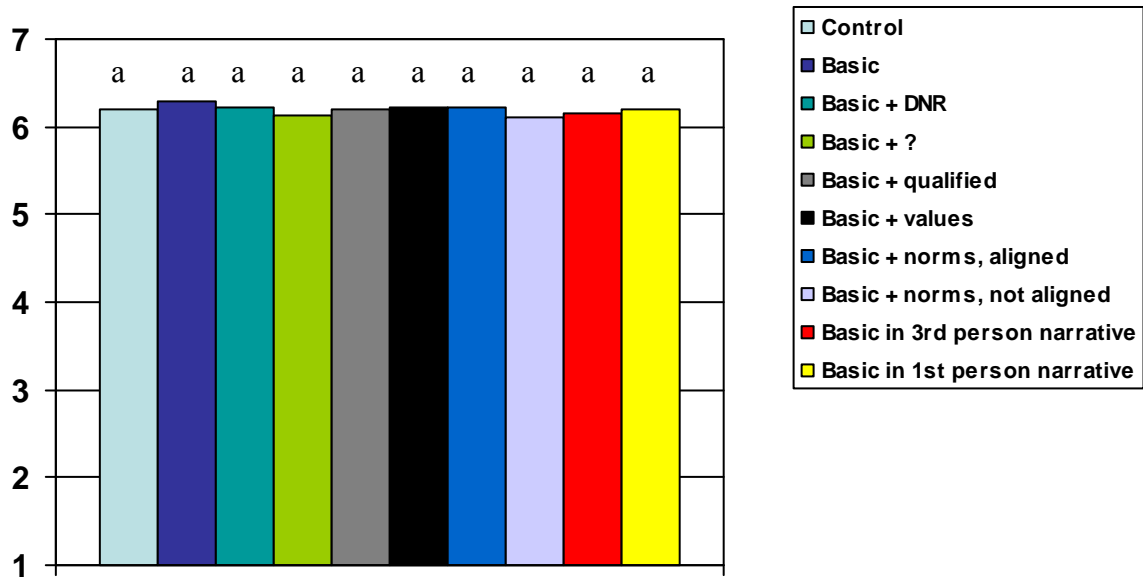
Notes: 1=extremely low evaluation, 7=extremely high evaluation

F=0.795, n.s., $\eta=0.059$

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Section 6: Values

Figure 6-2: Scaled importance of self-direction value by treatment.



Notes: 1=extremely low evaluation, 7=extremely high evaluation

$F=0.437$, n.s., $\eta=0.043$

Letters a, ab, b indicate significant differences in Games-Howell post-hoc test.

Section 7: Background Information

We gathered background information on the individuals who received the control and treatment messages. On average, respondents had been hunting for small game for 33.5 years. There were no significant differences among the control and treatment groups in the number of years hunting small game (Table 7-1). Similarly, there were no significant differences among the groups in the proportion of respondents who had hunted for small game in Minnesota in the past 5 years ($\bar{x} = 97.1\%$) (Table 7-2), nor in the proportion of respondents who had hunted for small game in the farmland zone in the past 5 years ($\bar{x} = 75.4\%$) (Table 7-3). Likewise, there were no significant differences among the groups in typical use of lead shot. About 60% of respondents used non-lead shot at least some of the time, compared to about 40% of respondents who always used lead shot (Table 7-4). Finally, there was no statistically significant difference in the age of respondents to the different treatments ($\bar{x} = 46$ years) (Table 7-5).

Section 7: Background Information

Table 7-1: Years hunting small game

	N	Mean
Control	529	33.45
Basic	157	33.59
DNR declaration	178	34.09
Concession question	165	33.80
Qualifier	165	31.72
Value expressive	175	33.75
Social adjustive – norms aligned	200	32.20
Social adjustive – norms not aligned	164	34.13
3 rd person narrative	172	33.83
1 st person narrative	166	34.64
	F=0.558 n.s. η=0.049	

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Table 7-2: Did you hunt for small game in Minnesota at anytime during the past 5 years?

	N	% Yes
Control	536	97.0%
Basic	162	97.5%
DNR declaration	183	97.8%
Concession question	167	97.6%
Qualifier	166	97.6%
Value expressive	180	97.8%
Social adjustive – norms aligned	202	97.0%
Social adjustive – norms not aligned	168	95.8%
3 rd person narrative	175	96.0%
1 st person narrative	169	96.4%
	χ ² =2.952 n.s.; Cramer's V = 0.037	

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Section 7: Background Information

Table 7-3: Did you hunt for small game in the farmland zone of Minnesota at anytime during the past 5 years?

	N	% Yes
Control	536	77.1%
Basic	161	72.0%
DNR declaration	182	76.4%
Concession question	166	74.7%
Qualifier	167	74.3%
Value expressive	181	78.5%
Social adjustive – norms aligned	202	74.8%
Social adjustive – norms not aligned	168	75.0%
3 rd person narrative	174	70.7%
1 st person narrative	169	76.3%
	$\chi^2=5.141$ n.s.; Cramer's V = 0.049	

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Table 7-4: Do you typically use lead shot or non-lead shot (steel, bismuth) when you hunt small game?

	N	Never use lead	Occasionally use lead	Mostly use lead	Always use lead
Control	533	10.5%	16.9%	26.5%	46.2%
Basic	162	14.8%	25.9%	23.5%	35.8%
DNR declaration	181	13.3%	21.0%	26.0%	39.8%
Concession question	165	9.1%	24.8%	28.5%	37.6%
Qualifier	165	10.3%	26.7%	22.4%	40.6%
Value expressive	180	12.2%	18.9%	27.2%	41.7%
Social adjustive – norms aligned	202	14.9%	26.2%	23.3%	35.6%
Social adjustive – norms not aligned	165	15.2%	28.5%	18.8%	37.6%
3 rd person narrative	175	10.9%	21.1%	27.4%	40.6%
1 st person narrative	169	14.8%	21.3%	30.8%	33.1%
	$\chi^2=39.633$ n.s.; Cramer's V = 0.079				

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

Section 7: Background Information

Table 7-5: Current age

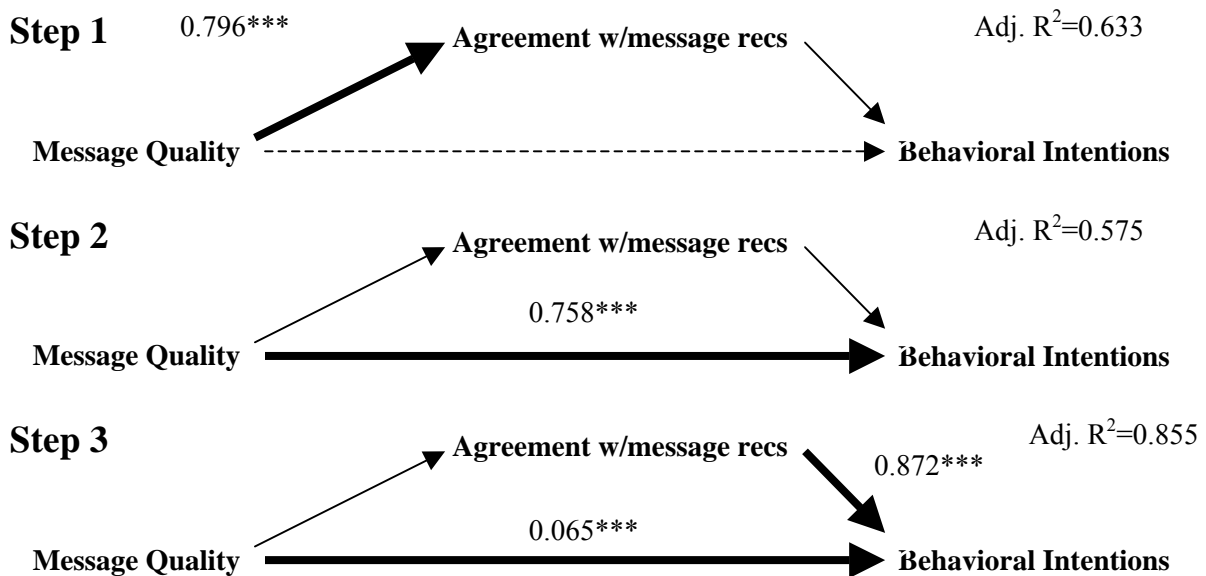
	N	Mean
Control	535	45.63
Basic	162	45.68
DNR declaration	183	46.85
Concession question	166	46.63
Qualifier	164	44.51
Value expressive	179	46.04
Social adjustive – norms aligned	201	44.82
Social adjustive – norms not aligned	167	46.23
3 rd person narrative	175	46.65
1 st person narrative	169	47.18
	F=0.652 n.s. η=0.053	

n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

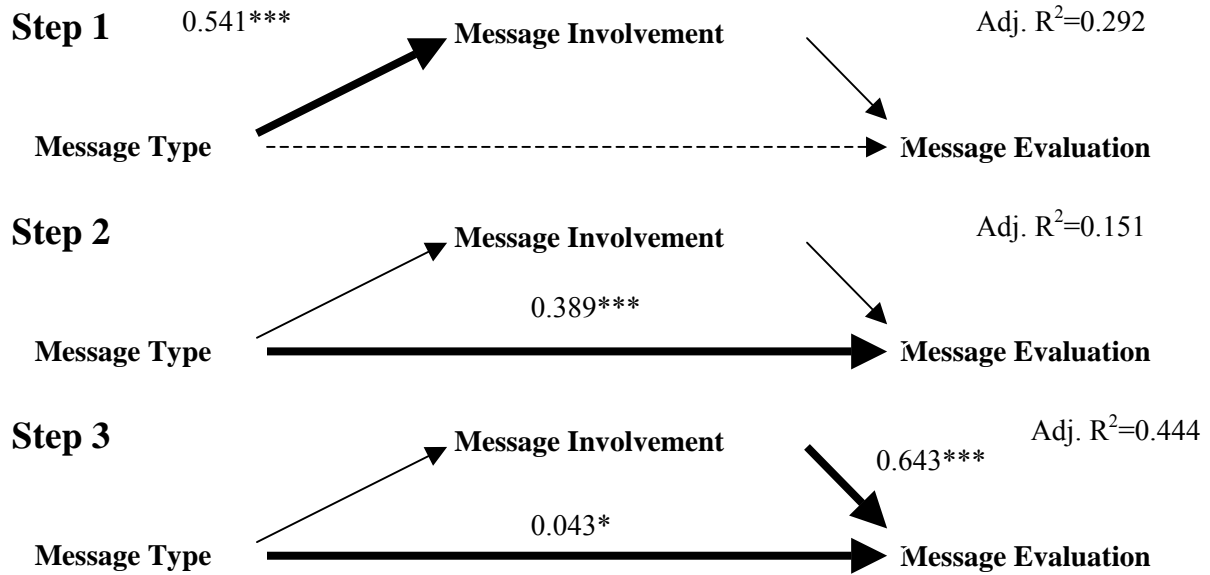
Section 8: Model Development

Based on the research of Hullett and Bolster (2003) and Polyorat (2007), we examined the factors that may relate to support for a ban on lead shot in the Minnesota farmland zone. We found that message quality ($r = 0.758^{***}$), perception of the narrative quality of the message ($r = 0.334^{***}$), message involvement ($r = 0.598^{***}$), product evaluation ($r = 0.875^{***}$), agreement with message recommendations ($r = 0.923^{***}$), conformity values ($r = 0.070^{**}$), and self-direction values ($r = 0.069^{**}$) were positively correlated with our scaled measure of intention to support a ban on lead shot in the Minnesota farmland zone. Outcome involvement ($r = -0.147^{***}$), years hunting small game ($r = -0.126^{***}$), age ($r = -0.074^{**}$), and increased use of lead shot for hunting small game ($r = -0.470^{***}$) were negatively correlated with intent to support a ban. Respondents who had hunted for small game in the Minnesota farmland zone in the past 5 years were significantly less likely to support a ban ($\bar{x} = 4.143$) than those who had not hunted in the area in the past 5 years ($\bar{x} = 4.741$) ($F=36.47^{***}$, $\eta = 0.131$).

We conducted mediation analyses to examine the relationships first among (a) message quality, (b) agreement with message recommendations, and (c) intention to support a ban, then among (a) message type, (b) message involvement, and (c) message evaluation. We followed Baron and Kenny's (1986) recommendations for mediation analysis, which involved computing a series of three models. Agreement with message recommendations partially mediated the relationship between message quality and behavioral intentions.



Message involvement partially mediated the relationship between message type (i.e. perception of narrative nature of the message) and product evaluation.



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Appendix C: Treatment Messages

Appendix C: Treatment Messages

Control Message: Nationwide there is concern about the effects of using lead shot while hunting small game. Although lead is the primary component of shot and has been used for a couple of centuries, there are environmental concerns associated with its continued use. The use of lead shot for waterfowl hunting has been banned nationwide since 1991.

The Minnesota Department of Natural Resources is examining the issue of further restricting the use of lead shot in the state. Some other states are also examining this issue and some have already taken action. One recommendation of an advisory committee to the DNR is to phase out the use of lead shot for all small game species in the farmland zone on all public and private lands.

(The farmland zone includes a large area in southern and western Minnesota that was historically prairie and has now been largely converted to row crops and pasture. The farmland zone generally does not include the forested areas in central and northern Minnesota.)

Treatment 1—Basic factual message: Twenty six states have begun regulating the use of lead shot beyond existing restrictions for waterfowl hunting.

Lead is a toxin that can kill humans and wildlife when it is eaten. Recent news reports have described concerns related to lead in children's toys and discussed how doves, loons, and trumpeter swans have died from lead poisoning.

A regulation banning lead shot will protect wildlife and support a healthy environment. Banning lead shot will improve the image of hunters, safeguard hunting opportunities, and preserve our hunting heritage.

Support a ban on toxic lead shot in Minnesota's farmland zone.

(The farmland zone includes a large area in southern and western Minnesota that was historically prairie and has now been largely converted to row crops and pasture. The farmland zone generally does not include the forested areas in central and northern Minnesota.)

Treatment 2—Basic factual with DNR declarative statement: Twenty six states have begun regulating the use of lead shot beyond existing restrictions for waterfowl hunting.

Lead is a toxin that can kill humans and wildlife when it is eaten. Recent news reports have described concerns related to lead in children's toys and discussed how doves, loons, and trumpeter swans have died from lead poisoning.

A regulation banning lead shot will protect wildlife and support a healthy environment. Banning lead shot will improve the image of hunters, safeguard hunting opportunities, and preserve our hunting heritage.

The Minnesota Department of Natural Resources would like your support of a ban on toxic lead shot in Minnesota's farmland zone.

(The farmland zone includes a large area in southern and western Minnesota that was historically prairie and has now been largely converted to row crops and pasture. The farmland zone generally does not include the forested areas in central and northern Minnesota.)

Appendix C: Treatment Messages

Treatment 3—Basic factual with concession question: Twenty six states have begun regulating the use of lead shot beyond existing restrictions for waterfowl hunting.

Lead is a toxin that can kill humans and wildlife when it is eaten. Recent news reports have described concerns related to lead in children’s toys and discussed how doves, loons, and trumpeter swans have died from lead poisoning.

A regulation banning lead shot will protect wildlife and support a healthy environment. Banning lead shot will improve the image of hunters, safeguard hunting opportunities, and preserve our hunting heritage.

Why would you oppose regulations banning the use of toxic shot?

(The farmland zone includes a large area in southern and western Minnesota that was historically prairie and has now been largely converted to row crops and pasture. The farmland zone generally does not include the forested areas in central and northern Minnesota.)

Treatment 4—Basic factual with qualifier: Twenty six states have begun regulating the use of lead shot beyond existing restrictions for waterfowl hunting.

Lead is a toxin that can kill humans and wildlife when it is eaten. Recent news reports have described concerns related to lead in children’s toys and discussed how doves, loons, and trumpeter swans have died from lead poisoning.

Although it means additional government regulation, a regulation banning lead shot will protect wildlife and support a healthy environment. Banning lead shot will improve the image of hunters, safeguard hunting opportunities, and preserve our hunting heritage.

Support a ban on toxic lead shot in Minnesota’s farmland zone.

(The farmland zone includes a large area in southern and western Minnesota that was historically prairie and has now been largely converted to row crops and pasture. The farmland zone generally does not include the forested areas in central and northern Minnesota.)

Treatment 5—Value expressive: Twenty six states have begun regulating the use of lead shot beyond existing restrictions for waterfowl hunting.

Lead is a toxin that can kill humans and wildlife when it is eaten. Recent news reports have described concerns related to lead in children’s toys and discussed how doves, loons, and trumpeter swans have died from lead poisoning.

You love nature and the outdoors and value your hunting heritage. You want future generations to enjoy hunting and outdoor experiences like you do now. A regulation banning lead shot will protect wildlife and support a healthy environment. Banning lead shot will improve the image of hunters, safeguard hunting opportunities, and preserve our hunting heritage.

Support a ban on toxic lead shot in Minnesota’s farmland zone.

(The farmland zone includes a large area in southern and western Minnesota that was historically prairie and has now been largely converted to row crops and pasture. The farmland zone generally does not include the forested areas in central and northern Minnesota.)

Appendix C: Treatment Messages

Treatment 6—Social adjustive, norms aligned: Twenty six states have begun regulating the use of lead shot beyond existing restrictions for waterfowl hunting.

Lead is a toxin that can kill humans and wildlife when it is eaten. Recent news reports have described concerns related to lead in children’s toys and discussed how doves, loons, and trumpeter swans have died from lead poisoning.

You know that a growing number of hunters have voluntarily switched from lead to non-toxic shot and that sportsmen’s groups like Ducks Unlimited support the use of non-toxic shot. A regulation banning lead shot will protect wildlife and support a healthy environment. Banning lead shot will improve the image of hunters, safeguard hunting opportunities, and preserve our hunting heritage.

Support a ban on toxic lead shot in Minnesota’s farmland zone.

(The farmland zone includes a large area in southern and western Minnesota that was historically prairie and has now been largely converted to row crops and pasture. The farmland zone generally does not include the forested areas in central and northern Minnesota.)

Treatment 7—Social adjustive, norms not aligned: Twenty six states have begun regulating the use of lead shot beyond existing restrictions for waterfowl hunting.

Lead is a toxin that can kill humans and wildlife when it is eaten. Recent news reports have described concerns related to lead in children’s toys and discussed how doves, loons, and trumpeter swans have died from lead poisoning.

You know that many hunters are still using lead shot even though sportsmen’s groups like Ducks Unlimited support the use of non-toxic shot. A regulation banning lead shot will protect wildlife and support a healthy environment. Banning lead shot will improve the image of hunters, safeguard hunting opportunities, and preserve our hunting heritage.

Support a ban on toxic lead shot in Minnesota’s farmland zone.

(The farmland zone includes a large area in southern and western Minnesota that was historically prairie and has now been largely converted to row crops and pasture. The farmland zone generally does not include the forested areas in central and northern Minnesota.)

Treatment 8—Third-person narrative: Joe is listening to the radio on his way out to hunt pheasants. He hears a story about how 26 states have begun regulating the use of lead shot beyond existing restrictions for waterfowl hunting.

Joe knows that lead is a toxin that can kill humans and wildlife when it is eaten. Indeed, he has heard recent news reports about concerns related to lead in children’s toys and about doves, loons, and trumpeter swans dying from lead poisoning.

He supports a regulation banning lead shot because he cares about wildlife and a healthy environment, and because he knows that banning lead shot will improve the image of hunters, safeguard hunting opportunities, and preserve our hunting heritage.

Support a ban on toxic lead shot in Minnesota’s farmland zone.

(The farmland zone includes a large area in southern and western Minnesota that was historically prairie and has now been largely converted to row crops and pasture. The farmland zone generally does not include the forested areas in central and northern Minnesota.)

Appendix C: Treatment Messages

Treatment 9—First-person narrative: You are listening to the radio on your way out to hunt pheasants. You hear a story about how 26 states have begun regulating the use of lead shot beyond existing restrictions for waterfowl hunting.

You know that lead is a toxin that can kill humans and wildlife when it is eaten. Indeed, you have heard recent news reports about concerns related to lead in children’s toys and about how doves, loons, and trumpeter swans have died from lead poisoning.

You support a regulation banning lead shot because you care about wildlife and a healthy environment, and because you know that banning lead shot will improve the image of hunters, safeguard hunting opportunities, and preserve our hunting heritage.

Support a ban on toxic lead shot in Minnesota’s farmland zone.

(The farmland zone includes a large area in southern and western Minnesota that was historically prairie and has now been largely converted to row crops and pasture. The farmland zone generally does not include the forested areas in central and northern Minnesota.)

Appendix D: Survey Instrument

Small Game Hunter Lead Shot Study



Please read the information enclosed in the box below. Then complete the survey on the following pages.

Nationwide there is concern about the effects of using lead shot while hunting small game. Although lead is the primary component of shot and has been used for a couple of centuries, there are environmental concerns associated with its continued use. The use of lead shot for waterfowl hunting has been banned nationwide since 1991.

The Minnesota Department of Natural Resources is examining the issue of further restricting the use of lead shot in the state. Some other states are also examining this issue and some have already taken action. One recommendation of an advisory committee to the DNR is to phase out the use of lead shot for all small game species in the farmland zone on all public and private lands.

(The farmland zone includes a large area in southern and western Minnesota that was historically prairie and has now been largely converted to row crops and pasture. The farmland zone generally does not include the forested areas in central and northern Minnesota.)

Appendix D: Survey Instrument

Q1. Please indicate how much you agree or disagree with the following statements about the message that you just read. (Please circle one response for each.)

	Extremely Disagree	Quite Disagree	Slightly Disagree	Neutral	Slightly Agree	Quite Agree	Extremely Agree
The message is believable.	1	2	3	4	5	6	7
The message is convincing.	1	2	3	4	5	6	7
I find the message to be compelling.	1	2	3	4	5	6	7
The message seems logical.	1	2	3	4	5	6	7
The reasoning used in the message was unsound.	1	2	3	4	5	6	7
The message conveyed the key information in a straightforward way	1	2	3	4	5	6	7

Q2. The message is... (Circle one response for each pair of words below.)

NOT PERSUASIVE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | **PERSUASIVE**
 extremely quite slightly neither slightly quite extremely

NOT CONVERSATIONAL | 1 | 2 | 3 | 4 | 5 | 6 | 7 | **CONVERSATIONAL**
 extremely quite slightly neither slightly quite extremely

NOT FACT ORIENTED | 1 | 2 | 3 | 4 | 5 | 6 | 7 | **FACT ORIENTED**
 extremely quite slightly neither slightly quite extremely

NOT DRAMATIC | 1 | 2 | 3 | 4 | 5 | 6 | 7 | **DRAMATIC**
 extremely quite slightly neither slightly quite extremely

NOT TELLING A STORY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | **TELLING A STORY**
 extremely quite slightly neither slightly quite extremely

Appendix D: Survey Instrument

Q3. The information in the message is... (Circle one response for each pair of words below.)

NOT CONVEYED CLEARLY	1	2	3	4	5	6	7	CONVEYED CLEARLY
	extremely	quite	slightly	neither	slightly	quite	extremely	

DIFFICULT TO UNDERSTAND	1	2	3	4	5	6	7	EASY TO UNDERSTAND
	extremely	quite	slightly	neither	slightly	quite	extremely	

NOT INTERESTING	1	2	3	4	5	6	7	INTERESTING
	extremely	quite	slightly	neither	slightly	quite	extremely	

NOT INVOLVING	1	2	3	4	5	6	7	INVOLVING
	extremely	quite	slightly	neither	slightly	quite	extremely	

NOT CREDIBLE	1	2	3	4	5	6	7	CREDIBLE
	extremely	quite	slightly	neither	slightly	quite	extremely	

Q4. Would you say supporting a ban on lead shot in the farmland zone of Minnesota is... (Circle one response for each pair of words below.)

HARMFUL	1	2	3	4	5	6	7	BENEFICIAL
	extremely	quite	slightly	neither	slightly	quite	extremely	

BAD	1	2	3	4	5	6	7	GOOD
	extremely	quite	slightly	neither	slightly	quite	extremely	

FOOLISH	1	2	3	4	5	6	7	WISE
	extremely	quite	slightly	neither	slightly	quite	extremely	

NOT WORTHWHILE	1	2	3	4	5	6	7	WORTHWHILE
	extremely	quite	slightly	neither	slightly	quite	extremely	

UNAPPEALING	1	2	3	4	5	6	7	APPEALING
	extremely	quite	slightly	neither	slightly	quite	extremely	

NOT IMPORTANT	1	2	3	4	5	6	7	IMPORTANT
	extremely	quite	slightly	neither	slightly	quite	extremely	

Appendix D: Survey Instrument

Q5. Would you be likely or unlikely to support a ban on using lead shot to hunt small game in the farmland zone of Minnesota within the next five years? (Circle one response below.)

UNLIKELY	1	2	3	4	5	6	7	LIKELY
	extremely	quite	slightly	Neither	slightly	quite	extremely	

Q6. Please indicate how much you agree or disagree with the following statements about the message that you just read. (Please circle one response for each.)

	Extremely Disagree	Quite Disagree	Slightly Disagree	Neutral	Slightly Agree	Quite Agree	Extremely Agree
I think that a ban on lead shot in the Minnesota farmland zone is a good idea.	1	2	3	4	5	6	7
I support a ban on lead shot in the Minnesota farmland zone.	1	2	3	4	5	6	7
The Minnesota Department of Natural Resources should ban lead shot in the Minnesota farmland zone.	1	2	3	4	5	6	7
I do not think there should be a ban on lead shot in the Minnesota farmland zone.	1	2	3	4	5	6	7
Whether or not lead shot is banned in the Minnesota farmland zone is very important to me.	1	2	3	4	5	6	7
A ban on lead shot in the Minnesota farmland zone directly affects me.	1	2	3	4	5	6	7
The outcome of the decision to ban lead shot in the farmland zone is not relevant to me.	1	2	3	4	5	6	7
I intend to support a ban on lead shot in the Minnesota farmland zone.	1	2	3	4	5	6	7
I believe I will oppose a ban on lead shot in the Minnesota farmland zone.	1	2	3	4	5	6	7
I plan to oppose a ban on lead shot in the Minnesota farmland zone.	1	2	3	4	5	6	7
The final decision regarding whether lead shot is banned in the Minnesota farmland zone or not will have an impact on my life.	1	2	3	4	5	6	7
I will support a ban on lead shot in the Minnesota farmland zone.	1	2	3	4	5	6	7

Appendix D: Survey Instrument

Q7. Please indicate how important the following values are to you. (Please circle one response for each.)

	Extremely unimportant	Quite unimportant	Slightly unimportant	Neutral	Slightly important	Quite important	Extremely important
Politeness (being courteous, having good manners)	1	2	3	4	5	6	7
Honoring of parents and elders (showing respect)	1	2	3	4	5	6	7
Obedience (being dutiful, meeting obligations)	1	2	3	4	5	6	7
Freedom (freedom of action and thought)	1	2	3	4	5	6	7
Self-respect (belief in one's own worth)	1	2	3	4	5	6	7
Creativity (uniqueness, imagination)	1	2	3	4	5	6	7
Independence (being self- reliant, self-sufficient)	1	2	3	4	5	6	7
Choosing own goals (selecting own purposes)	1	2	3	4	5	6	7
Curiosity (being interested in everything, exploring)	1	2	3	4	5	6	7

Appendix D: Survey Instrument

BACKGROUND INFORMATION

Q8. In what year did you first hunt for small game?

_____ year

Q9. Did you hunt for small game in Minnesota at anytime during the past 5 years?

- YES
- NO

Q10. Did you hunt for small game in the farmland zone of Minnesota at anytime during the past 5 years? (See map on the front cover that identifies the farmland zone.)

- YES
- NO

Q11. Do you typically use lead shot or non-lead shot (steel, bismuth) when you hunt small game? (Check one.)

- NEVER USE LEAD
- OCCASIONALLY USE LEAD
- MOSTLY USE LEAD
- ALWAYS USE LEAD (EXCEPT FOR WATERFOWL)

Q12. What is your current age?

_____ years

**Thanks for your help! Please return
your survey in the enclosed, self-
addressed, stamped envelope.**

Please return your completed questionnaire in the enclosed envelope. The envelope is self-addressed and no postage is required. Thanks!

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