

Reactivating Bowhunters

Evaluating the Effectiveness of Various Email Campaign Messages



Archery Trade Association Responsive Management

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REACTIVATING BOWHUNTERS: EVALUATING THE EFFECTIVENESS OF VARIOUS EMAIL CAMPAIGN MESSAGES

PHASE II

2019

Responsive Management National Office

Mark Damian Duda, Executive Director

Tom Beppler, Senior Research Associate

Steven J. Bissell, Ph.D., Qualitative Research Associate

Amanda Center, Research Associate

Andrea Criscione, Senior Research Associate

Patrick Doherty, Research Associate

Caroline Gerken, Survey Center Manager

Gregory L. Hughes, P.E., Research Associate

Martin Jones, Senior Research Associate

Alison Lanier, Business Manager

Additional statistical analysis provided by Mitchell Morehart

130 Franklin Street

Harrisonburg, VA 22801

540.432.1888

mark@responsivemanagement.com

www.responsivemanagement.com

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SUMMARY OF RESULTS AND RECOMMENDATIONS

PROJECT BACKGROUND AND OVERVIEW

This project was conducted in partnership with the Archery Trade Association and was funded under a grant from the Multistate Conservation Grant Program (Grant Number F18AP00165), which is jointly managed by the Association of Fish and Wildlife Agencies and the U.S. Fish and Wildlife Service.

The purpose of this project is to better understand the effectiveness of various email marketing messages at encouraging hunters to purchase a bowhunting license (or a license with bowhunting privileges) and to participate in bowhunting. This project builds on a previous study (Phase I) conducted to assess email marketing messages by refining and further examining the email message themes, headline wording, and images based on the results of the previous study. The current study (Phase II) also expands the scope of the initial project by exploring more states (12 states compared to 5 in Phase I) and by conducting qualitative analysis through focus group research.

The Phase II study entailed a proactive marketing campaign, involving the distribution of email messages to encourage license purchases and bowhunting participation; a statistical sales lift analysis; and both qualitative and quantitative research components, consisting of a survey of licensed bowhunters and focus groups conducted with recently initiated and first-time bowhunters. The analyses for all components of this study assess effectiveness and success of the campaign messages. The research was ultimately used to produce a series of recommendations to assist agencies and organizations in implementing similar campaigns in the future. This project serves to strengthen ongoing recruitment, retention, and reactivation (R3) efforts to increase bowhunting participation and license purchasing nationwide.

The centerpiece of this project was a reactivation email campaign that was intended to boost hunting and bowhunting license renewal rates and to encourage bowhunting participation. Phase I explored four email message themes, each with a different accompanying image: social, aesthetic, hunting-recreation, and hunting-success. For Phase II, nine different emails—featuring unique combinations of six different themes, seven different headlines, and seven different images—were tested among those who had purchased or obtained a bowhunting/archery license or permit, a license with bowhunting privileges, or, in some study states, a general hunting license within the 5 license years prior to the 2018-2019 hunting season.

The six email message themes for Phase II were as follows:

1. **Social:** theme and a single headline tested with 3 different images (1 of the 3 images used for the Social theme was also used for the Heritage-themed message)
2. **Nature:** theme and a single image tested with 2 different headlines
3. **Recreation:** theme tested with 1 headline and 1 image
4. **Time:** theme tested with 1 headline and a single, two-image collage (1 of the 2 images used for the time theme collage was also used for the Recreation-themed message)
5. **Challenge:** theme tested with 1 headline and 1 image
6. **Heritage:** theme tested with 1 headline and 1 image (the image used for the Heritage theme was also used for 1 of the 3 Social-themed messages)

As mentioned previously, the six themes were combined with seven different headlines and seven different images to create nine unique email messages for the email marketing campaign. Each of the nine emails created were sent to a randomly selected sample of license holders in each state from the population of license holders from the 5 previous years; these mutually exclusive sample groups will be referred to as the treatment groups for this study. Note that, when appropriate, each email message headline was customized with the state name.

The nine unique combinations of theme (six themes total), headline (seven headlines total), and image (seven images total) are outlined in the matrix below (Table S.1), with a control group added for each state to be compared against the treatment groups in that state. (Note that the full array of messages and imagery used in each state for Phase II is shown in Appendix B of the full report.)

Table S.1. Message Matrix Based on Theme, Headline, and Image

GROUP	THEME	HEADLINE	IMAGE
Treatment Group 1 / Message 1	Social	<i>Bowhunting in [State] Is Quality Time Make Memories This Hunting Season</i>	Image 1: young male and female dressed for hunting and carrying bows
Treatment Group 2 / Message 2	Social		Image 2: implied father and son (or mentor and youth) bowhunting
Treatment Group 3 / Message 3	Social		Image 3: mixed gender and age group dressed for hunting with bowhunting equipment, shown socializing
Treatment Group 4 / Message 4	Nature	<i>Connect to Nature Go Bowhunting in [State]</i>	Image 4: deer silhouette
Treatment Group 5 / Message 5	Nature	<i>Get Close to Nature Go Bowhunting in [State]</i>	
Treatment Group 6 / Message 6	Recreation	<i>Join the Excitement Go Bowhunting in [State]</i>	Image 5: bowhunter with drawn bow silhouette
Treatment Group 7 / Message 7	Time	<i>Too Busy to Bowhunt? See What You've Been Missing!</i>	Image 6: horizontal collage of two images, man on phone and looking at watch, next to Image 5 of bowhunter with drawn bow silhouette
Treatment Group 8 / Message 8	Challenge	<i>Challenge Yourself Go Bowhunting in [State]</i>	Image 7: longbow target shooter silhouette
Treatment Group 9 / Message 9	Heritage	<i>Heritage. Go Bowhunting in [State]</i>	Image 2: implied father and son (or mentor and youth) bowhunting
Control Group	NO EMAIL RECEIVED		

Twelve states participated in the email marketing campaign, subsequent lift analysis, and follow-up survey for Phase II: Alabama, Georgia, Iowa, Kentucky, Maryland, Nebraska, New Jersey, New Mexico, Oklahoma, Pennsylvania, South Dakota, and Virginia.

APPROACH AND METHODOLOGY

The project entailed an email marketing campaign, a follow-up survey, and focus groups. After the initial design of the study, preparation for the email marketing campaign began by grouping previously licensed bowhunters or hunters into 10 groups (9 treatment groups and 1 control group) in each participating state so that the marketing email messages could be sent to the treatment groups. With 12 participating states and 9 email messages per state (11 unique email messages in New Mexico), a total of 117 treatment groups, 12 control groups, and 110 different email messages were created and managed for this study.

For this study, all 12 participating states provided the research team with its databases of bowhunting or hunting license holders for the previous 5 years to implement the email marketing campaign, followed by the 2018-2019 license database to calculate sales lift resulting from the campaign. The databases were screened to include only those with email addresses for the email marketing campaign. (The databases were also used to contact bowhunters for the follow-up survey and for participation in the focus groups; see below.)

Once the databases were divided into the various treatment and control groups, the 9 different treatment groups were returned to each state with specific, detailed instructions regarding which treatment group received which email message, as well as a schedule for sending the emails. Participating state agencies were responsible for sending each email to the correct treatment group on the assigned date using the agency's in-house software and facilities or their own vendors.

Following the email marketing campaign, a lift analysis was preformed to examine license sales. The comparison of license sales data for the 2018-2019 season and the initial 5-year license database(s) allowed each treatment group and control group to be tracked to determine the percentage of each group that purchased a license following receipt of the marketing email message during the 2018-2019 season.

In addition to the lift analysis of the databases, another measure of the treatments was undertaken: a survey of the bowhunters from the initial database, regardless if they subsequently purchased a license or not. The final data contained surveys from 55,058 bowhunters across the 12 participating states. This survey explored awareness of, recall of, and opinions on the email marketing campaign.

Responsive Management conducted the follow-up survey, including sending out the email invitation to participate in the survey. The survey was conducted to assess awareness of and reaction to the email marketing messages. Only those who were in the initial database in each state and specifically invited to participate in the survey could do so.

The data for the lift analysis and survey results are also reported by three age or generation groups: Millennials (18 to 36 years old), Generation X (37 to 51 years old, also referred to as Gen Xers), and Baby Boomers (52 years old or older). The researchers acknowledge the variance across social research sources in defining the exact age ranges and/or birth years for each identified generation. The age ranges used for this study are consistent with those used for a

recent bowhunting participation study conducted by Responsive Management for the Archery Trade Association in 2017. Additional details regarding the age / generation groups are presented in Chapter 2 on page 25 and in Table 2.5 in the full report.

Finally, focus groups were also conducted for Phase II. The groups were conducted in Tampa, Florida; Des Moines, Iowa; Millville, New Jersey; and Oklahoma City, Oklahoma. Each focus group was moderated by one of Responsive Management's trained moderators. The moderators conducted the focus groups using a discussion guide that allowed for consistency in the data collection. During the discussion, focus group participants were also shown the email message headlines and images.

The full methodology for the administration of the email marketing campaign treatments and the subsequent analyses is detailed in Chapter 2 of the report. The lift analysis, survey, and focus group results are presented in detail in Chapters 3 to 5 of the full report.

It is important to note that two different label formats are used throughout the report to identify which email message is being discussed: for example, *Group 1 (Social) Message* and *Message 1 (Social)*. Both of these example labels ultimately refer to the same email message, with the key reference being that both use the same number in the label.

LIFT ANALYSIS RESULTS

For Phase II, each participating state's 2018-2019 license database was matched to the initial databases used for the email marketing campaign, allowing each license holder with an email address in the initial database to be categorized as a license purchaser or a non-purchaser for the time period following the email marketing campaign. It is this rate of 2018-2019 license purchase among those in the initial database in each group that was examined in the statistical analysis and then compared to sales among the control group to identify the "sales lift" that correlates with the email marketing campaign.

In general for Phase II lift analysis results, each of the 12 states experienced a positive lift in license sales correlated with the email marketing campaign time period for at least one of the nine test messages in comparison to the control group. Six states have *statistically significant* positive lift in license sales for one or more specific messages that is correlated with the email marketing campaign time period: Alabama, Iowa, Kentucky, Maryland, New Mexico, and South Dakota. Two states (Pennsylvania and Virginia) have statistically significant negative lift in license sales for one or two messages. Overall, none of the messages resulted in a statistically significant lift in license sales when all 12 states are combined for analysis.

Across the states, statistically significant positive lift results occurred most commonly for Group 4 (Nature) Message: *Connect to Nature—Go Bowhunting in [State]* (four states have statistically significant positive lift results with this message). Group 4 is followed closely by Group 6 (Recreation) Message: *Join the Excitement—Go Bowhunting in [State]* and Group 7 (Time) Message: *Too Busy to Bowhunt? See What You've Been Missing!* Group 6 and Group 7 each resulted in statistically significant positive lift results in three different states.

See Figure S.1 on the following page for example images of messages with statistically significant positive lift.

(Note that any statistically significant negative lift results require further investigation beyond the scope of this study to determine the factors contributing to the lower license purchase rate among the treatment group.)

Figure S.1. Most Common Messages With Statistically Significant Positive Lift

Group 4 Nature Message (Kentucky is used as an example.)

The screenshot shows the Kentucky Department of Fish & Wildlife Resources website. At the top is the state seal and the department's name. Below is the heading "Connect to Nature" followed by "Go Bowhunting in Kentucky". A blue button says "Get Your License Today". A large image shows a deer silhouette against a sunset sky. Below the image, text states: "Bowhunting season is upon us! Kentucky's deer archery season opens Saturday, Sept. 1. Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today. Here are some links to help you bowhunt this year in Kentucky:" followed by a bulleted list: "2018 Fall Hunting Guide (free!)", "Maps of Wildlife Management Areas and other public hunting areas", and "List of available licenses and fees". The page ends with "Thank you and good hunting!" and "Kentucky Department of Fish & Wildlife Resources".

Group 6 Recreation Message (Iowa is used as an example.)

The screenshot shows the Iowa DNR News website. The header includes the Iowa DNR logo and the text "IOWA DEPARTMENT OF NATURAL RESOURCES Iowa DNR News www.iowadnr.gov". Below the header is a dark blue bar with "FOR IMMEDIATE RELEASE" in white. A large image shows a person in silhouette drawing a bow in a field. Below the image, the text reads "Join the Excitement" and "Go Bowhunting in Iowa". At the bottom is a blue button that says "Get Your License Today".

Group 7 Time Message (Alabama is used as an example.)

The screenshot shows the Alabama Department of Conservation and Natural Resources website. The header features two images: a person on a phone and a person bowhunting. Below the images is the heading "Too Busy to Bowhunt? See What You've Been Missing!". A blue button says "Get Your License Today". Below the button, text states: "Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today. Thank you, Division of Wildlife and Freshwater Fisheries Alabama Department of Conservation and Natural Resources". At the bottom is the Alabama Department of Conservation and Natural Resources logo, which includes the text "ALABAMA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES" and "DIVISION OF WILDLIFE AND FRESHWATER FISHERIES". To the right of the logo, the address is listed: "Alabama Department of Conservation and Natural Resources Division of Wildlife and Freshwater Fisheries 64 North Union Street, Suite 584 Montgomery, AL 36104".

SURVEY RESULTS


For Phase II, all hunters in the initial database used for the email marketing campaign in each participating state were invited via email to participate in a survey to assess awareness of and opinions on the messages they received. Those who had bowhunted in the state within the past 5 years were asked about their recall of and opinions on the email marketing campaign messages, while those who had ever bowhunted but had not done so in the state within the past 5 years received an abbreviated version of the survey. Hunters in the database who had never bowhunted were not administered the survey.

In general for the Phase II survey results, bowhunters demonstrate a preference for the Social, Nature, and Recreation message themes. The results suggest modest to moderate recall of the campaign and generally positive feedback on the email messages. A summary of the major findings of the survey follows:

- Prior to being shown images of the emails as a prompt, approximately 20% to 30% of bowhunters who received an email in each state recall receiving an email.
 - Notable exceptions with more substantial recall are Oklahoma (40% recall receiving an email) among the western states and New Jersey (43%) among the eastern states.
- After being shown all nine treatment emails for the appropriate state, roughly half of treatment bowhunters (i.e., approximately 40% to 60% in each state) indicated that they received an email about bowhunting from the state agency but that they are not sure which one they received. Across the states, approximately 20% identified a specific email they recall receiving. Nonetheless, this means that—after being shown images of the emails to help recall—about 60% to 80% total recall receiving an email message.
- Next, the survey results were analyzed to determine the percentages of bowhunters in each treatment group *who received each email and correctly identified that email as the one they received*. Although the percentages of those who correctly recall the specific email they received are low, Group 1 (Social) Message is among the top two email messages, with it being among the top two messages correctly recalled in each state and the email most often correctly recalled in 9 of the 12 states. Group 2 (Social) and Group 6 (Recreation) messages are the next two most common correctly recalled messages across the states.
 - See Figure S.2 on the following page.
 - The highest rate of correct recall is in New Jersey, with 25% of Group 1 treatment bowhunters correctly identifying Group 1 (Social) Message as the message they received and 14% of Group 4 treatment bowhunters correctly identifying Group 4 (Nature) Message as the message they received.

Figure S.2. Messages With the Highest Rates of Correct Recall in the Survey


Group 1 Social Message
(New Jersey is used as an example.)




**Bowhunting in New Jersey
Is Quality Time**
Make Memories This Hunting Season

Bowhunting season is upon us! Don't forget to buy or renew your license, if you haven't already.
[Get Your License Today](#)

Thank you,
New Jersey Division of Fish & Wildlife




Group 2 Social Message
(Iowa is used as an example.)



Bowhunting in Iowa Is Quality Time
Make Memories This Hunting Season

[Get Your License Today](#)

Group 6 Recreation Message
(New Mexico is used as an example.)



Join the Excitement
Go Bowhunting in New Mexico


[Get Your License Today](#)

Bowhunting season for turkey is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Check all available hunts in the [rules and information booklet](#).

Thank you.

[New Mexico Department of Game & Fish](#)




New Mexico Department of Game & Fish
1 Wildlife Way
Santa Fe, NM 87507
(888) 248-6866 (toll free)

- Approximately 30% to 40% of *all* treatment bowhunters who received an email *glanced* at the email message they received.
 - Approximately 12% to 16% of *all* treatment bowhunters *read* the email they received.
 - Millennials are more likely than any other age group to have glanced at the message but not really have read it. Among those who read the email, Baby Boomers are more likely to have read the email than any other age group.
- Regardless of whether they could accurately recall which email message they received, treatment bowhunters who recall receiving a message were asked to rate the appeal of the email they received, on a scale of 0 to 10, where 0 is poor and 10 is excellent. The mean (average) ratings of overall appeal of the email messages are in the 5 to 7 range across the states, and the medians are in the 6 to 8 range.
 - Among the messages most commonly with the top mean ratings of overall appeal for states are Message 3 (Social), Message 4 (Nature), and Message 9 (Heritage).
 - The message with the most states showing a high median rating of 7 or 8 for overall appeal is Message 3 (Social), followed by Message 1 (Social).
- Treatment bowhunters who recall receiving a message and say they then purchased a license indicated that the email had little to no influence on their decision to purchase a license.
 - When asked to rate how much the email influenced their decision to purchase the license, the majority of treatment bowhunters who recall receiving a message and purchased a license gave a rating of 0, on a scale of 0 to 10, where 0 is no influence at all and 10 is a great deal of influence.
 - The means and medians of the ratings are in the 0 to 2 range across the states.
- After evaluating treatment bowhunters' response to the email message they received, *all* bowhunters in the survey—treatment and control groups—were shown the nine different email messages sent out in their state and asked to select which email they think would be *most* effective, as well as which email would be *least* effective, at persuading them to buy a hunting license to bowhunt.
 - Message 1 (Social) with the image of the young couple bowhunting and Message 6 (Recreation) with the bowhunter silhouette image are consistently among the top two messages selected as most effective in 11 of the 12 states. Message 5 (Nature) is also among the top three messages selected as most effective for half the states.
 - Millennials are more likely than the other age group across the states to select Message 6 (Recreation) as the most effective.
 - Message 7 (Time) is the top message selected as least effective for nearly all the states. Message 8 (Challenge) and Message 3 (Social) each had 7 to 8 of the 12 states for which it was among the top three messages selected as least effective.
 - See Figures S.3 to S.5 on the following two pages.

Figure S.3. Messages Selected as Most Effective in the Survey


Message 1 Social
(*New Jersey is used as an example.*)




**Bowhunting in New Jersey
Is Quality Time
Make Memories This Hunting Season**

Bowhunting season is upon us! Don't forget to buy or renew your license, if you haven't already.
[Get Your License Today](#)

Thank you,
New Jersey Division of Fish & Wildlife



Message 6 Recreation
(*New Mexico is used as an example.*)




**Join the Excitement
Go Bowhunting in New Mexico**

Get Your License Today

Bowhunting season for turkey is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.
Check all available hunts in the [rules and information booklet](#).

Thank you,


[New Mexico Department of Game & Fish](#)



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(888) 248-6866 (toll free)

Figure S.4. Message Most Commonly Selected as Most Effective Among Millennials in the Survey

Message 6 Recreation
(*New Mexico is used as an example.*)




**Join the Excitement
Go Bowhunting in New Mexico**

Get Your License Today

Bowhunting season for turkey is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.
Check all available hunts in the [rules and information booklet](#).

Thank you,


[New Mexico Department of Game & Fish](#)




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1 Wildlife Way
Santa Fe, NM 87507
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Figure S.5. Messages Selected as Least Effective in the Survey

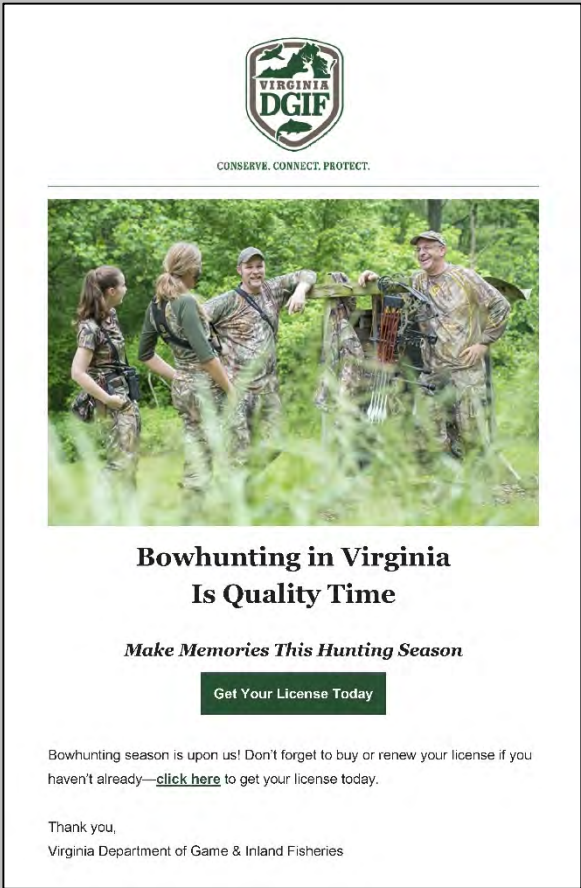
Message 7 Time
(Oklahoma is used as an example.)



Message 8 Challenge
(Alabama is used as an example.)



Message 3 Social
(Virginia is used as an example.)



RECOMMENDATIONS

The survey results show that 30% to 40% of bowhunters who received an email opened or glanced at it. Thus, the email is reaching potential bowhunters; in this respect, the email campaign is effective. Furthermore, the statistical lift analyses of the license databases suggest that the email treatments worked. Each of the 12 participating states have at least one email message that produced a positive lift in sales. Six states have statistically significant positive lift in license sales for one or more specific email messages.

While bowhunters responding to the survey who purchased a license after receiving the email generally do not feel the message had much influence on their decision to purchase a license and assert that they would have purchased a license regardless, the positive lift in sales for some messages suggests that the email messages may at least serve as a motivating reminder to purchase a license. Any positive lift in license sales resulting from an email campaign can be considered valuable given the relatively low cost for implementation of an email campaign.

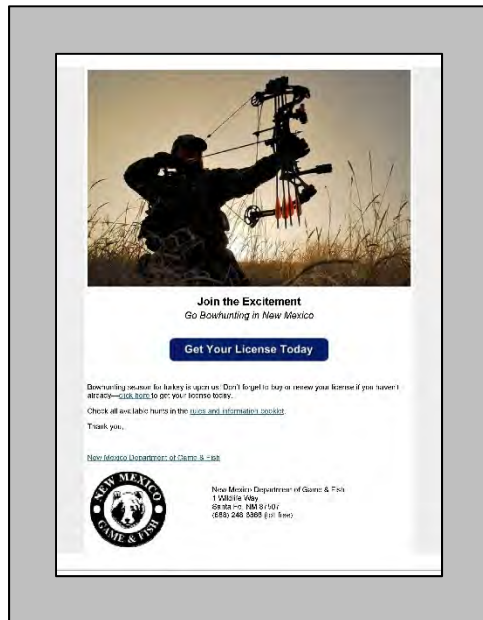
Regarding the message themes tested, the results vary somewhat from state to state. For the lift analysis of license sales, some themes worked well in some states but not in others. Bowhunters' opinions on potential message effectiveness was more consistent across the states, with many states selecting similar top messages. (See Table S.2 that follows the recommendations in this section.)

In the license sales lift analysis, statistically significant positive lift results occurred most commonly for Group 4 (Nature) Message: *Connect to Nature—Go Bowhunting in [State]*, followed closely by Group 6 (Recreation): *Join the Excitement—Go Bowhunting in [State]* and Group 7 (Time): *Too Busy to Bowhunt? See What You've Been Missing!*

In the survey, Message 1 (Social): *Bowhunting in [State] Is Quality Time—Make Memories This Hunting Season* and Message 6 (Recreation): *Join the Excitement—Go Bowhunting in [State]* are the top two messages selected by bowhunters in nearly all the states as the message they think would be most effective at persuading them to buy a license to bowhunt. Both of these messages are also among the top messages that treatment bowhunters in the study were able to correctly identify as the message they had received.

Among both the lift analysis and survey results across all participating states, Message 6 (Recreation) is the message most consistently among the top results (see Figure S.6 on the following page).

Figure S.6. Message 6 Recreation, Most Consistent Message Among Top Study Results
(New Mexico is used as an example.)



While Message 6 (Recreation) may be the message most consistently found among the top quantitative results of the study, there are some other common findings and themes that emerged from the lift analysis, survey, and focus group results. For state agencies participating in or implementing email marketing campaigns, the results of the study provide some useful insight explored in the recommendations that follow:

➤ **In general, sending an email marketing message is better than sending no message.**

Some states experienced a lift in license sales following *any* treatment email message, and those that did not at least had a comparable sales rate for the any treatment group as for the control group. Although not all lift was statistically significant, many states still had positive lift for many of the treatment email messages that were sent out. While most lift was modest, it does appear to be beneficial to send an email marketing message to increase sales specifically for bowhunting.

➤ **Consider using messages with images that communicate the excitement of bowhunting or emphasize the connection with nature.**

The message theme that was most successful in both the lift analysis and survey results is the Recreation theme (Message 6): *Join the Excitement—Go Bowhunting in [State]*. Message 1 (Social) and Messages 4 and 5 (both Nature) are also among the top performing messages in the lift analysis, survey results, and focus group discussions. Additionally, messages that emphasized the opportunity to be in nature received the most positive feedback in focus groups.

➤ **Customize email marketing messages for the state or, if possible, regional or local areas.**

While sending out any email marketing message appears to be worth the effort and there are clearly some themes (i.e., Recreation, Social, and Nature) that tend to be most successful, the research also suggests that it is important to customize or tailor the messages for the state. The message themes with statistically significant positive lift varied noticeably across the states. For example, Group 2 (Social) Message produced statistically significant positive lift in Alabama but not in any other state. Likewise, Group 8 (Challenge) Message produced statistically significant positive lift in only two states. While these specific headline-image combinations may not be universally effective, it is worth considering those themes for use in the states in which they were successful for this study. For states that did not participate in the study, the researchers recommend the more study-wide successful themes: Recreation, Social, and/or Nature. Additionally, there are some other factors to consider based on the study findings that should enhance the effectiveness of email marketing messages as well (see below).

➤ **Details in images are critical.**

Using images or photos that are produced featuring authentic bowhunters, bowhunting activities, wildlife, and/or habitat in the state or local area is advised. While purchased stock photos may be more convenient and initially appealing, bowhunters in the focus groups were very cognizant of anything that did not appear familiar or did not comply with their perceptions of bowhunting and bowhunting activities. For example, they were quick to point out manicured fingernails, the wrong type of camouflage, a bow that appeared too large for the person holding it, or a type of habitat or landscape not typical of the state. These examples are only a portion of the details that bowhunters were able to identify and dissect during discussion. Using a photograph actually taken of legitimate bowhunters engaged in the activity in the state is preferable.

➤ **Stock images with models and actors should be avoided.**

As mentioned above, bowhunters in the focus groups demonstrated a keen awareness of details and authenticity in the images and photos used in the messages. While any authenticity that can be added to the photos is good, including state habitat or landscape and appropriate attire and equipment, it appears to also be important that those in the photo *look* like actual bowhunters rather than models.

➤ **Consider using local, recognizable images.**

To improve the detailed accuracy and authenticity of the images used in an email marketing campaign, consider using images or photos of local, recognizable people, places, and activities. Also consider targeting specific audiences with customized messages and images. For example, if the state agency provides youth bowhunting events in several locations across the state, choose a good image from each event and then use that image in an email sent only to bowhunters in the location or region in which it was taken.

➤ **Images of groups and families are well-liked by bowhunters.**

One of the most commonly successful messages throughout the study was Message 1, a Social-themed message with an image of a young man and woman walking together with their archery equipment. Messages 2 (Social) and 9 (Heritage) also experienced some modest success in the lift analysis for a few states, and each of these messages featured the image of an implied father and son bowhunting. Focus group participants appeared to appreciate the concept of creating memories with family members, particularly children. For those who do not have children, the concept still evoked fond memories of bowhunting themselves with a father or other mentor.

Images of groups and families, however, should be simple and clear. Focus group participants expressed confusion regarding the Message 3 (Social) image that pictured a group of men and young women socializing while hunting. Some did not understand specifically when during a hunting trip you might socialize in the manner depicted, and others were frustrated that the relationship between the individuals pictured is not clear (e.g., fathers and daughters, friends). As might be expected from the focus group feedback, Message 3 is not typically among the top messages in the lift analysis or survey results.

➤ **Emotional terms and images are more appealing to bowhunters.**

Throughout the focus groups, participants conveyed the importance of bowhunting in providing balance in their lives. Suggestions were made by participants to use words and images that hold emotional appeal. This finding dovetails nicely with the most successful messages being Message 6 (Recreation), which communicates the excitement of hunting, and Message 1 (Social), which promotes the quality time of bowhunting with someone else. Messages 2 (Social) and 9 (Heritage) also featured the image of a father and son. The emotional appeal may do well for email marketing campaigns to catch the attention of bowhunters.

➤ **Use more images of women.**

Again, Message 1 (Social) is one of the most commonly successful messages for this study, and it features an image of a young man and woman. Hunting and bowhunting recruitment efforts often focus on recruiting more women, as well as other demographic groups. Bowhunters in the focus groups also expressed appreciation for the images featuring women and suggested that state agencies increase their visual inclusion of women in the sport.

➤ **Carefully consider whether to use the concept of heritage or tradition as a theme, as the concept does not typically resonate nor apply to new or novice bowhunters.**

The concern about the Heritage theme not necessarily being universal, even for experienced bowhunters, was expressed in the focus groups.

➤ **Use succinct messages.**

Much like the reaction to images portraying a more complicated social situation or relationship, bowhunters in the focus groups voiced the desire for the messages to be simple and easy. Bowhunters do not want to have to spend too much time and energy understanding or guessing what is being communicated, so messages should be kept short and simple.

➤ **Limit message text but include links to useful information.**

Again, focus group participants communicated that they prefer short and simple messages, explaining that they are not going to read a lot of text in an email marketing message. However, discussion on message content also led some focus group participants to suggest that agencies include more useful information in the emails, such as season dates, where to hunt, and more. While “more useful information” conflicts with “not a lot of text,” one way to achieve both is to provide hyperlinks in the message to more useful information so the recipient can click on what he or she needs, such as a link to the hunting season schedule or a link to an online database of public land access.

➤ **Target Millennials with email marketing.**

Some of the more dramatic positive lift results for license sales are among Millennials. The email marketing campaign seemed to work particularly well among this age group (i.e., ages 18 to 36), which is logical given Millennials’ preference for and proficiency with technology and digital communication. Millennials are also the most likely to have opened and glanced at the email, providing an important reminder that the message should be short and simple.

Note that the age ranges used for this study are consistent with those used for a recent bowhunting participation study conducted by Responsive Management for the Archery Trade Association in 2017. The researchers acknowledge the variance across social research sources in defining the exact age ranges and/or birth years for each identified generation. Additional details regarding the age / generation groups are presented in Chapter 2 on page 25 and in Table 2.5 in the full report.

➤ **Be aware of email marketing saturation.**

While email marketing campaigns can enhance R3 efforts, it is important to note that many state agencies are already engaging in multiple email campaigns. The email marketing messages may produce some positive lift in sales; however, sometimes recipients have already received several emails from the agency and disregard the one about bowhunting. Focus group participants commented on this saturation and resulting desensitization to the emails. For this study specifically, there were some positive lift results in New Jersey during Phase I but less so during Phase II, suggesting that perhaps the second email marketing campaign may have had less impact on an audience that received similar emails the year before.

➤ **A few states did experience negative lift results.**

Note that two states did experience statistically significant negative lift results for specific messages. At this time, it is unclear specifically what factors would cause bowhunters to be *less* likely to purchase a license after receiving an email in comparison to the control group that did not receive a campaign email at all. Any statistically significant negative lift results require further investigation beyond the scope of this study to determine the factors contributing to the lower license purchase rate among the treatment group.

➤ **Build on and improve the bowhunting email marketing campaign.**

In addition to considering the provided recommendations for implementing an effective bowhunting email marketing campaign, there are some additional challenges that emerged during implementation in Phase II.

One important challenge pertained to the hunting license system structure. Licensing for bowhunting differs greatly from state to state, making uniformity and consistency for the email marketing campaign samples across the participating states difficult. Some states had specific bowhunting or archery licenses while others did not, and some that had specific licenses also allowed bowhunting during firearms seasons without requiring a permit. Therefore, in some states the email messages were sent to *all* licensed hunters while in other states they were sent to only those who had purchased specific license types. These differences complicated the calculation of sales lift and measurement of success for the project overall.

Although state licensing will not likely be changed for the purposes of an email marketing campaign, it is important to consider such issues in each state and modify future campaign implementation, as well as measurement of success, to try and target for bowhunting license sales and participation. All hunters could potentially be targeted to attempt true R3 efforts that include recruitment, but measurement of actual purchases and participation for bowhunting will need to be carefully considered based on the state's license system structure.

➤ **Fish and wildlife agencies should engage in more bowhunting-specific communication.**

Some focus group participants reported that they had received a number of emails and newsletters from their state agency but had never received any communication specifically about bowhunting. Bowhunters appear to like the idea of receiving more communication about bowhunting but with the caveat that the information should be useful. With some successful positive lift results and focus group feedback that information is desired, the conclusion remains that, in general, sending an email marketing message is better than sending no message.

Beginning on the following page, Table S.2 summarizes the most successful email marketing campaign messages by state for the Phase II study. (Note that the full array of messages and imagery used in each state for Phase II is shown in Appendix B of the full report.)

Table S.2. Most Successful Messages by State (See Appendix B for all messages used.)


























State	Messages With Statistically Significant Positive Lift			Top Three Messages Selected by Survey Respondents as Most Effective		
Alabama	<p>Message 2 Social</p> 	<p>Message 5 Nature</p> 	<p>Message 7 Time</p> 	<p>Message 1 Social</p> 	<p>Message 6 Recreation</p> 	<p>Message 3 Social</p> 
Georgia	No statistically significant positive lift results			<p>Message 9 Heritage</p> 	<p>Message 2 Social</p> 	<p>Message 1 Social</p> 
Iowa	<p>Message 9 Heritage</p> 	<p>Message 6 Recreation</p> 	<p>Message 7 Time</p> 	<p>Message 6 Recreation</p> 	<p>Message 1 Social</p> 	<p>Message 4 Nature</p> 
Kentucky	<p>Message 8 Challenge</p> 	<p>Message 4 Nature</p> 	<p>Message 7 Time</p> 	<p>Message 1 Social</p> 	<p>Message 6 Recreation</p> 	<p>Message 5 Nature</p> 
Maryland	<p>Message 4 Nature</p> 			<p>Message 1 Social</p> 	<p>Message 6 Recreation</p> 	<p>Message 4 Nature</p> 

Table S.2. Most Successful Messages by State (continued)





















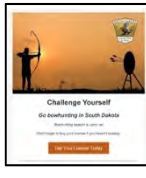









State	Messages With Statistically Significant Positive Lift	Top Three Messages Selected by Survey Respondents as Most Effective		
Nebraska	No statistically significant positive lift results	Message 6 Recreation	Message 1 Social	Message 5 Nature
				
New Jersey	No statistically significant positive lift results	Message 1 Social	Message 6 Recreation	Message 4 Nature
				
New Mexico	Turkey Message 6 Recreation  Turkey Message 4 Nature  Javelina Message 9 Heritage  Javelina Message 4 Nature 	Message 6 Recreation	Message 1 Social	Message 3 Social
				
Oklahoma	No statistically significant positive lift results	Message 6 Recreation	Message 1 Social	Message 5 Nature
				

Table S.2. Most Successful Messages by State (continued)

State	Messages With Statistically Significant Positive Lift		Top Three Messages Selected by Survey Respondents as Most Effective		
Pennsylvania	No statistically significant positive lift results		Message 1 Social 	Message 6 Recreation 	Message 5 Nature 
South Dakota	Message 6 Recreation 	Message 8 Challenge 	Message 6 Recreation 	Message 1 Social 	Message 5 Nature 
Virginia	No statistically significant positive lift results		Message 1 Social 	Message 6 Recreation 	Message 5 Nature 
Overall (All 12 States)	No statistically significant positive lift results		Message 1 Social (NJ example) 	Message 6 Recreation (OK example) 	Message 5 Nature (NE example) 

Note that the full array of messages and imagery used in each state for Phase II is shown in Appendix B of the full report.

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CHAPTER 1. PROJECT BACKGROUND

This project was conducted in partnership with the Archery Trade Association and was funded under a grant from the Multistate Conservation Grant Program (Grant Number F18AP00165), which is jointly managed by the Association of Fish and Wildlife Agencies and the U.S. Fish and Wildlife Service.

The purpose of this project is to better understand the effectiveness of various email marketing messages at encouraging hunters to purchase a bowhunting license (or a license with bowhunting privileges) and to participate in bowhunting. This project builds on a previous study conducted to assess email marketing messages by refining and further examining the email message themes, headline wording, and images based on the results of the previous study. The current study also expands the scope of the initial project by exploring more states (12 states compared to 5 in the previous study) and by conducting qualitative analysis through focus group research. Hereinafter, the previous study will be referred to as the Phase I study and the current study will be referred to as the Phase II, or current, study.

The Phase II study entailed a proactive marketing campaign, involving the distribution of email messages to encourage license purchases and bowhunting participation; a statistical sales lift analysis; and both qualitative and quantitative research components, consisting of a survey of licensed bowhunters and focus groups conducted with recently initiated and first-time bowhunters. The analyses for all components of this study assess effectiveness and success of the campaign messages. The research was ultimately used to produce a chapter of recommendations and best practices to assist agencies and organizations in implementing similar campaigns in the future. This project serves to strengthen ongoing recruitment, retention, and reactivation (R3) efforts to increase bowhunting participation and license purchasing nationwide.

The centerpiece of this project was a reactivation email campaign that was intended to boost hunting and bowhunting license renewal rates and to encourage bowhunting participation. Phase I explored four email message themes, each with a different accompanying image: social, aesthetic, hunting-recreation, and hunting-success. For Phase II, nine different emails—featuring unique combinations of six different themes, seven different headlines, and seven different images—were tested among those who had purchased or obtained a bowhunting/archery license or permit, a license with bowhunting privileges, or, in some study states, a general hunting license within the 5 license years prior to the 2018-2019 hunting season.

The six email message themes for Phase II were as follows:

1. **Social:** theme and a single headline tested with 3 different images (1 of the 3 images used for the Social theme was also used for the Heritage-themed message)
2. **Nature:** theme and a single image tested with 2 different headlines
3. **Recreation:** theme tested with 1 headline and 1 image
4. **Time:** theme tested with 1 headline and a single, two-image collage (1 of the 2 images used for the time theme collage was also used for the Recreation-themed message)
5. **Challenge:** theme tested with 1 headline and 1 image
6. **Heritage:** theme tested with 1 headline and 1 image (the image used for the Heritage theme was also used for 1 of the 3 Social-themed messages)

As mentioned previously, the six themes were combined with seven different headlines and seven different images to create nine unique email messages for the email marketing campaign. Each of the nine emails created were sent to a randomly selected sample of license holders in each state from the population of license holders from the 5 previous years; these mutually exclusive sample groups will be referred to as the treatment groups for this study. Note that, when appropriate, each email message headline was customized with the state name.

The nine unique combinations of theme (six themes total), headline (seven headlines total), and image (seven images total) are outlined in the matrix below (Table 1.1), with a control group added for each state to be compared against the treatment groups in that state. (Note that the full array of messages and imagery used in each state for Phase II is shown in Appendix B.)

Table 1.1. Message Matrix Based on Theme, Headline, and Image

GROUP	THEME	HEADLINE	IMAGE
Treatment Group 1 / Message 1	Social	<i>Bowhunting in [State] Is Quality Time Make Memories This Hunting Season</i>	Image 1: young male and female dressed for hunting and carrying bows
Treatment Group 2 / Message 2	Social		Image 2: implied father and son (or mentor and youth) bowhunting
Treatment Group 3 / Message 3	Social		Image 3: mixed gender and age group dressed for hunting with bowhunting equipment, shown socializing
Treatment Group 4 / Message 4	Nature	<i>Connect to Nature Go Bowhunting in [State]</i>	Image 4: deer silhouette
Treatment Group 5 / Message 5	Nature	<i>Get Close to Nature Go Bowhunting in [State]</i>	
Treatment Group 6 / Message 6	Recreation	<i>Join the Excitement Go Bowhunting in [State]</i>	Image 5: bowhunter with drawn bow silhouette
Treatment Group 7 / Message 7	Time	<i>Too Busy to Bowhunt? See What You've Been Missing!</i>	Image 6: horizontal collage of two images, man on phone and looking at watch, next to Image 5 of bowhunter with drawn bow silhouette
Treatment Group 8 / Message 8	Challenge	<i>Challenge Yourself Go Bowhunting in [State]</i>	Image 7: longbow target shooter silhouette
Treatment Group 9 / Message 9	Heritage	<i>Heritage. Go Bowhunting in [State]</i>	Image 2: implied father and son (or mentor and youth) bowhunting
Control Group	NO EMAIL RECEIVED		

Twelve states participated in the email marketing campaign, subsequent lift analysis, and follow-up survey for Phase II: Alabama, Georgia, Iowa, Kentucky, Maryland, Nebraska, New Jersey, New Mexico, Oklahoma, Pennsylvania, South Dakota, and Virginia. Three of these states had also participated in Phase I: Georgia, New Jersey, and Oklahoma. Additionally, Florida, which participated in Phase I, did not participate in the Phase II email marketing campaign but did, however, participate in the Phase II focus groups. Phase II focus groups were conducted in Florida, Iowa, New Jersey, and Oklahoma.

Each participating state provided a database of bowhunting license holders (or any license that allowed bowhunting, if a separate bowhunting or archery license was not required in the state) from the previous 5 years. This database was used to prepare the treatment and control samples in each state; note that only those license records with email addresses were used. After the treatment, the states provided a database of bowhunting license purchasers (again, or purchasers of any license that allowed bowhunting) within the 2018-2019 season, which was compared to the initial database.

With 12 participating states and 9 email messages per state (11 unique email messages in New Mexico), a total of 117 treatment groups, 12 control groups, and 110 different email messages were created and managed for this study. The full methodology for the administration of the treatments and the subsequent analyses is detailed in Chapter 2 of this report.

Following the email marketing campaign, a lift analysis was performed to examine license sales. The comparison of license sales data for the 2018-2019 season and the initial 5-year license database(s) allowed each treatment group and control group to be tracked to determine the percentage of each group that purchased a license following receipt of the marketing email message during the 2018-2019 season. The lift analysis of databases and their results are discussed in Chapter 3.

In addition to the lift analysis of the databases, another measure of the treatments was undertaken: a survey of the bowhunters from the initial database, regardless if they subsequently purchased a license or not. The final data contained surveys from 55,058 bowhunters across the 12 participating states. This survey explored awareness of, recall of, and opinions on the email marketing campaign. The survey results, including crosstabulations by state, email message theme, and age / generation groups are presented in Chapter 4.

The data for the lift analysis and survey results are also reported by three age or generation groups: Millennials (18 to 36 years old), Generation X (37 to 51 years old, also referred to as Gen Xers in this report), and Baby Boomers (52 years old or older). The researchers acknowledge the variance across social research sources in defining the exact age ranges and/or birth years for each identified generation. The age ranges used for this study are consistent with those used for a recent bowhunting participation study conducted by Responsive Management for the Archery Trade Association in 2017. Additional details regarding the age / generation groups are presented in Chapter 2 on page 25 and in Table 2.5.

Focus groups were also conducted as part of this study to qualitatively explore bowhunters' initial sources of interest in bowhunting and motivations, barriers, and challenges to participation in bowhunting. The focus groups also conducted an in-depth examination of reactions to and opinions on the components of the marketing email messages. The focus group results are presented in Chapter 5.

The appendices for this report provide additional reference information and materials. Appendix A provides a summary of the results from the previous study, Phase I. The full array of messages and imagery used in each state for Phase II is shown in Appendix B.

CHAPTER 2. APPROACH AND METHODOLOGY

The project entailed grouping previously licensed bowhunters or hunters into 10 groups (9 treatment groups and 1 control group) in each participating state so that the marketing email messages could be sent to the treatment groups. Therefore, after the initial design of the study, the first task was obtaining license databases for the previous 5 years from participating states. Following the design of the email messages and the implementation of the email marketing campaign, the next task was to obtain the license database for the 2018-2019 season to assess license purchases following the email marketing campaign. (Note that the license databases for all portions of this study were used only for this project and no other purpose. All license information is kept completely confidential.) Finally, a follow-up survey of licensed bowhunters and focus groups with recently initiated bowhunters were conducted.

A total of 117 treatment groups, 12 control groups, and 110 different email messages were created and managed for this study. (The full array of messages and imagery used in each state is included in Appendix B). A full description of the methodology for the administration of the treatments and the subsequent analyses follows.

OBTAINING THE DATABASES OF LICENSE HOLDERS AND PREPARING THE SAMPLE GROUPS

Each state provided the research team with its database(s) of bowhunting license (or any license that allowed bowhunting, if a separate bowhunting or archery license was not required by the state) holders for the previous 5 years. The databases were screened to include only those with email addresses, because the study and the email marketing campaign treatment were to be conducted online. The databases needed some initial cleanup to remove obviously erroneous data (e.g., clearly invalid or incomplete email addresses) or duplicate people (i.e., the same person in the database multiple times because of separate license purchases, in the same year as well as across the 5 years provided).

All remaining license holders in the databases were then randomly divided into 10 groups for the purposes of this study. In each state, 20% of license holders were randomly selected for the control group and the remaining 80% was randomly divided equally into 9 treatment groups, 1 group for each marketing email message (see Table 1.1 in the previous chapter or Table 2.1 that later follows on page 8). Randomizing the selection produced divisions that were fairly homogenous. In other words, each group was similar to every other group in many aspects, such as demographics, license types, and more. Note that New Mexico actually implemented two separate email marketing campaigns, one during fall turkey hunting season and one during javelina hunting season, so New Mexico was randomly divided into a total of 18 treatment groups (i.e., 9 treatment groups for each season's email marketing campaign) and a master control group.

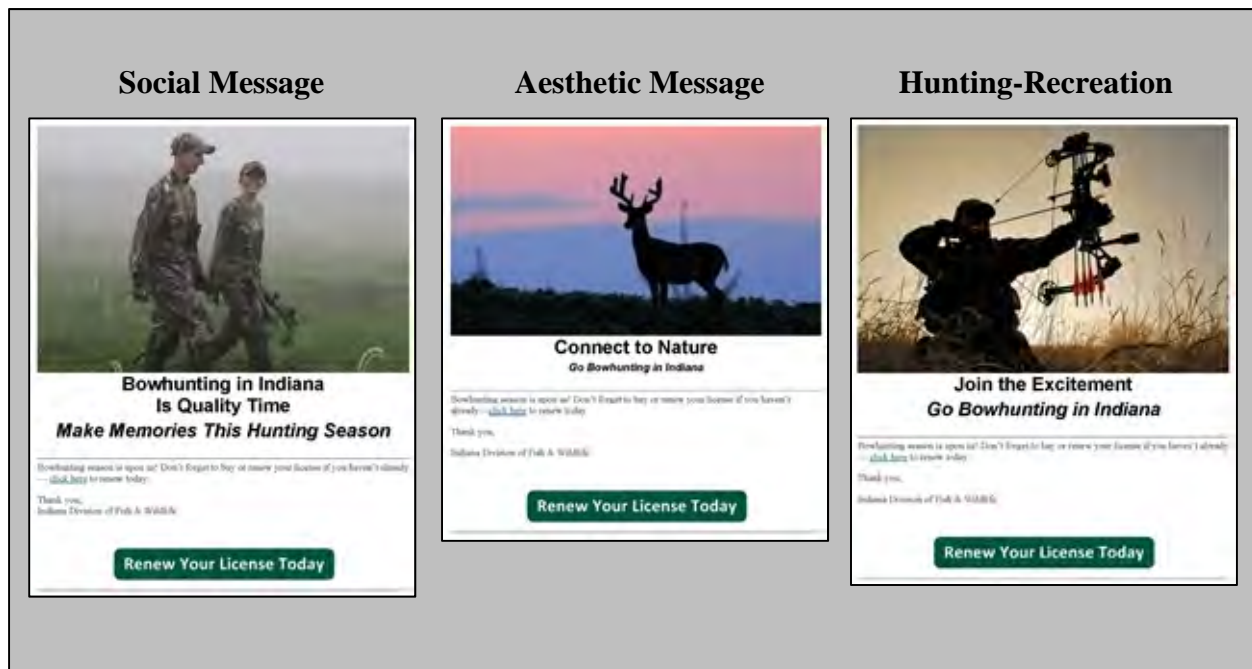
Once the databases were divided into the various treatment and control groups, the 9 different treatment groups were returned to each state with clear instructions regarding which treatment group received which email message, as well as a schedule for sending the emails. Participating state agencies were responsible for sending each email to the correct treatment group on the assigned date using the agency's in-house software and facilities or their own vendors.

DESIGNING THE EMAIL MESSAGES

Based on the Phase I study results (summarized in Appendix A), the research team designed nine email messages to be tested in Phase II. The three most successful messages of the Phase I research overall were:

1. Social: *Bowhunting in [State] Is Quality Time—Make Memories This Hunting Season*
2. Aesthetic: *Connect to Nature—Go Bowhunting in [State]*
3. Hunting-Recreation: *Join the Excitement—Go Bowhunting in [State]*

Figure 2.1. Phase I Most Successful Email Messages (Indiana Is Used for the Examples)



Due to the mixed results of Phase I (i.e., some themes worked well in some states but not in others), the research team determined that these three themes should be used again and further refined, while dropping the fourth theme—Hunting-Success, *Big Game, Big Meat*—because it was not as successful or as well-received as the other themes.

For Phase II, the three themes from Phase I were further refined according to the initial study's recommendations:

- **Social:** The Social message headline was used for three separate emails in Phase II, each with a different image depicting a specific type of social relationship or interaction, controlling for the headline while testing the different images to determine if one type of social image was more successful than another.

- Nature: The Aesthetic or nature theme was used for two separate emails in Phase II, each with the same image but slightly different wording, controlling for the image while testing the different headlines to determine if one nature-themed phrase was more successful than another.
- Recreation: The Phase II Recreation theme message used the same headline and image as Phase I, but the image was also used in a different theme (i.e., Time theme, see below) in Phase II to determine if they image worked well with different headlines.

Three additional themes were identified for testing in Phase II, also based on Phase I's recommendations:

- Time: A headline acknowledging time constraints and important obligations was created for the current study based on the previous study's finding, as well as a multitude of prior research on hunting in general, that not having enough time to go bowhunting is the top constraint to participation in bowhunting. The message used two side-by-side images, one of a busy man on the phone and the silhouette of a bowhunter from the moderately successful Recreation-themed email message in Phase I.
- Challenge: A headline encouraging bowhunters to rise to the challenge of bowhunting was created for Phase II based on the previous study's finding that the challenge of bowhunting and its associated skills was commonly identified as a primary motivation for participation in bowhunting.
- Heritage: A headline intended to remind hunters of the importance of the bowhunting heritage or tradition was created for Phase II based on the previous study's finding that the idea or concept of the hunting heritage was also commonly identified as a primary motivation for bowhunting. The email message uses the father and son image also used in one of the three social messages for Phase II, controlling for the image while testing two different themes to determine if one theme was more successful than another with a traditional image of a father and son bowhunting.

As previously mentioned, the messages were accompanied by imagery that related to the theme. The images were selected by the research team. However, states were permitted to tweak the headline and/or select an image more appropriate for the state, if desired, but the overall email message typically remained within the overall spirit of the theme.

In the body of each email message, beneath the headline and the image, was a brief reminder that bowhunting season was approaching or in progress, followed by encouragement to purchase or renew a license with a link to the state agency's license purchasing site.

The nine unique combinations of theme (six themes total), headline (seven headlines total), and image (seven images total) are outlined in the matrix on the following page (Table 2.1, also previously presented in Table 1.1). (Note that the full array of messages and imagery used in each state for Phase II is shown in Appendix B.)

Table 2.1. Message Matrix Based on Theme, Headline, and Image

GROUP	THEME	HEADLINE	IMAGE
Treatment Group 1 / Message 1	Social	<i>Bowhunting in [State] Is Quality Time Make Memories This Hunting Season</i>	Image 1: young male and female dressed for hunting and carrying bows
Treatment Group 2 / Message 2	Social		Image 2: implied father and son (or mentor and youth) bowhunting
Treatment Group 3 / Message 3	Social		Image 3: mixed gender and age group dressed for hunting with bowhunting equipment, shown socializing
Treatment Group 4 / Message 4	Nature	<i>Connect to Nature Go Bowhunting in [State]</i>	Image 4: deer silhouette
Treatment Group 5 / Message 5	Nature	<i>Get Close to Nature Go Bowhunting in [State]</i>	
Treatment Group 6 / Message 6	Recreation	<i>Join the Excitement Go Bowhunting in [State]</i>	Image 5: bowhunter with drawn bow silhouette
Treatment Group 7 / Message 7	Time	<i>Too Busy to Bowhunt? See What You've Been Missing!</i>	Image 6: horizontal collage of two images, man on phone and looking at watch, next to Image 5 of bowhunter with drawn bow silhouette
Treatment Group 8 / Message 8	Challenge	<i>Challenge Yourself Go Bowhunting in [State]</i>	Image 7: longbow target shooter silhouette
Treatment Group 9 / Message 9	Heritage	<i>Heritage. Go Bowhunting in [State]</i>	Image 2: implied father and son (or mentor and youth) bowhunting
Control Group	NO EMAIL RECEIVED		

An example of each full email message with headline and imagery that was sent to bowhunters follows in Figures 2.1 to 2.9. The email messages included the agency logo, the headline, the image, and links to the license purchasing webpage. Alabama is used as the example in Figures 2.1 to 2.9. Alabama used the headlines and images also used across most other participating states for Phase II. Note that a total of 110 different email messages were created for this study. The full array of messages and imagery used in each state is included in Appendix B. The imagery of the email messages in Figures 2.1 to 2.9 are presented in the same order as shown above in Table 2.1.

Figure 2.1. Message 1: Social Theme (Alabama Is Used as an Example)

**Bowhunting in Alabama
Is Quality Time**
Make Memories This Hunting Season

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Division of Wildlife and Freshwater Fisheries
Alabama Department of Conservation and Natural Resources



Alabama Department of Conservation and Natural Resources
Division of Wildlife and Freshwater Fisheries
64 North Union Street, Suite 584
Montgomery, AL 36104

Figure 2.2. Message 2: Social Theme (Alabama Is Used as an Example)



**Bowhunting in Alabama
Is Quality Time**
Make Memories This Hunting Season

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Division of Wildlife and Freshwater Fisheries
Alabama Department of Conservation and Natural Resources



Alabama Department of Conservation and Natural Resources
Division of Wildlife and Freshwater Fisheries
64 North Union Street, Suite 584
Montgomery, AL 36104

Figure 2.3. Message 3: Social Theme (Alabama Is Used as an Example)

**Bowhunting in Alabama
Is Quality Time**
Make Memories This Hunting Season

Get Your License Today


Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Division of Wildlife and Freshwater Fisheries
Alabama Department of Conservation and Natural Resources



Alabama Department of Conservation and Natural Resources
Division of Wildlife and Freshwater Fisheries
64 North Union Street, Suite 584
Montgomery, AL 36104

Figure 2.4. Message 4: Nature Theme (Alabama Is Used as an Example)




Connect to Nature

Go Bowhunting in Alabama


Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Division of Wildlife and Freshwater Fisheries
Alabama Department of Conservation and Natural Resources



Alabama Department of Conservation and Natural Resources
Division of Wildlife and Freshwater Fisheries
64 North Union Street, Suite 584
Montgomery, AL 36104


Figure 2.5. Message 5: Nature Theme (Alabama Is Used as an Example)

Get Close to Nature
Go Bowhunting in Alabama

Get Your License Today


Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Division of Wildlife and Freshwater Fisheries
Alabama Department of Conservation and Natural Resources



Alabama Department of Conservation and Natural Resources
Division of Wildlife and Freshwater Fisheries
64 North Union Street, Suite 584
Montgomery, AL 36104

Figure 2.6. Message 6: Recreation Theme (Alabama Is Used as an Example)




Join the Excitement
Go Bowhunting in Alabama


Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Division of Wildlife and Freshwater Fisheries
Alabama Department of Conservation and Natural Resources



Alabama Department of Conservation and Natural Resources
Division of Wildlife and Freshwater Fisheries
64 North Union Street, Suite 584
Montgomery, AL 36104


Figure 2.7. Message 7: Time Theme (Alabama Is Used as an Example)

Too Busy to Bowhunt?
See What You've Been Missing!

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Division of Wildlife and Freshwater Fisheries
Alabama Department of Conservation and Natural Resources



Alabama Department of Conservation and Natural Resources
Division of Wildlife and Freshwater Fisheries
64 North Union Street, Suite 584
Montgomery, AL 36104

Figure 2.8. Message 8: Challenge Theme (Alabama Is Used as an Example)



Challenge Yourself
Go Bowhunting in Alabama


Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Division of Wildlife and Freshwater Fisheries
Alabama Department of Conservation and Natural Resources



Alabama Department of Conservation and Natural Resources
Division of Wildlife and Freshwater Fisheries
64 North Union Street, Suite 584
Montgomery, AL 36104


Figure 2.9. Message 9: Heritage Theme (Alabama Is Used as an Example)

Heritage.
Go Bowhunting in Alabama

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Division of Wildlife and Freshwater Fisheries
Alabama Department of Conservation and Natural Resources



Alabama Department of Conservation and Natural Resources
Division of Wildlife and Freshwater Fisheries
64 North Union Street, Suite 584
Montgomery, AL 36104

SENDING OUT THE TREATMENT EMAIL MARKETING CAMPAIGN MESSAGES

After the email messages were designed, the samples were broken into the treatment and control groups, and the email messages assigned to the specific treatment groups, the agencies sent out the email marketing campaign messages. The agencies used in-house software and facilities or their own vendors for sending out the email messages.

The agencies were provided a schedule for sending emails, which consisted of two send dates for each of the nine email messages in each state. The first send date was typically a few days before the first day of the deer (and/or other state-selected species) bowhunting or archery season, and the second send date was around the middle of the season. All states sent the email messages twice, on or as close to the scheduled dates as possible, although some states needed to make schedule adjustments during the campaign. The timing of the emails, along with the earliest bowhunting season date and latest bowhunting season date for each state, is shown in Table 2.2. Note that the season dates are approximate in some cases, as states often have counties, zones, or management areas with extended or shortened seasons.

Table 2.2. Season Dates and Treatment Dates

State	First Treatment Email Sent	Earliest Bowhunting Season Date	Second Treatment Email Sent	Latest Bowhunting Season Date	Species
Alabama	10/18/2018	10/15/2018	12/13/2018	2/15/2019	Deer
Georgia	9/18/2018	9/8/2018	12/5/2018	1/31/2019	Deer, Bear
Iowa	9/29/2018	10/1/2018	11/2/2018	11/30/2018	Deer, Fall Turkey
Kentucky	8/27/2018	9/1/2018	10/29/2018	1/21/2019	Deer, Fall Turkey
Maryland	9/6/2018	9/7/2018	12/27/2018	1/31/2019	Deer
Nebraska	8/29/2018	9/1/2018	10/25/2018	12/31/2018	Deer
New Jersey	9/6/2018	9/8/2018	12/29/2018	2/16/2019	Deer
New Mexico (Fall Turkey)	8/31/2018	9/1/2018	9/12/2018	9/30/2018	Fall Turkey
New Mexico (Javelina)	12/28/2018	1/1/2019	1/24/2019	3/31/2019	Javelina
Oklahoma	9/28/2018	10/1/2018	11/9/2018	1/15/2019	Deer, Elk, Fall Turkey
Pennsylvania	9/12/2018	9/15/2018	12/21/2018	1/26/2019	Deer
South Dakota	8/29/2018	9/1/2018	11/1/2018	1/1/2019	Deer
Virginia	10/3/2018	10/6/2018	11/10/2018	1/5/2019	Deer

LIFT ANALYSIS: OBTAINING THE DATABASES OF LICENSE PURCHASERS WITHIN THE PAST YEAR AND COMPARING THEM TO THE INITIAL DATABASES

At the conclusion of each state's 2018-2019 targeted bowhunting season, the state provided the database of license purchasers within the 2018-2019 seasons. These databases were then matched to the initial databases, allowing each license holder in the initial database to be categorized as a license purchaser or a non-purchaser. It is this rate of 2018-2019 purchase among those in the initial database in each group that was examined in the statistical analysis. This is referred to in the report as the lift analysis.

The lift analysis specifically examined the rate of license purchases during the email marketing campaign time period. The analysis looked at the following:

- Any Treatment vs. Control: The license purchase rate among all license holders who received an email marketing message for the campaign, regardless of which one (i.e., treatment groups 1 to 9 collectively) in comparison to the control group, which did not receive any email message for the campaign.
- Treatment vs. Control: The license purchase rate for the treatment group of license holders for each email message theme was compared individually to the control group. A total of 9 treatment groups (18 for New Mexico) was examined in each state.
- Treatment Date: The license purchase rate also examined for the time period between the first and second email only as well as the time period following the second email until the latest bowhunting season date. This was examined for the any treatment group vs. control group only.
- Age / Generation Group: The license purchase rate was examined for specific marketing target groups identified by age groups for the following generations: Millennials (18 to 36 years old), Generation X (37 to 51 years old, also referred to as Gen Xers in this report), and Baby Boomers (52 years old or older). The purchase rates among the age groups were examined for any treatment group vs. control group, as well as each individual message treatment group 1 to 9 vs. control group.

For the analyses above, the percentage of each of these groups that bought in the time frame was compared to the percentage of the control group that bought in the time frame. These percentages were then compared, and the comparisons were tested for statistical significance. An independent samples t-test was run on each of these comparisons. The t-test statistic and the p-value is shown in the results section for each of these comparisons.

SURVEY OF LICENSE HOLDERS IN EACH GROUP

In addition to the lift analysis of databases, an online survey was conducted to assess awareness of and reaction to the email marketing messages. The online survey was closed—in other words, only those who were in the initial database and specifically invited to participate in the survey could do so. Although the survey was conducted online, it was not an open survey in which anybody surfing the Internet could participate.

Questionnaire Design

The research team developed the survey questionnaire that delved into the hunters' reactions to the email and subsequent behaviors regarding purchasing or not purchasing a license in the 2018-2019 season. This included recall of and receptiveness to the campaign messages; opinions on messages, images, and email appeal and effectiveness; and characteristics of each group's bowhunting participation (or non-participation) for the 2018-2019 season.

Sampling, Contact Procedures, and Administration of the Survey

Every hunter in each sample group, including those in the control groups, was sent the survey invitation. The survey invitations were sent out via email by the researchers on behalf of the state agencies. The survey invitation explained the purpose of the survey and included a unique link that the respondent had to use to take the survey. This allowed the survey to track the group in which the respondent was in so the researchers would know which email message survey respondents had received (or if they were in the control group). The unique link also prevented uninvited people from taking the survey. Each potential respondent was sent the initial email survey invitation and, if he or she had not completed the survey, a reminder to complete the survey 2 weeks later. The email invitations for each treatment and control group were sent on the same day within the state. The dates the email invitations for the survey were sent for each state are shown in Table 2.3 on the following page. An example of the email invitation is shown in Figure 2.10.

Table 2.3. Schedule of Email Invitations for the Post-Treatment Survey

State	Email Sent	Day Email Sent	Reminder Email Sent	Day Reminder Email Sent
Alabama (Treatment Groups 1 to 9 and Control Group)	2/26/2019	Tue	3/12/2019	Tue
Georgia (Treatment Groups 1 to 9 and Control Group)	2/27/2019	Wed	3/13/2019	Wed
Iowa (Treatment Groups 1 to 9 and Control Group)	2/28/2019	Thu	3/14/2019	Thu
Kentucky (Treatment Groups 1 to 9 and Control Group)	3/4/2019	Mon	3/18/2019	Mon
Maryland (Treatment Groups 1 to 9 and Control Group)	3/8/2019	Fri	3/22/2019	Fri
Nebraska (Treatment Groups 1 to 9 and Control Group)	3/7/2019	Thu	3/21/2019	Thu
New Jersey (Treatment Groups 1 to 9 and Control Group)	2/28/2019	Thu	3/14/2019	Thu
New Mexico (Fall Turkey Treatment Groups 1 to 9, Javelina Treatment Groups 1 to 9, and Control Group)	3/11/2019	Mon	3/25/2019	Mon
Oklahoma (Treatment Groups 1 to 9 and Control Group)	3/6/2019	Wed	3/20/2019	Wed
Pennsylvania (Treatment Groups 1 to 9 and Control Group)	3/5/2019	Tue	3/19/2019	Tue
South Dakota (Treatment Groups 1 to 9 and Control Group)	3/6/2019	Wed	3/20/2019	Wed
Virginia (Treatment Groups 1 to 9 and Control Group)	2/25/2019	Mon	3/11/2019	Mon

Figure 2.10. Sample of the Email Survey Invitation (Alabama Is Used as an Example)

From: Alabama Division of Wildlife and Freshwater Fisheries <invites@mailers.surveygizmo.com>
Sent: Tuesday, February 26, 2019
To: John Smith <johnsmith@emailaddress.com>
Subject: Alabama Hunting Study



Dear Alabama Hunter,

In cooperation with the Alabama Department of Conservation and Natural Resources, Division of Wildlife and Freshwater Fisheries (DWFF), the Archery Trade Association (ATA) is conducting a study of hunters about bowhunting participation and interest in bowhunting. Your responses will help the DWFF better serve bowhunters' needs and improve our communication with the hunting public.

We would like your feedback, regardless of whether you have participated in bowhunting or even purchased a hunting license in general in the past few years. The DWFF encourages your participation in this study.

[Click Here to Start the Survey](#)

Selection for being contacted to participate in this study was random among those who purchased an Alabama hunting license at least 1 of the past 5 years. Selection is random to maintain a scientifically valid study. To ensure that results truly represent hunters in Alabama, your response is very important to this study.

Thank you in advance for your time and feedback.

Sincerely,
Alabama Division of Wildlife and Freshwater Fisheries
and
Archery Trade Association

Responsive Management, an independent research firm that specializes in fish and wildlife issues, has been contracted to conduct this study for the DWFF and ATA. If you need technical assistance with the survey, please contact Responsive Management via email at research@responsivemanagement.com.

Please note that the link in this email can only be used from the original email to ensure that the survey is only completed once by each randomly selected respondent. If this email or the link is forwarded to another account (even your own), it will not work when forwarded.

Survey Center Facilities

A central survey administration site at the Responsive Management office allowed for rigorous quality control over the survey data collection. Responsive Management maintains its own in-house survey administration facilities, which are staffed by survey administrators with experience conducting surveys on the subjects of outdoor recreation and natural resources.

Analysis of Survey Data

The final data contained surveys from 55,058 bowhunters across the 12 participating states who were in the initial database. Note that some of these bowhunters were not in the post-season database, meaning that the survey included some hunters who did not purchase a license for the 2018-2019 season. The final count of completed questionnaires for those in any treatment group overall, the control group, and the overall total for each state is presented in Table 2.4.

Table 2.4. Sample Obtained Among Each State

STATE	SURVEY DATA SAMPLE		
	Treatment Groups (Email Message Treatment Groups 1 to 9)	Control Group	Total
Alabama	1,555	203	1,758
Georgia	2,111	303	2,414
Iowa	3,029	562	3,591
Kentucky	5,141	668	5,809
Maryland	5,633	777	6,410
Nebraska	1,224	134	1,358
New Jersey	2,866	713	3,579
New Mexico (Fall Turkey)	2,621	424	6,685
New Mexico (Javelina)	3,640		
Oklahoma	1,180	302	1,482
Pennsylvania	8,432	927	9,359
South Dakota	3,719	439	4,158
Virginia	7,521	934	8,455
Total Sample Obtained	48,672	6,386	55,058

The analysis of survey data was performed using IBM SPSS Statistics as well as proprietary software developed by Responsive Management.

FOCUS GROUPS WITH LICENSED BOWHUNTERS

In addition to the lift analysis of the databases and the campaign follow-up survey, focus groups were conducted with licensed bowhunters as part of this study to qualitatively explore bowhunters' initial sources of interest in bowhunting and motivations, constraints, and challenges to participation. The focus groups were also conducted to further explore and better understand reactions to the email campaign messages, including which headlines and images resonate, which ones do not, and why.

A total of four focus groups were conducted. The focus groups were conducted in Tampa, Florida; West Des Moines, Iowa; Millville, New Jersey; and Oklahoma City, Oklahoma. The locations were selected to achieve geographically diverse locations among the participating states across both Phase I and Phase II studies. Note that New Jersey and Oklahoma participated in both Phase I and Phase II, Florida participated in the email marketing campaign for Phase I only but focus groups for Phase II, and Iowa participated in Phase II only.

The focus groups entailed in-depth, structured discussions with small groups of licensed hunters who had begun bowhunting in the last 5 to 8 years (8 to 12 individuals per group) about their bowhunting participation and their perceptions of images and messages designed for recruiting new, retaining active, and reactivating lapsed bowhunters. The use of focus groups is an accepted research technique for the qualitative exploration of attitudes, opinions, perceptions, motivations, constraints, and behaviors. Focus groups provide researchers with understanding and insights of the thought processes of the participants in the group discussions.

Focus groups allow for extensive open-ended responses to questions; probing, follow-up questions; group discussion; and observation of emotional responses to topics—aspects that cannot be measured in a quantitative survey. Qualitative research sacrifices reliability for increased validity. This means that, although these focus group findings could not have necessarily been replicated statistically as a survey could have been (high reliability), they provided a more nuanced understanding of the issues surrounding the email marketing campaign components (high validity).

Focus Group Coordination and Participant Recruiting

Responsive Management coordinated with each host facility to ensure that each focus group room was set up appropriately for maximum interaction and that each room had adequate seating. In addition, Responsive Management and the facilities ensured that the recording equipment was properly set up and in working order. Dinner was provided for focus group participants.

Focus group participants were recruited by Responsive Management. Research staff randomly contacted residents who had held bowhunting licenses in the past 5 years in each of the focus group regions to give them a brief summary of the focus group topic, to administer a short screener questionnaire to determine the residents' eligibility for participation, and, if qualified and interested, to schedule the residents for attendance. Responsive Management developed the recruiting screener so that the list of questions asked of each potential respondent defined the criteria for each focus group.

To participate in the focus groups, the residents had to be at least 18 years old, relatively new to the sport of bowhunting (started in the last 5 to 8 years) and not employed by a marketing or advertising organization, a communications-related business, any state or federal agency, or any bowhunting related organization or business. An effort was made to recruit participants ranging in age from 18 to 60 years old.

Responsive Management maintained contact with qualified, interested individuals as needed and provided confirmation that included the date, time, and location of the focus group, as well as a map and directions to the focus group facility. To encourage participation, a monetary incentive was given to participants.

Responsive Management maintained progress tables for each focus group that included participant names, addresses, contact telephone numbers, and essential participant characteristics. Responsive Management carefully reviewed each status update to ensure that each new recruit met the criteria. Each focus group's target was approximately 8 to 12 people. Reminder calls and interaction with potential participants prior to the groups helped ensure their attendance, resulting in quality participation.

Focus Group Moderation, Discussion Guide, Materials, and Analysis

Each focus group was moderated by one of Responsive Management's trained moderators. The moderators conducted the focus groups using a discussion guide that allowed for consistency in the data collection. Through the use of the discussion guide, moderators kept the discussions within design parameters without exerting a strong influence on the discussion content. In this sense, the focus groups were non-directive group discussions that exposed the spontaneous attitudes, insights, and perceptions of general population residents.

During the discussion, focus group participants were given booklets with each of the marketing messages (i.e., headlines) only, without an accompanying image, later followed by booklets with each of the marketing messages *with* an accompanying image (i.e., an image of the email marketing message that was created for the campaign; see Appendix B for images of all the email marketing messages for each state). The images and messages reviewed in focus groups corresponded with the participants' state of residence (e.g., the Oklahoma City group reviewed only Oklahoma messages), though it should be noted that many images used in the email messages were used across many of the participating states. Note that although Florida did not participate in the email marketing campaign for Phase II, mock email messages were created for each of the nine themes to show focus group participants in Florida. (The mock Florida emails are also shown in Appendix B.)

Qualitative analyses of the focus groups were conducted through direct observation of the discussions by the moderator as well as through later observation and analysis of the recordings by other researchers. The organization and development of findings entailed a third review of the focus groups as part of the overall qualitative analysis. Throughout the focus group results chapter, Chapter 5, verbatim quotations from focus group participants are shown in the relevant sections. All focus group discussions were recorded for the purposes of transcription and analysis.

ADDITIONAL INFORMATION ABOUT ANALYSES AND READING THE REPORT

Age or Generation Groups

The data for the lift analysis and survey results are also reported by three age or generation groups: Millennials (18 to 36 years old), Generation X (37 to 51 years old, also referred to as Gen Xers in this report), and Baby Boomers (52 years old or older). The researchers acknowledge the variance across social research sources in defining the exact age ranges and/or birth years for each identified generation. The age ranges used for this study are consistent with those used for a recent bowhunting participation study conducted by Responsive Management for the Archery Trade Association: *Bowhunting in the United States: A Market Study* (2017) (Table 2.5).

Table 2.5. Age / Generation Groups for Analysis

Group	ATA 2017 Participation Study Age Range	ATA 2019 Reactivation Bowhunters Study Age Range
Millennials	18 to 34	18 to 36
Generation X	35 to 49	37 to 51
Baby Boomers	50 and older	52 and older

Because the previous study was conducted two years ago, each age group was shifted by two years—that is, someone who was a Gen Xer in 2017 at the age of 49 is still considered a Gen Xer in 2019 at age 51. Furthermore, those who were under the age of 18 in 2017 and are now 18 or 19 years old have been added to the Millennials group. Although those who are currently 18 or 19 years of age may be considered candidates for either the Millennial generation or the Post-Millennial generation / Generation Z that follows, for the purposes of this study they have been included with Millennials.

Email Message Labels

As described earlier in this section, nine unique email messages were sent out for the email marketing campaign in each state (see Table 2.1 on page 8). Throughout this report, results are reported by email message for the purposes of better understanding which messages were most effective. Two different label formats are used throughout the report to identify which email message is being discussed: for example, *Group 1 (Social) Message* and *Message 1 (Social)*. In viewing and reading this report, it is important to be aware both of these labels ultimately refer to the same email message, with the key reference being that both use the same number in the label.

Recall that each of the nine unique emails was sent to a unique sample group, also called a treatment group. In each state, the treatment group number corresponds to the message number. Therefore, among the treatment groups, Group 1 received Message 1 only, Group 2 received Message 2 only, and so forth.

While it is most important to note that both labels—*Group 1 (Social) Message* and *Message 1 (Social)*—refer to the same message, each label is used for a specific reason. When the label references the group number, it indicates that the results reported are among that treatment group

only. For example, the lift results section reports license sales rates among each treatment group individually, so the results are primarily reported with the *Group 1 (Social) Message* format. When the results reported are regarding a specific message but are not among only the treatment group that received the message, then the *Message 1 (Social)* format is used.

Presentation of Survey Results

In examining the survey results, it is important to be aware that the questionnaire included several types of questions:

- Open-ended questions are those in which no answer set is read to the respondents; rather, they can respond with anything that comes to mind from the question.
- Closed-ended questions have an answer set from which to choose.
- Single- or multiple-response questions: Some questions allow only a single response, while other questions allow respondents to give more than one response or choose all that apply. Those that allow more than a single response are indicated on the graphs with the label, *Multiple Responses Allowed*.
- Scaled questions: Some (not all) closed-ended questions are in a scale, such as 0 to 10.

Most graphs show results rounded to the nearest integer; however, all data are stored in decimal format, and all calculations are performed on unrounded numbers. For this reason, some results on single-response questions may not sum to exactly 100% because of this rounding on the graphs. Additionally, rounding may cause apparent discrepancies of 1 percentage point between the graphs and the reported results of combined responses (e.g., when *very satisfied* and *somewhat satisfied* are summed to determine the total percentage being satisfied).

Use of Color

Finally, it is also important to be aware that some graphs and tables (but not all) use color and many images used in or pertaining to the email marketing campaign are also shown in color. When printed in black and white or grayscale only, some of the differentiation between colors used in graphs, tables, and images may be lost. The loss of color differentiation can potentially make it more difficult to interpret the information presented in a graph, table, or image.

CHAPTER 3. LIFT ANALYSIS OF LICENSE DATABASE REGARDING THE RESULTS OF THE EMAIL MARKETING CAMPAIGN

For Phase II, each participating state's 2018-2019 license database was matched to the initial databases used for the email marketing campaign, allowing each license holder with an email address in the initial database to be categorized as a license purchaser or a non-purchaser for the time period following the email marketing campaign. It is this rate of 2018-2019 license purchase among those in the initial database in each group that was examined in the statistical analysis and then compared to sales among the control group to identify the "sales lift" that correlates with the email marketing campaign.

The sales lift was identified for each of the nine email messages used in the marketing campaign by comparing license sales for each message's treatment group (i.e., the sample group that received a particular email) to sales among the control group. Lift is the percent difference between the sales in the treatment group and the sales in the control group. For example, if the control group sales rate is 10% (i.e., 10% of those in the group bought a 2018-2019 license) and the treatment group sales rate is 12%, lift is calculated as the percent difference. The increase from 10% to 12% is a 20% increase or "lift."

An increase, or positive lift result, (e.g., 20%) indicates that the treatment group bought licenses at a higher rate than the control group. A decrease, or negative lift result, (e.g., -20%) indicates that the treatment group bought licenses at a lower rate than the control group. Statistical tests were run on the lift results to determine whether the positive and negative lift results are statistically significant, referring to the likelihood that the lift result did *not* occur by chance.

In the lift analysis that follows in this chapter, each treatment group has been assigned a number that corresponds to the number assigned to the test email. (See Chapter 2, *Approach and Methodology*, and Table 2.1 for more extensive information on the email marketing campaign message design.)

Table 3.1. Treatment Groups and Corresponding Messages by Theme

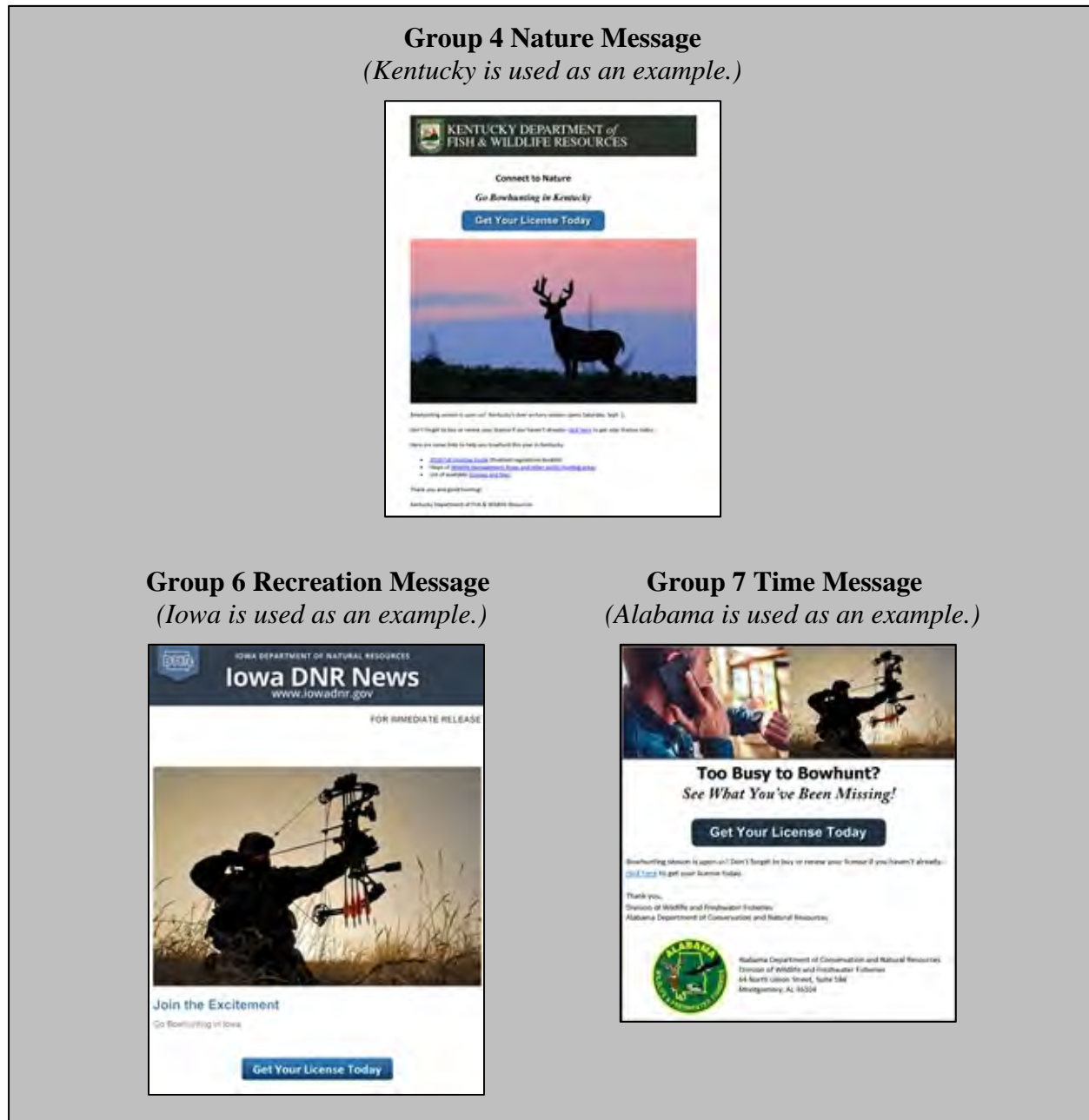
GROUP /MESSAGE	THEME
Treatment Group 1 / Message 1	Social
Treatment Group 2 / Message 2	Social
Treatment Group 3 / Message 3	Social
Treatment Group 4 / Message 4	Nature
Treatment Group 5 / Message 5	Nature
Treatment Group 6 / Message 6	Recreation
Treatment Group 7 / Message 7	Time
Treatment Group 8 / Message 8	Challenge
Treatment Group 9 / Message 9	Heritage

In general for Phase II lift analysis results, each of the 12 states experienced a positive lift in license sales correlated with the email marketing campaign time period for at least one of the nine test messages in comparison to the control group. Six states have *statistically significant* positive lift in license sales for one or more specific messages that is correlated with the email marketing campaign time period: Alabama, Iowa, Kentucky, Maryland, New Mexico, and South Dakota. Two states (Pennsylvania and Virginia) have statistically significant negative lift in license sales for one or two messages. Overall, none of the messages resulted in a statistically significant lift in license sales when all 12 states are combined for analysis.

Across the states, statistically significant positive lift results occurred most commonly for Group 4 (Nature) Message: *Connect to Nature—Go Bowhunting in [State]* (four states have statistically significant positive lift results with this message). Group 4 is followed closely by Group 6 (Recreation) Message: *Join the Excitement—Go Bowhunting in [State]* and Group 7 (Time) Message: *Too Busy to Bowhunt? See What You’ve Been Missing!* Group 6 and Group 7 each resulted in statistically significant positive lift results in three different states. (See Figure 3.1 on the following page for example images of messages with statistically significant positive lift.)

Note that any statistically significant negative lift results require further investigation beyond the scope of this study to determine the factors contributing to the lower license purchase rate among the treatment group.

Figure 3.1. Most Common Messages With Statistically Significant Positive Lift Across the States



In the analyses that follow, each state is examined separately and presented alphabetically: Alabama, Georgia, Iowa, Kentucky, Maryland, Nebraska, New Jersey, New Mexico, Oklahoma, Pennsylvania, South Dakota, and Virginia. The analyses conclude with an examination of overall results for the 12 states combined. Note that for the purposes of this report, all lift estimates and p-values have been rounded to two decimal places, unless more are necessary to show or to differentiate levels of statistical significance. All calculations were performed on unrounded numbers. Statistically significant lift results are highlighted in gray in the tables in this chapter.

ALABAMA'S RESULTS

Prior to any statistical tests, the raw data were tabulated for analyses. Taking the number in the original sample, the first step in the analysis was to categorize each of these hunters as having purchased a 2018-2019 hunting license or having not purchased a license during the time period following the email marketing campaign (Tables 3.2 to 3.8). All Alabama licenses with bowhunting privileges were included, and the analysis was performed on resident license holders from the original sample only.

Based on the data above, statistical tests were run. The tests looked at any treatment at all versus no treatment, as well as each treatment group versus no treatment.

In Tables 3.2 and 3.3, any treatment was compared to the control group. All treatment groups (Groups 1 to 9) combined have 163,776 hunters of which 68,112 bought licenses with bowhunting privileges in the time period following the email marketing campaign, and this is compared to 36,211 hunters in the control group, of which 14,811 bought licenses with bowhunting privileges (Table 3.2). Overall, those who received a marketing email (i.e., any treatment) bought at a higher rate than the control group. Based on an independent samples t-test, this difference is statistically significant (Table 3.3).

Table 3.2. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment), Alabama

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (10/18/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (10/18/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (10/18/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (10/18/2018)
Any Treatment (received email)	163,776	68,112	41.6%	95,664	58.4%
Control Group (no email received)	36,211	14,811	40.9%	21,400	59.1%

Table 3.3. Any Treatment Versus Control (No Treatment) Lift Analysis, Alabama

Group	Percent That Purchased a License at Any Time After the First Treatment Date (10/18/2018)	Lift Estimate (Percent Difference Between Treatment and Control Groups)	P-Value	P-Value Significance
Any Treatment (received email)	41.6%	1.68%	0.02*	Significant*
Control Group (no email received)	40.9%	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

Additionally, the email marketing campaign consisted of an initial email message and a second identical email message sent at approximately the mid-point of the hunting season. Table 3.4 shows the number and percentage of license purchases that occurred after the first email treatment date (October 18, 2018) but before the second email treatment date (December 13, 2018), as well as purchases that occurred after the second email.

Interestingly, both the any treatment group and the control group purchased licenses at a higher rate after the second treatment date than the time period between the first and second treatment dates. Nonetheless, there is very little difference in the license purchase rate between those who received an email and those who did not for both the first email and second email treatment dates. (Recall, however, that any treatment for the full time period examined following the marketing campaign did experience a statistically significant positive lift in sales; see Table 3.3 on the previous page.)

Table 3.4. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment) by Treatment Date, Alabama

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (10/18/2018)	Number That Purchased a License After the First Treatment Date and Before the Second Treatment Date (10/18/2018 to 12/12/2018)	Percent That Purchased a License After the First Treatment Date and Before the Second Treatment Date (10/18/2018 to 12/12/2018)	Number That Purchased a License After the Second Treatment Date (12/13/2018)	Percent That Purchased a License After the Second Treatment Date (12/13/2018)
Any Treatment (received email)	163,776	68,112	28,746	17.6%	39,366	24.0%
Control Group (no email received)	36,211	14,811	6,175	17.1%	8,636	23.8%

The analysis also examined the individual treatment groups (Groups 1 to 9) separately against the control group to assess the effectiveness of the various email marketing messages, shown in Table 3.5. The rate of purchase was higher than the control group for all nine treatment groups individually in Alabama. The four groups with the highest rate of purchase in Alabama are Group 2 (Social), Group 5 (Nature), Group 7 (Time), and Group 6 (Recreation).

Table 3.5. Purchasers of Licenses in the 2018-2019 Season by Treatment Group, Alabama

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (10/18/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (10/18/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (10/18/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (10/18/2018)
Group 1 (Social): <i>Bowhunting in Alabama Is Quality Time—Make Memories This Hunting Season</i> (couple image)	18,249	7,562	41.4%	10,687	58.6%
Group 2 (Social): <i>Bowhunting in Alabama Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	18,239	7,680	42.1%	10,559	57.9%
Group 3 (Social): <i>Bowhunting in Alabama Is Quality Time—Make Memories This Hunting Season</i> (group image)	18,410	7,538	40.9%	10,872	59.1%
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Alabama</i> (deer silhouette image)	18,082	7,497	41.5%	10,585	58.5%
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Alabama</i> (deer silhouette image)	18,262	7,683	42.1%	10,579	57.9%
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Alabama</i> (bowhunter silhouette image)	17,842	7,451	41.8%	10,391	58.2%
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	18,356	7,673	41.8%	10,683	58.2%
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Alabama</i> (target shooter silhouette)	18,092	7,531	41.6%	10,561	58.4%
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Alabama</i> (father and son image)	18,244	7,497	41.1%	10,747	58.9%
Group 10: Control Group (no email received)	36,211	14,811	40.9%	21,400	59.1%

The lift analysis results for all of the treatment groups are summarized in Table 3.6. Significance tests were run using an independent samples t-test. The lift results are positive for all nine treatment groups, and the lift for three groups is statistically significant. The two groups with the strongest statistically significant positive lift in Alabama are Group 2 (Social) ($p \leq 0.01$) and Group 5 (Nature) ($p \leq 0.01$). The positive lift for Group 7 (Time) ($p \leq 0.05$) is also statistically significant.

Table 3.6. Treatment Groups Versus Control (No Treatment) Lift Analysis, Alabama

Group	Percent That Purchased a License at Any Time After the First Treatment Date (10/18/2018)	Lift Estimate (Percent Difference Between Treatment and Control Group)	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in Alabama Is Quality Time—Make Memories This Hunting Season</i> (couple image)	41.4%	1.31%	0.23	Not Significant
Group 2 (Social): <i>Bowhunting in Alabama Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	42.1%	2.95%	0.01**	Significant**
Group 3 (Social): <i>Bowhunting in Alabama Is Quality Time—Make Memories This Hunting Season</i> (group image)	40.9%	0.11%	0.92	Not Significant
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Alabama</i> (deer silhouette image)	41.5%	1.37%	0.21	Not Significant
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Alabama</i> (deer silhouette image)	42.1%	2.86%	0.01**	Significant**
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Alabama</i> (bowhunter silhouette image)	41.8%	2.10%	0.06	Not Significant
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	41.8%	2.20%	0.04*	Significant*
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Alabama</i> (target shooter silhouette)	41.6%	1.77%	0.11	Not Significant
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Alabama</i> (father and son image)	41.1%	0.47%	0.67	Not Significant
Group 10: Control Group (no email received)	40.9%	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

**Difference statistically significant, $p \leq 0.01$; Welch Two Sample t-test versus control.

The treatment group lift results are summarized in Figure 3.2. Again, the lift results are positive for all nine treatment groups. The lift for three groups is statistically significant: Group 2 (Social) ($p \leq 0.01$), Group 5 (Nature) ($p \leq 0.01$), and Group 7 (Time) ($p \leq 0.05$).

Figure 3.2. Lift Estimates for Treatment Groups, Alabama

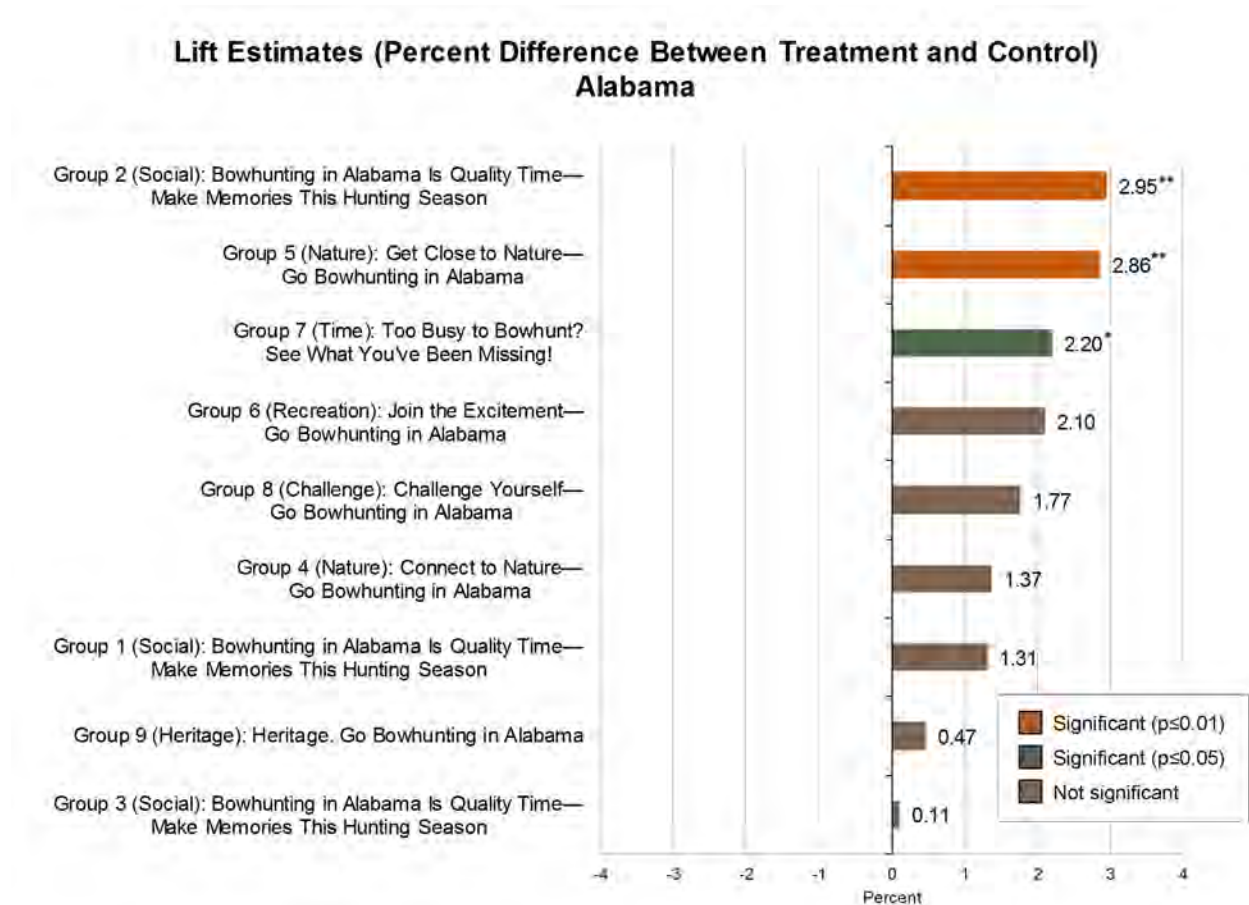








Figure 3.3. Messages With Statistically Significant Positive Lift, Alabama

Group 2 Social Message	Group 5 Nature Message	Group 7 Time Message
 <p>Bowhunting in Alabama Is Quality Time <i>Make Memories This Hunting Season</i></p> <p>Get Your License Today</p> <p><small>Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already... click here to get your license today.</small></p> <p><small>Thank you, Division of Wildlife and Freshwater Fisheries Alabama Department of Conservation and Natural Resources</small></p>  <p><small>Alabama Department of Conservation and Natural Resources Division of Wildlife and Freshwater Fisheries 64 North Union Street, Suite 584 Montgomery, AL 36104</small></p>	 <p>Get Close to Nature Go Bowhunting in Alabama</p> <p>Get Your License Today</p> <p><small>Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already... click here to get your license today.</small></p> <p><small>Thank you, Division of Wildlife and Freshwater Fisheries Alabama Department of Conservation and Natural Resources</small></p>  <p><small>Alabama Department of Conservation and Natural Resources Division of Wildlife and Freshwater Fisheries 64 North Union Street, Suite 584 Montgomery, AL 36104</small></p>	 <p>Too Busy to Bowhunt? See What You've Been Missing!</p> <p>Get Your License Today</p> <p><small>Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already... click here to get your license today.</small></p> <p><small>Thank you, Division of Wildlife and Freshwater Fisheries Alabama Department of Conservation and Natural Resources</small></p>  <p><small>Alabama Department of Conservation and Natural Resources Division of Wildlife and Freshwater Fisheries 64 North Union Street, Suite 584 Montgomery, AL 36104</small></p>

The lift analysis also examined the results for any treatment compared to the control group by age (or generation), summarized in Table 3.7. While the treatment groups for each age category have positive lift results in Alabama, the lift is statistically significant for only the Millennials.

Table 3.7. Any Treatment Versus Control (No Treatment) Lift Analysis by Age Group, Alabama

Group	Millennials (Ages 18 to 36)				Generation X (Ages 37 to 51)				Baby Boomers (Age 52 and older)			
	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance
Any Treatment (received email)	39.1%	2.35%	0.04*	*	47.0%	1.54%	0.18	No	39.5%	0.54%	0.71	No
Control Group (no email received)	38.2%	--	--	--	46.3%	--	--	--	39.3%	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

¹ Percent That Purchased a License at Any Time After the First Treatment Date (10/18/2018)

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

The lift analysis results for all of the treatment groups by age are summarized in Table 3.8. Most notably, the lift for Group 7 (Time) is statistically significant ($p \leq 0.01$) among Millennials in Alabama. Group 5 (Nature) is also statistically significant ($p \leq 0.05$) among both Millennials and Baby Boomers. There are no statistically significant lift results among Gen Xers.

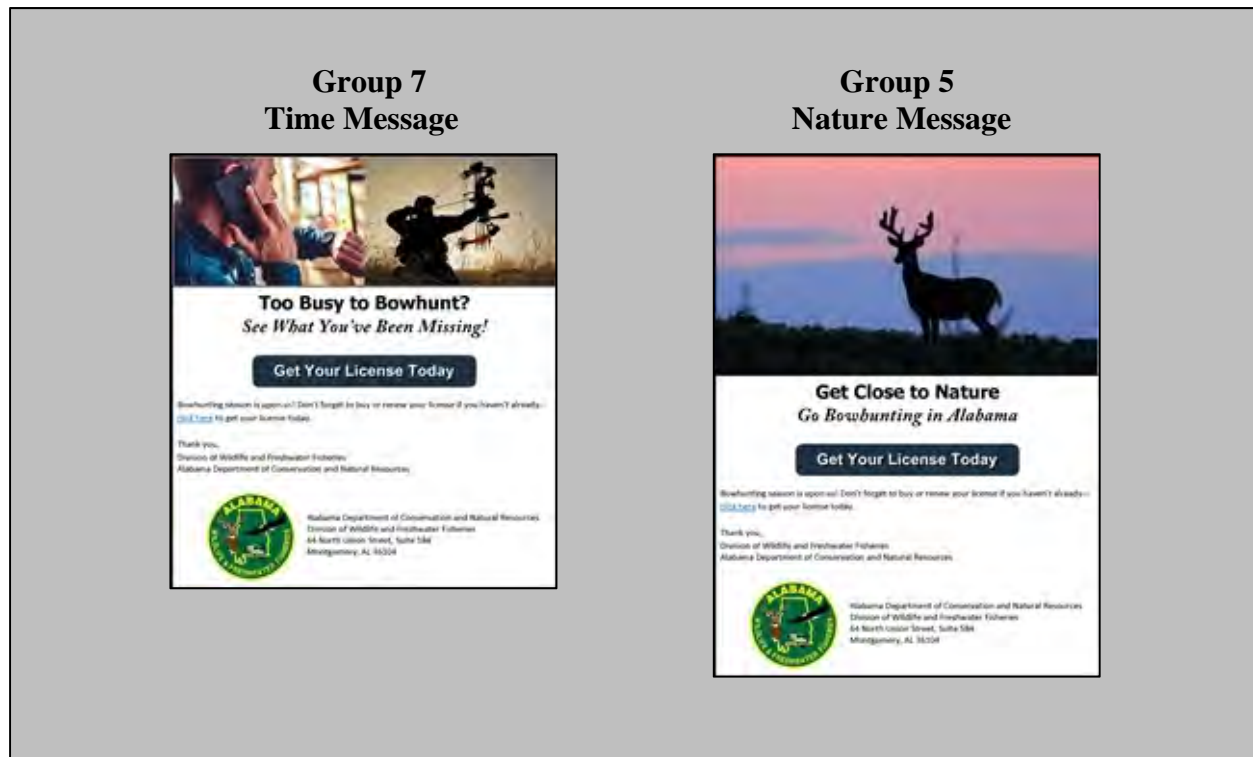
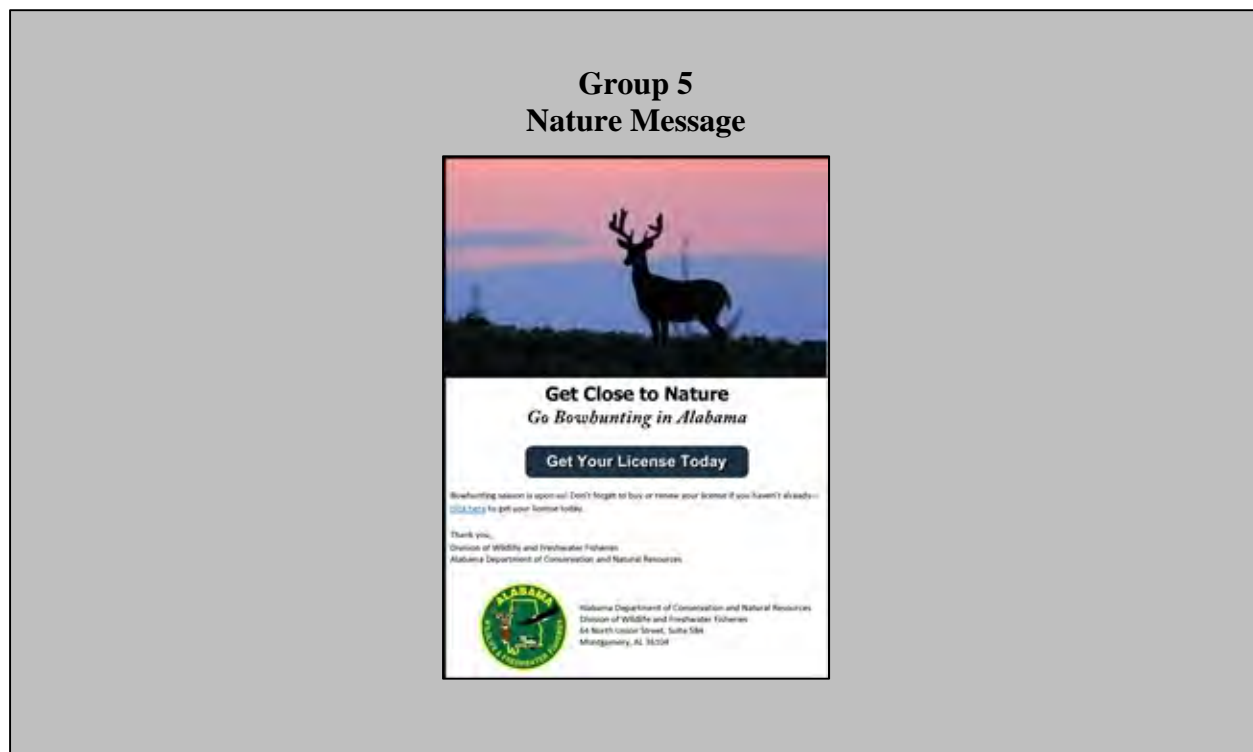
Table 3.8. Treatment Groups Versus Control (No Treatment) Lift Analysis by Age Group, Alabama

Group	Millennials (Ages 18 to 36)			Generation X (Ages 37 to 51)			Baby Boomers (Age 52 and older)		
	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in Alabama Is Quality Time—Make Memories This Hunting Season</i> (couple image)	2.25%	0.20	No	0.54%	0.76	No	0.82%	0.71	No
Group 2 (Social): <i>Bowhunting in Alabama Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	2.47%	0.16	No	3.41%	0.054	No	2.65%	0.23	No
Group 3 (Social): <i>Bowhunting in Alabama Is Quality Time—Make Memories This Hunting Season</i> (group image)	1.50%	0.39	No	0.29%	0.87	No	-2.52%	0.25	No
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Alabama</i> (deer silhouette image)	1.98%	0.26	No	1.13%	0.53	No	0.34%	0.88	No
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Alabama</i> (deer silhouette image)	3.79%	0.03*	*	0.16%	0.93	No	4.53%	0.043*	*
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Alabama</i> (bowhunter silhouette image)	2.27%	0.20	No	2.67%	0.14	No	1.21%	0.59	No
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	4.63%	0.01**	**	1.07%	0.55	No	-0.29%	0.92	No
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Alabama</i> (target shooter silhouette)	1.29%	0.46	No	2.86%	0.12	No	0.49%	0.82	No
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Alabama</i> (father and son image)	0.92%	0.60	No	1.75%	0.32	No	-2.36%	0.28	No
Group 10: Control Group (no email received)	--	--	--	--	--	--	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

**Difference statistically significant, $p \leq 0.01$; Welch Two Sample t-test versus control.

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

Figure 3.4. Messages With Statistically Significant Positive Lift Among Millennials, Alabama**Figure 3.5. Messages With Statistically Significant Positive Lift Among Baby Boomers, Alabama**

GEORGIA'S RESULTS

Prior to any statistical tests, the raw data were tabulated for analyses. Taking the number in the original sample, the first step in the analysis was to categorize each of these hunters as having purchased a 2018-2019 hunting license or having not purchased a license during the time period following the email marketing campaign (Tables 3.9 to 3.15). Georgia does not have a bowhunting specific license or permit; therefore, all licenses providing hunting privileges for species that can be hunted with a bow were included. The analysis was performed on resident license holders from the original sample only.

Based on the data above, statistical tests were run. The tests looked at any treatment at all versus no treatment, as well as each treatment group versus no treatment.

In Tables 3.9 and 3.10, any treatment was compared to the control group. All treatment groups (Groups 1 to 9) combined have 216,073 hunters of which 64,900 bought licenses in the time period following the email marketing campaign, and this is compared to 47,449 hunters in the control group, of which 14,373 bought licenses (Table 3.9). There was very little difference between license purchase rates of those who received a marketing email (i.e., any treatment) and those who did not. Although the lift was slightly negative among hunters in the any treatment group, the difference is not statistically significant based on an independent samples t-test (Table 3.10).

Table 3.9. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment), Georgia

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (9/18/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (9/18/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (9/18/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (9/18/2018)
Any Treatment (received email)	216,073	64,900	30.0%	130,467	79.7%
Control Group (no email received)	47,449	14,373	30.3%	28,954	80.0%

Table 3.10. Any Treatment Versus Control (No Treatment) Lift Analysis, Georgia

Group	Percent That Purchased a License at Any Time After the First Treatment Date (9/18/2018)	Lift Estimate (Percent Difference Between Treatment and Control Groups)	P-Value	P-Value Significance
Any Treatment (received email)	30.0%	-0.84%	0.27	Not Significant
Control Group (no email received)	30.3%	--	--	--

Differences not statistically significant, Welch Two Sample t-test versus control.

Additionally, the email marketing campaign consisted of an initial email message and a second identical email message sent at a strategic time during the hunting season. Table 3.11 shows the number and percentage of license purchases that occurred after the first email treatment date (September 18, 2018) but before the second email treatment date (December 5, 2018), as well as purchases that occurred after the second email. There is very little difference in the license purchase rate between those who received an email and those who did not for both the first email and second email treatment dates.

Table 3.11. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment) by Treatment Date, Georgia

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (9/18/2018)	Number That Purchased a License After the First Treatment Date and Before the Second Treatment Date (9/18/2018 to 12/4/2018)	Percent That Purchased a License After the First Treatment Date and Before the Second Treatment Date (9/18/2018 to 12/4/2018)	Number That Purchased a License After the Second Treatment Date (12/5/2018)	Percent That Purchased a License After the Second Treatment Date (12/5/2018)
Any Treatment (received email)	216,073	64,900	56,807	26.3%	8,093	3.7%
Control Group (no email received)	47,449	14,373	12,606	26.6%	1,767	3.7%

The analysis also examined the individual treatment groups (Groups 1 to 9) separately against the control group to assess the effectiveness of the various email marketing messages, shown in Table 3.12. Note that Georgia elected to customize the email marketing messages, and some of the resulting messages differed from those used in other participating states. In Georgia, the rate of purchase was higher than the control group for one message: Group 6 (Mixed Recreation/Nature), *Join the Excitement! Get Close to Nature by Bowhunting*.

Table 3.12. Purchasers of Licenses in the 2018-2019 Season by Treatment Group, Georgia

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (9/18/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (9/18/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (9/18/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (9/18/2018)
Group 1 (Social): <i>Time to Bowhunt in Georgia!</i> <i>Make Memories This Hunting Season</i> (female child with bow image)	24,116	7,242	30.0%	16,874	70.0%
Group 2 (Social): <i>Time to Bowhunt in Georgia!</i> <i>Make Memories This Hunting Season</i> (father and son image)	24,114	7,271	30.2%	16,843	69.8%
Group 3 (Social): <i>Time to Bowhunt in Georgia!</i> <i>Make Memories This Hunting Season</i> (group image)	24,387	7,380	30.3%	17,007	69.7%
Group 4 (Nature): <i>Connect to Nature! Connect to Nature</i> <i>by Bowhunting</i> (multiple deer image)	24,089	7,172	29.8%	16,917	70.2%
Group 5 (Nature): <i>Get Close to Nature! Get Close to Nature</i> <i>by Bowhunting</i> (multiple deer image)	24,020	7,175	29.9%	16,845	70.1%
Group 6 (Mixed Recreation/Nature): <i>Join the Excitement! Get Close to Nature</i> <i>by Bowhunting</i> (bowhunter silhouette image)	23,513	7,164	30.5%	16,349	69.5%
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (bowhunter silhouette image)	24,120	7,255	30.1%	16,865	69.9%
Group 8 (Challenge): <i>Challenge Yourself—Rise to the Challenge of Bowhunting!</i> (target shooter silhouette)	23,852	7,099	29.8%	16,753	70.2%
Group 9 (Heritage): <i>Hunting Heritage—Heritage. Pass on Bowhunting!</i> (father and son image)	23,862	7,142	29.9%	16,720	70.1%
Group 10: Control Group (no email received)	47,449	14,373	30.3%	33,076	69.7%

The lift analysis results for all of the treatment groups are summarized in Table 3.13. Significance tests were run using an independent samples t-test. The lift results were positive for Group 6 (Mixed Recreation/Nature), with all other groups having slightly negative lift. None of the lift results, positive or negative, are statistically significant.

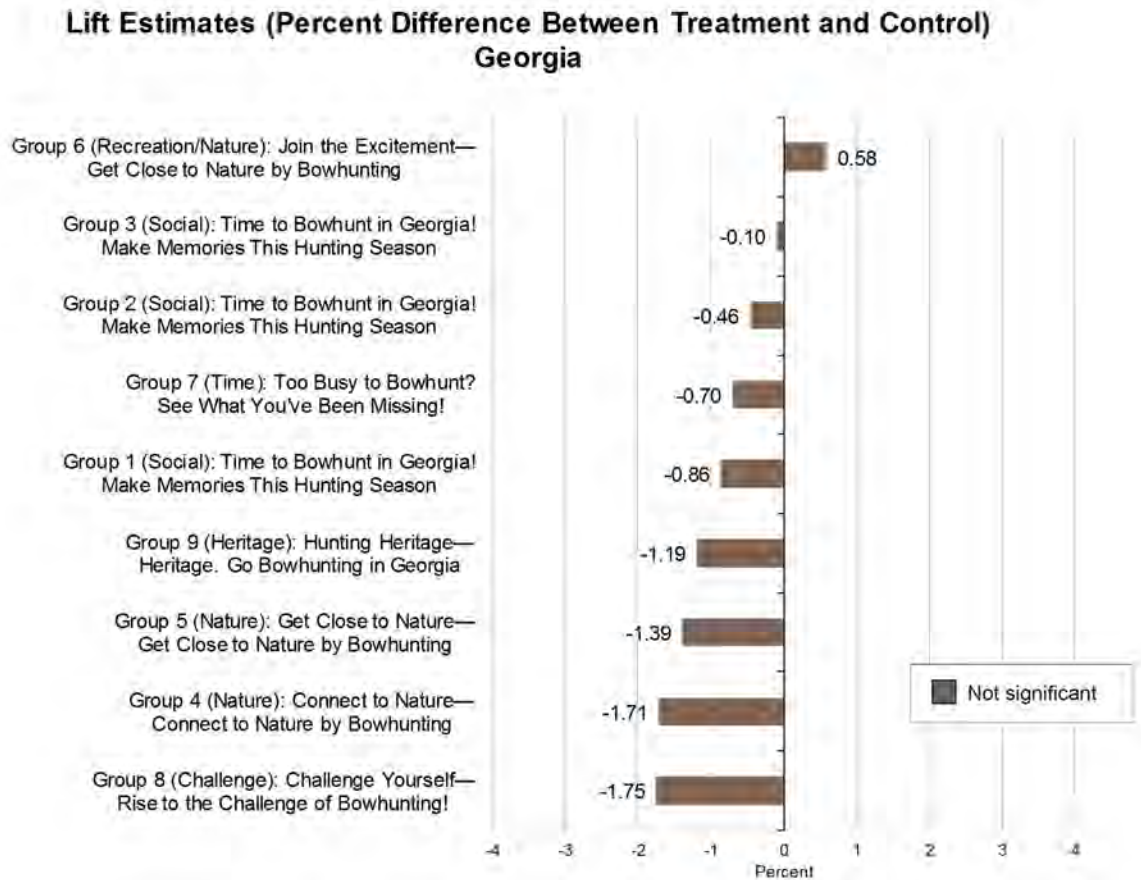
Table 3.13. Treatment Groups Versus Control (No Treatment) Lift Analysis, Georgia

Group	Percent That Purchased a License at Any Time After the First Treatment Date (9/18/2018)	Lift Estimate (Percent Difference Between Treatment and Control Group)	P-Value	P-Value Significance
Group 1 (Social): <i>Time to Bowhunt in Georgia!</i> <i>Make Memories This Hunting Season</i> (female child with bow image)	30.0%	-0.86%	0.47	Not Significant
Group 2 (Social): <i>Time to Bowhunt in Georgia!</i> <i>Make Memories This Hunting Season</i> (father and son image)	30.2%	-0.46%	0.70	Not Significant
Group 3 (Social): <i>Time to Bowhunt in Georgia!</i> <i>Make Memories This Hunting Season</i> (group image)	30.3%	-0.10%	0.94	Not Significant
Group 4 (Nature): <i>Connect to Nature! Connect to Nature by Bowhunting</i> (multiple deer image)	29.8%	-1.71%	0.15	Not Significant
Group 5 (Nature): <i>Get Close to Nature! Get Close to Nature by Bowhunting</i> (multiple deer image)	29.9%	-1.39%	0.25	Not Significant
Group 6 (Mixed Recreation/Nature): <i>Join the Excitement! Get Close to Nature by Bowhunting</i> (bowhunter silhouette image)	30.5%	0.58%	0.63	Not Significant
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (bowhunter silhouette image)	30.1%	-0.70%	0.56	Not Significant
Group 8 (Challenge): <i>Challenge Yourself—Rise to the Challenge of Bowhunting!</i> (target shooter silhouette)	29.8%	-1.75%	0.15	Not Significant
Group 9 (Heritage): <i>Hunting Heritage—Heritage. Pass on Bowhunting!</i> (father and son image)	29.9%	-1.19%	0.32	Not Significant
Group 10: Control Group (no email received)	30.3%	--	--	--

Differences not statistically significant, Welch Two Sample t-test versus control.

The treatment group lift results are summarized in Figure 3.6. Only Group 6 (Mixed Recreation/Nature) had positive lift results for Georgia. Again, none of the lift results are statistically significant.

Figure 3.6. Lift Estimates for Treatment Groups, Georgia



The lift analysis also examined the results for any treatment compared to the control group by age (or generation), summarized in Table 3.14. For each age group in Georgia, there is negative lift, meaning that the license purchase rate of those who received an email is slightly less than those who did not receive an email in the same age group; however, none of the differences are statistically significant.

Table 3.14. Any Treatment Versus Control (No Treatment) Lift Analysis by Age Group, Georgia

Group	Millennials (Ages 18 to 36)				Generation X (Ages 37 to 51)				Baby Boomers (Age 52 and older)			
	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance
Any Treatment (received email)	27.8%	-1.28%	0.30	No	33.5%	-0.75%	0.55	No	29.3%	-0.48%	0.76	No
Control Group (no email received)	28.1%	--	--	--	33.8%	--	--	--	29.5%	--	--	--

Differences not statistically significant, Welch Two Sample t-test versus control.

¹ Percent That Purchased a License at Any Time After the First Treatment Date (9/18/2018)

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

The lift analysis results for all of the treatment groups by age are summarized in Table 3.15. Most commonly, each age group has more treatment groups with negative lift results than with positive lift results in Georgia. Negative lift results indicate that the treatment group purchased licenses at a lower rate than the control group. Only one instance of negative lift is statistically significant: Group 4 (Nature) among Gen Xers. The lift results for all other treatment groups in each age category, positive or negative, are not statistically significant.

Table 3.15. Treatment Groups Versus Control (No Treatment) Lift Analysis by Age Group, Georgia

Group	Millennials (Ages 18 to 36)			Generation X (Ages 37 to 51)			Baby Boomers (Age 52 and older)		
	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance
Group 1 (Social): <i>Time to Bowhunt in Georgia!</i> <i>Make Memories This Hunting Season</i> (female child with bow image)	0.32%	0.87	No	-1.71%	0.38	No	-1.43%	0.56	No
Group 2 (Social): <i>Time to Bowhunt in Georgia!</i> <i>Make Memories This Hunting Season</i> (father and son image)	-1.66%	0.39	No	0.97%	0.62	No	-0.96%	0.70	No
Group 3 (Social): <i>Time to Bowhunt in Georgia!</i> <i>Make Memories This Hunting Season</i> (group image)	-0.42%	0.83	No	0.18%	0.92	No	0.03%	0.99	No
Group 4 (Nature): <i>Connect to Nature! Connect to Nature</i> <i>by Bowhunting</i> (multiple deer image)	-1.28%	0.51	No	-3.86%	0.04*	*	0.54%	0.83	No
Group 5 (Nature): <i>Get Close to Nature! Get Close to</i> <i>Nature by Bowhunting</i> (deer image)	-0.75%	0.70	No	-2.40%	0.21	No	-1.26%	0.61	No
Group 6 (Mixed Recreation/Nature): <i>Join the Excitement! Get Close to</i> <i>Nature by Bowhunting</i> (bowhunter silhouette image)	-0.34%	0.86	No	1.81%	0.36	No	0.39%	0.88	No
Group 7 (Time): <i>Too Busy to Bowhunt? See What</i> <i>You've Been Missing!</i> (bowhunter silhouette image)	-1.66%	0.39	No	-0.36%	0.85	No	-0.32%	0.90	No
Group 8 (Challenge): <i>Challenge Yourself—Rise to the</i> <i>Challenge of Bowhunting!</i> (target shooter silhouette)	-2.47%	0.20	No	-1.91%	0.33	No	-0.49%	0.85	No
Group 9 (Heritage): <i>Hunting Heritage—Heritage. Pass on</i> <i>Bowhunting!</i> (father and son image)	-3.28%	0.09	No	0.63%	0.75	No	-0.82%	0.74	No
Group 10: Control Group (no email received)	--	--	--	--	--	--	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

IOWA'S RESULTS

Prior to any statistical tests, the raw data were tabulated for analyses. Taking the number in the original sample, the first step in the analysis was to categorize each of these hunters as having purchased a 2018-2019 hunting license or having not purchased a license during the time period following the email marketing campaign (Tables 3.16 to 3.22). All Iowa bowhunting licenses were included, and the analysis was performed on resident license holders from the original sample only.

Based on the data above, statistical tests were run. The tests looked at any treatment at all versus no treatment, as well as each treatment group versus no treatment.

In Tables 3.16 and 3.17, any treatment was compared to the control group. All treatment groups (Groups 1 to 9) combined have 26,951 hunters of which 11,294 bought bowhunting licenses in the time period following the email marketing campaign, and this is compared to 5,993 hunters in the control group, of which 2,448 bought licenses (Table 3.16). Overall, those who received a marketing email (i.e., any treatment) bought at a slightly higher rate than the control group; however, this difference is not statistically significant, based on an independent samples t-test (Table 3.17).

Table 3.16. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment), Iowa

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (9/29/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (9/29/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (9/29/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (9/29/2018)
Any Treatment (received email)	26,951	11,294	41.9%	15,657	58.1%
Control Group (no email received)	5,993	2,448	40.8%	3,545	59.2%

Table 3.17. Any Treatment Versus Control (No Treatment) Lift Analysis, Iowa

Group	Percent That Purchased a License at Any Time After the First Treatment Date (9/29/2018)	Lift Estimate (Percent Difference Between Treatment and Control Groups)	P-Value	P-Value Significance
Any Treatment (received email)	41.9%	2.59%	0.23	Not Significant
Control Group (no email received)	40.8%	--	--	--

Difference not statistically significant, Welch Two Sample t-test versus control.

Additionally, the email marketing campaign consisted of an initial email message and a second identical email message sent at approximately the mid-point of the hunting season. Table 3.18 shows the number and percentage of bowhunting license purchases that occurred after the first email treatment date (September 29, 2018) but before the second email treatment date (November 2, 2018), as well as purchases that occurred after the second email. There is very little difference in the license purchase rate between those who received an email and those who did not for both the first email and second email treatment dates.

Table 3.18. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment) by Treatment Date, Iowa

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (9/29/2018)	Number That Purchased a License After the First Treatment Date and Before the Second Treatment Date (9/29/2018 to 11/1/2018)	Percent That Purchased a License After the First Treatment Date and Before the Second Treatment Date (9/29/2018 to 11/1/2018)	Number That Purchased a License After the Second Treatment Date (11/2/2018)	Percent That Purchased a License After the Second Treatment Date (11/2/2018)
Any Treatment (received email)	26,951	11,294	8,960	33.2%	2,334	8.7%
Control Group (no email received)	5,993	2,448	1,947	32.5%	501	8.4%

The analysis also examined the individual treatment groups (Groups 1 to 9) separately against the control group to assess the effectiveness of the various email marketing messages, shown in Table 3.19. The rate of purchase was higher than the control group for eight of the nine treatment groups individually. The three groups with the highest rate of purchase in Iowa are Group 9 (Heritage), Group 6 (Recreation), and Group 7 (Time).

Table 3.19. Purchasers of Licenses in the 2018-2019 Season by Treatment Group, Iowa

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (9/29/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (9/29/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (9/29/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (9/29/2018)
Group 1 (Social): <i>Bowhunting in Iowa Is Quality Time—Make Memories This Hunting Season</i> (couple image)	3,022	1,263	41.8%	1,759	58.2%
Group 2 (Social): <i>Bowhunting in Iowa Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	3,018	1,204	39.9%	1,814	60.1%
Group 3 (Social): <i>Bowhunting in Iowa Is Quality Time—Make Memories This Hunting Season</i> (group image)	3,020	1,246	41.3%	1,774	58.7%
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Iowa</i> (deer silhouette image)	2,891	1,205	41.7%	1,686	58.3%
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Iowa</i> (deer silhouette image)	2,986	1,231	41.2%	1,755	58.8%
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Iowa</i> (bowhunter silhouette image)	2,959	1,284	43.4%	1,675	56.6%
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	2,965	1,278	43.1%	1,687	56.9%
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Iowa</i> (target shooter silhouette)	3,024	1,244	41.1%	1,780	58.9%
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Iowa</i> (father and son image)	3,066	1,339	43.7%	1,727	56.3%
Group 10: Control Group (no email received)	5,993	2,448	40.8%	3,545	59.2%

The lift analysis results for all of the treatment groups are summarized in Table 3.20. Significance tests were run using an independent samples t-test. While eight treatment groups had a rate of purchase higher than the control group, the analysis found a positive lift for three of those treatment groups that is statistically significant. The three groups with statistically significant lift in Iowa are Group 9 (Heritage), Group 6 (Recreation), and Group 7 (Time).

Table 3.20. Treatment Groups Versus Control (No Treatment) Lift Analysis, Iowa

Group	Percent That Purchased a License at Any Time After the First Treatment Date (9/29/2018)	Lift Estimate (Percent Difference Between Treatment and Control Group)	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in Iowa Is Quality Time—Make Memories This Hunting Season</i> (couple image)	41.8%	2.32%	0.39	Not Significant
Group 2 (Social): <i>Bowhunting in Iowa Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	39.9%	-2.34%	0.38	Not Significant
Group 3 (Social): <i>Bowhunting in Iowa Is Quality Time—Make Memories This Hunting Season</i> (group image)	41.3%	1.01%	0.71	Not Significant
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Iowa</i> (deer silhouette image)	41.7%	2.04%	0.46	Not Significant
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Iowa</i> (deer silhouette image)	41.2%	0.93%	0.73	Not Significant
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Iowa</i> (bowhunter silhouette image)	43.4%	6.23%	0.02*	Significant*
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	43.1%	5.52%	0.04*	Significant*
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Iowa</i> (target shooter silhouette)	41.1%	0.71%	0.79	Not Significant
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Iowa</i> (father and son image)	43.7%	6.92%	0.01*	Significant*
Group 10: Control Group (no email received)	40.8%	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

The treatment group lift results are summarized in Figure 3.7. Eight treatment groups had positive lift results for Iowa. Lift for three of those treatment groups is statistically significant. As discussed previously, the three groups with statistically significant lift in Iowa are Group 9 (Heritage), Group 6 (Recreation), and Group 7 (Time).

Figure 3.7. Lift Estimates for Treatment Groups, Iowa

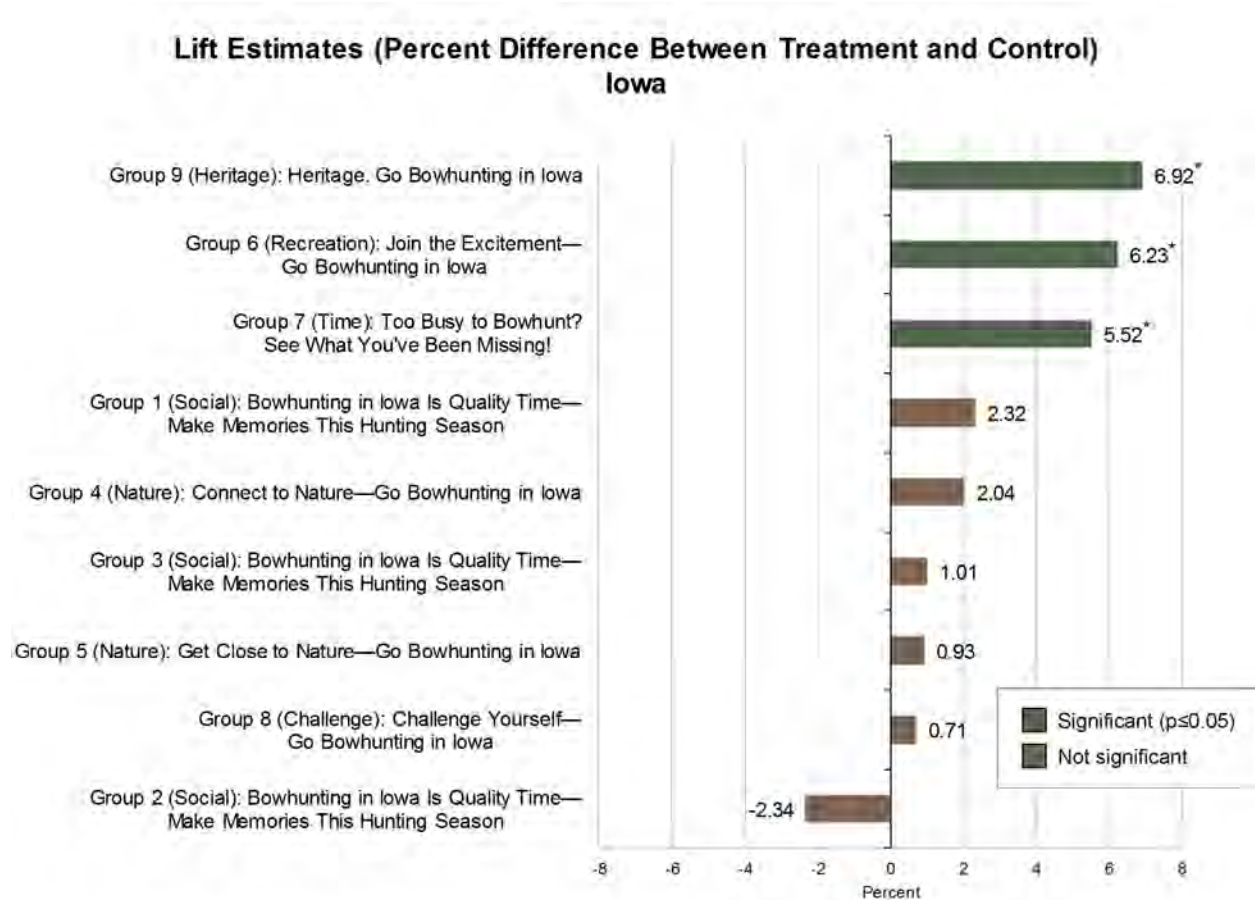


Figure 3.8. Messages With Statistically Significant Positive Lift, Iowa

Group 9
Heritage Message

Group 6
Recreation Message

Group 7
Time Message

The lift analysis also examined the results for any treatment compared to the control group by age (or generation), summarized in Table 3.21. In Iowa, the Baby Boomers in the treatment group exhibited the most substantial lift in purchases in comparison to the corresponding control group, followed by Millennials. Gen Xers in the treatment group purchased at a slightly lower rate than Gen Xers in the control group. The differences between each age group and its corresponding control group in Iowa are not statistically significant.

Table 3.21. Any Treatment Versus Control (No Treatment) Lift Analysis by Age Group, Iowa

Group	Millennials (Ages 18 to 36)				Generation X (Ages 37 to 51)				Baby Boomers (Age 52 and older)			
	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance
Any Treatment (received email)	41.7%	3.90%	0.15	No	43.0%	-1.64%	0.58	No	41.1%	6.41%	0.07	No
Control Group (no email received)	40.1%	--	--	--	43.8%	--	--	--	38.6%	--	--	--

Differences not statistically significant, Welch Two Sample t-test versus control.

¹ Percent That Purchased a License at Any Time After the First Treatment Date (9/29/2018)

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

The lift analysis results for all of the treatment groups by age are summarized in Table 3.22. Most notably, the lift for Group 6 (Recreation) is statistically significant ($p \leq 0.01$) among Millennials in Iowa. Group 9 (Heritage) is also statistically significant ($p \leq 0.05$) among Millennials. Among Baby Boomers, the sales lift results for Group 5 (Nature) and Group 9 (Heritage) are statistically significant (each at $p \leq 0.05$). There are no statistically significant lift results among Gen Xers.

Table 3.22. Treatment Groups Versus Control (No Treatment) Lift Analysis by Age Group, Iowa

Group	Millennials (Ages 18 to 36)			Generation X (Ages 37 to 51)			Baby Boomers (Age 52 and older)		
	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in Iowa Is Quality Time—Make Memories This Hunting Season</i> (couple image)	2.82%	0.51	No	1.1%	0.81	No	4.09%	0.44	No
Group 2 (Social): <i>Bowhunting in Iowa Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	-3.05%	0.46	No	-3.65%	0.43	No	0.86%	0.88	No
Group 3 (Social): <i>Bowhunting in Iowa Is Quality Time—Make Memories This Hunting Season</i> (group image)	4.60%	0.27	No	-6.79%	0.13	No	5.57%	0.31	No
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Iowa</i> (deer silhouette image)	2.06%	0.63	No	-0.18%	0.97	No	5.91%	0.28	No
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Iowa</i> (deer silhouette image)	-4.15%	0.32	No	-0.88%	0.85	No	12.18%	0.03	*
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Iowa</i> (bowhunter silhouette image)	10.87%	0.01	**	-0.75%	0.87	No	8.34%	0.13	No
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	6.90%	0.10	No	0.63%	0.89	No	9.95%	0.07	No
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Iowa</i> (target shooter silhouette)	6.27%	0.13	No	-5.16%	0.26	No	-0.69%	0.90	No
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Iowa</i> (father and son image)	8.31%	0.05	*	1.29%	0.78	No	12.03%	0.03	*
Group 10: Control Group (no email received)	--	--	--	--	--	--	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

**Difference statistically significant, $p \leq 0.01$; Welch Two Sample t-test versus control.

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

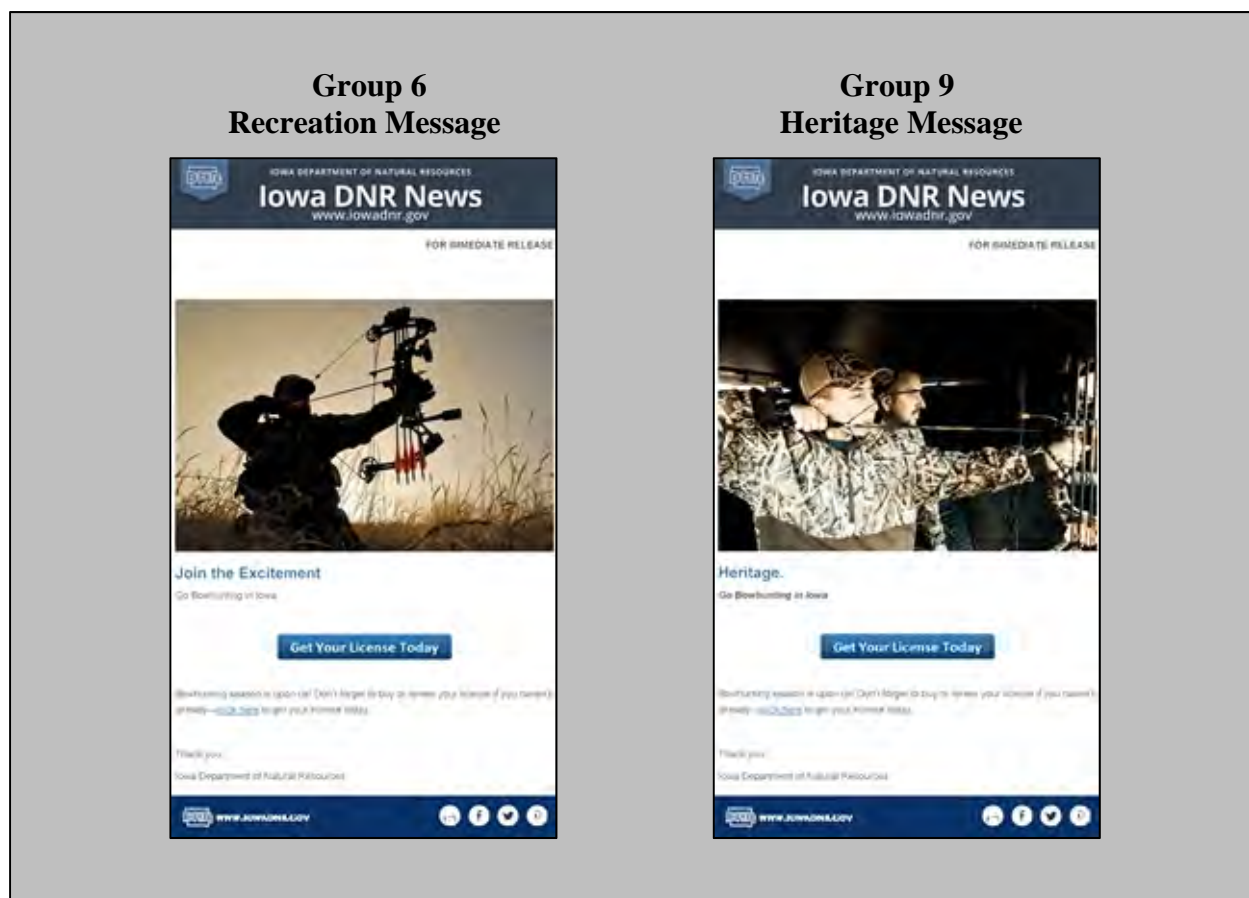
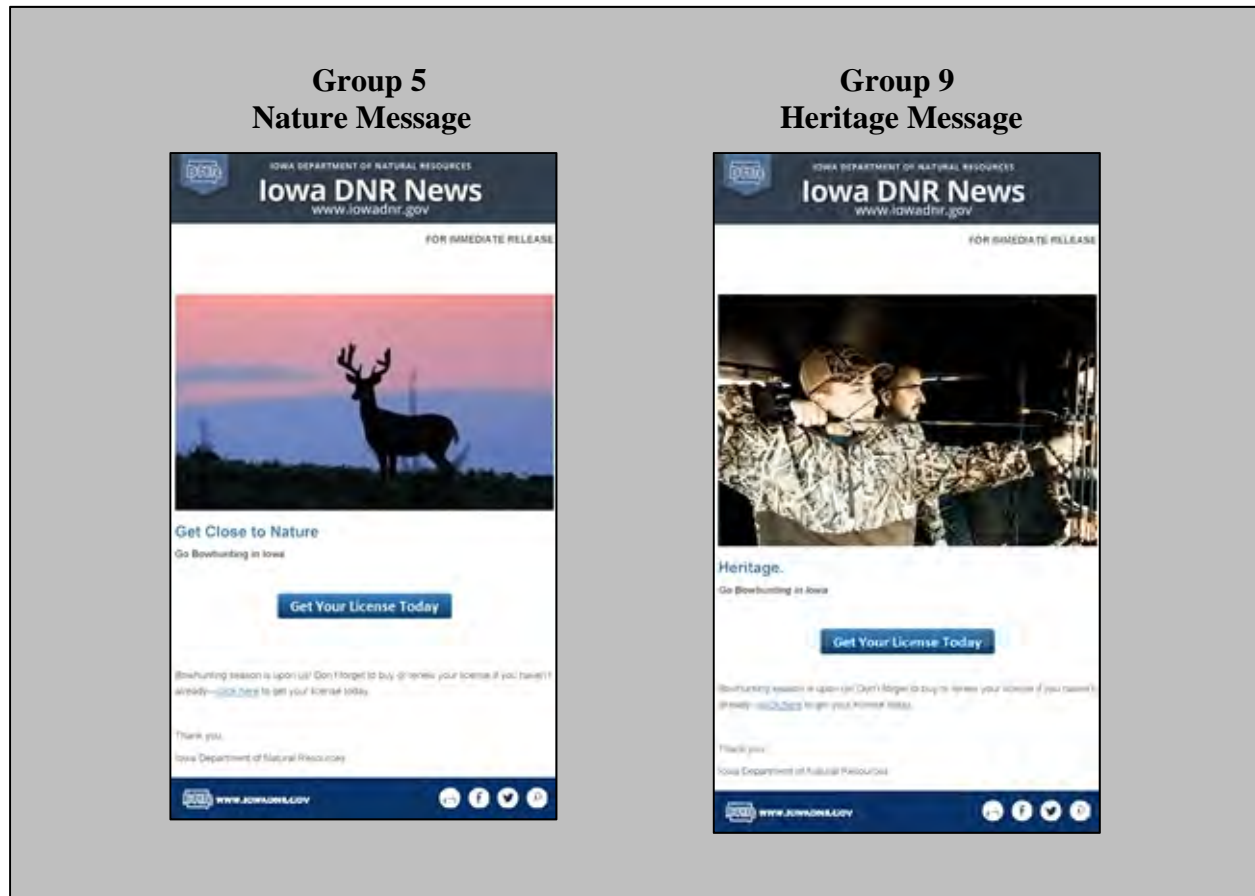
Figure 3.9. Messages With Statistically Significant Positive Lift Among Millennials, Iowa

Figure 3.10. Messages With Statistically Significant Positive Lift Among Baby Boomers, Iowa



KENTUCKY'S RESULTS

Prior to any statistical tests, the raw data were tabulated for analyses. Taking the number in the original sample, the first step in the analysis was to categorize each of these hunters as having purchased a 2018-2019 hunting license or having not purchased a license during the time period following the email marketing campaign (Tables 3.23 to 3.29). All Kentucky general resident hunting licenses were included in the email marketing campaign. The analysis was performed on resident license holders from the original sample to determine if they purchased a license or permit specifically with bowhunting privileges following the email campaign.

Based on the data above, statistical tests were run. The tests looked at any treatment at all versus no treatment, as well as each treatment group versus no treatment.

In Tables 3.23 and 3.24, any treatment was compared to the control group. All treatment groups (Groups 1 to 9) combined have 53,865 hunters of which 11,172 bought licenses in the time period following the email marketing campaign, and this is compared to 6,020 hunters in the control group, of which 1,177 bought licenses (Table 3.23). Overall, those who received a marketing email (i.e., any treatment) bought at a higher rate than the control group. Based on an independent samples t-test, this difference is statistically significant (Table 3.24).

Table 3.23. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment), Kentucky

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (8/27/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (8/27/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (8/27/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (8/27/2018)
Any Treatment (received email)	53,865	11,172	20.7%	42,693	79.3%
Control Group (no email received)	6,020	1,177	19.6%	4,843	80.4%

Table 3.24. Any Treatment Versus Control (No Treatment) Lift Analysis, Kentucky

Group	Percent That Purchased a License at Any Time After the First Treatment Date (8/27/2018)	Lift Estimate (Percent Difference Between Treatment and Control Groups)	P-Value	P-Value Significance
Any Treatment (received email)	20.7%	6.08%	0.03*	Significant*
Control Group (no email received)	19.6%	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

Additionally, the email marketing campaign consisted of an initial email message and a second identical email message sent at approximately the mid-point of the hunting season. Table 3.25 shows the number and percentage of license purchases that occurred after the first email treatment date (August 27, 2018) but before the second email treatment date (October 29, 2018), as well as purchases that occurred after the second email.

Interestingly, both the any treatment group and the control group purchased licenses at a higher rate after the second treatment date than the time period between the first and second treatment dates. Nonetheless, those who purchased a license after receiving an email did so at a higher rate than did those who did not receive an email, most notably following the second treatment date (12.2% of the any treatment group compared to 11.2% of the control group).

Table 3.25. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment) by Treatment Date, Kentucky

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (8/27/2018)	Number That Purchased a License After the First Treatment Date and Before the Second Treatment Date (8/27/2018 to 10/28/2018)	Percent That Purchased a License After the First Treatment Date and Before the Second Treatment Date (8/27/2018 to 10/28/2018)	Number That Purchased a License After the Second Treatment Date (10/29/2018)	Percent That Purchased a License After the Second Treatment Date (10/29/2018)
Any Treatment (received email)	53,865	11,172	4,575	8.5%	6,597	12.2%
Control Group (no email received)	6,020	1,177	500	8.3%	677	11.2%

The analysis also examined the individual treatment groups (Groups 1 to 9) separately against the control group to assess the effectiveness of the various email marketing messages, shown in Table 3.26. The rate of purchase was higher than the control group for all nine of the treatment groups individually. The three groups with the highest rate of purchase in Kentucky are Group 8 (Challenge), Group 4 (Nature), and Group 7 (Time).

Table 3.26. Purchasers of Licenses in the 2018-2019 Season by Treatment Group, Kentucky

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (8/27/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (8/27/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (8/27/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (8/27/2018)
Group 1 (Social): <i>Bowhunting in Kentucky Is Quality Time—Make Memories This Hunting Season</i> (couple image)	5,913	1,191	20.1%	4,722	79.9%
Group 2 (Social): <i>Bowhunting in Kentucky Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	6,144	1,263	20.6%	4,881	79.4%
Group 3 (Social): <i>Bowhunting in Kentucky Is Quality Time—Make Memories This Hunting Season</i> (group image)	6,092	1,269	20.8%	4,823	79.2%
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Kentucky</i> (deer silhouette image)	5,977	1,275	21.3%	4,702	78.7%
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Kentucky</i> (deer silhouette image)	5,964	1,224	20.5%	4,740	79.5%
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Kentucky</i> (bowhunter silhouette image)	6,025	1,188	19.7%	4,837	80.3%
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	5,915	1,247	21.1%	4,668	78.9%
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Kentucky</i> (target shooter silhouette)	5,941	1,295	21.8%	4,646	78.2%
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Kentucky</i> (father and son image)	5,894	1,220	20.7%	4,674	79.3%
Group 10: Control Group (no email received)	6,020	1,177	19.6%	4,843	80.4%

The lift analysis results for all of the treatment groups are summarized in Table 3.27. Significance tests were run using an independent samples t-test. The lift results are positive for all nine treatment groups, and the lift for three groups is statistically significant. The group with the strongest statistically significant positive lift in Kentucky is Group 8 (Challenge) ($p \leq 0.01$). The positive lift results for Group 4 (Nature) ($p \leq 0.05$) and Group 7 (Time) ($p \leq 0.05$) are also statistically significant.

Table 3.27. Treatment Groups Versus Control (No Treatment) Lift Analysis, Kentucky

Group	Percent That Purchased a License at Any Time After the First Treatment Date (8/27/2018)	Lift Estimate (Percent Difference Between Treatment and Control Group)	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in Kentucky Is Quality Time—Make Memories This Hunting Season</i> (couple image)	20.1%	3.02%	0.42	Not Significant
Group 2 (Social): <i>Bowhunting in Kentucky Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	20.6%	5.14%	0.17	Not Significant
Group 3 (Social): <i>Bowhunting in Kentucky Is Quality Time—Make Memories This Hunting Season</i> (group image)	20.8%	6.54%	0.08	Not Significant
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Kentucky</i> (deer silhouette image)	21.3%	9.11%	0.02*	Significant*
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in I Kentucky</i> (deer silhouette image)	20.5%	4.97%	0.18	Not Significant
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Kentucky</i> (bowhunter silhouette image)	19.7%	0.851%	0.82	Not Significant
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	21.1%	7.83%	0.04*	Significant*
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Kentucky</i> (target shooter silhouette)	21.8%	11.49%	0.002**	Significant**
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Kentucky</i> (father and son image)	20.7%	5.87%	0.12	Not Significant
Group 10: Control Group (no email received)	19.6%	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

**Difference statistically significant, $p \leq 0.01$; Welch Two Sample t-test versus control.

The treatment group lift results are summarized in Figure 3.11. Again, all nine treatment groups had positive lift results for Kentucky, and lift for three of those treatment groups is statistically significant. As discussed previously, the three groups with statistically significant lift in Kentucky are Group 8 (Challenge), Group 4 (Nature), and Group 7 (Time).

Figure 3.11. Lift Estimates for Treatment Groups, Kentucky

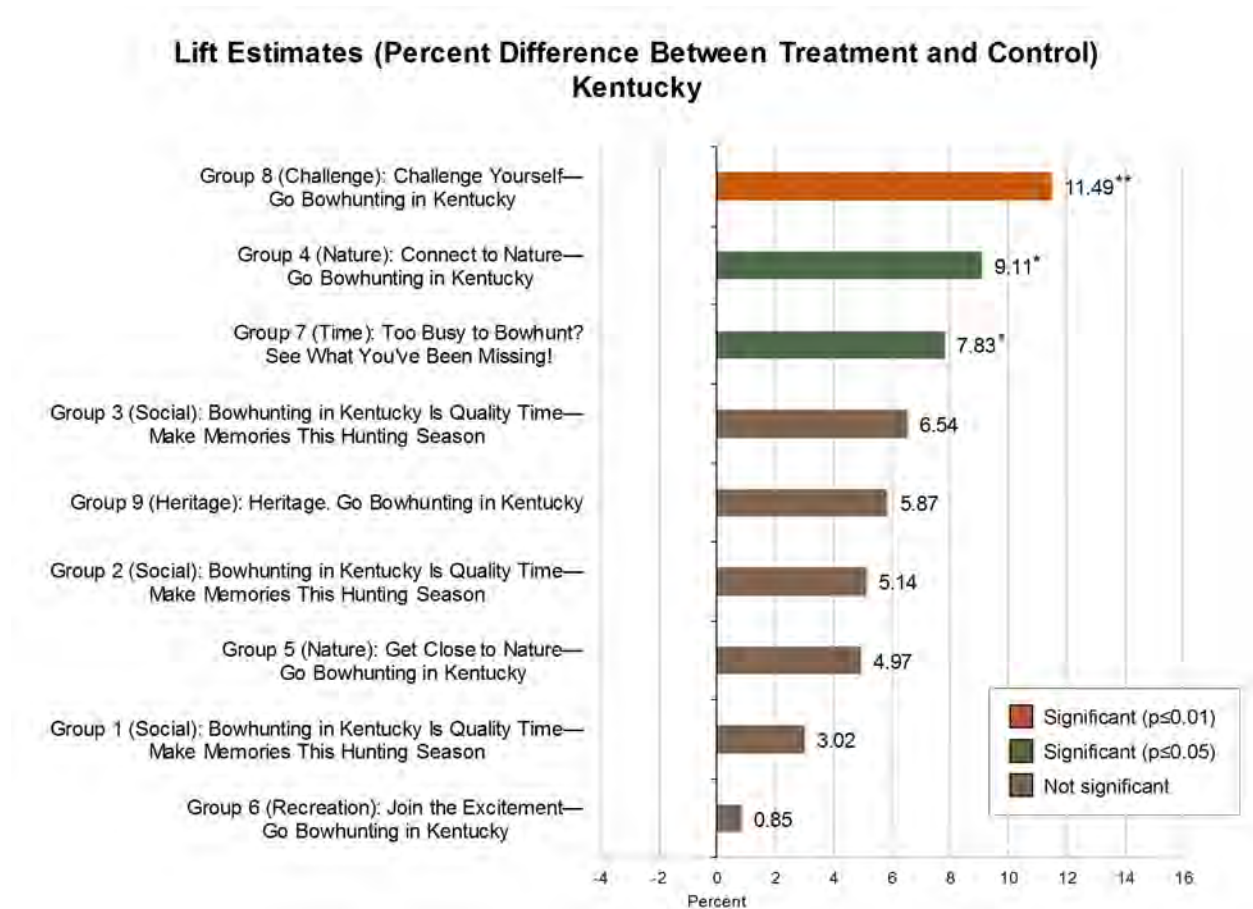


Figure 3.12. Messages With Statistically Significant Positive Lift, Kentucky

Group 8
Challenge Message


Group 4
Nature Message

Group 7
Time Message



Challenge Yourself
Go Bowhunting in Kentucky

Get Your License Today




Bowhunting season is open! Kentucky's deer archery season opens Saturday, Sept. 3. Don't forget to buy or renew your license if you haven't already. [Click here](#) to get your license today.

Here are some links to help you bowhunt this year in Kentucky:

- [2019 Fall Hunting Guide](#) (includes regulations/bulletins)
- [Map of Wildlife Management Areas and other public hunting areas](#)
- [List of counties](#) (includes a map)

Thank you and good hunting!

Kentucky Department of Fish & Wildlife Resources



Connect to Nature
Go Bowhunting in Kentucky

Get Your License Today




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Thank you and good hunting!

Kentucky Department of Fish & Wildlife Resources



You Busy to Bowhunt?
See What You've Been Missing!

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- [List of counties](#) (includes a map)

Thank you and good hunting!

Kentucky Department of Fish & Wildlife Resources

The lift analysis also examined the results for any treatment compared to the control group by age (or generation), summarized in Table 3.28. The treatment groups for each age category have positive lift results in Kentucky. The lift is greatest for Millennials, and this positive lift is also statistically significant ($p \leq 0.01$).

Table 3.28. Any Treatment Versus Control (No Treatment) Lift Analysis by Age Group, Kentucky

Group	Millennials (Ages 18 to 36)				Generation X (Ages 37 to 51)				Baby Boomers (Age 52 and older)			
	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance
Any Treatment (received email)	21.8%	10.43%	0.009**	**	22.6%	2.83%	0.54	No	17.6%	1.17%	0.87	No
Control Group (no email received)	19.8%	--	--	--	22.0%	--	--	--	17.4%	--	--	--

**Difference statistically significant, $p \leq 0.01$; Welch Two Sample t-test versus control.

¹ Percent That Purchased a License at Any Time After the First Treatment Date (8/27/2018)

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

The lift analysis results for all of the treatment groups by age are summarized in Table 3.29. In Kentucky, five of the nine treatment groups among Millennials have statistically significant positive lift results (in descending order of strength): Group 8 (Challenge) ($p \leq 0.01$), Group 7 (Time) ($p \leq 0.01$), Group 4 (Nature) ($p \leq 0.01$), Group 3 (Social) ($p \leq 0.05$), and Group 9 (Heritage) ($p \leq 0.05$). There are no statistically significant lift results, positive or negative, among Gen Xers and Baby Boomers.

Table 3.29. Treatment Groups Versus Control (No Treatment) Lift Analysis by Age Group, Kentucky

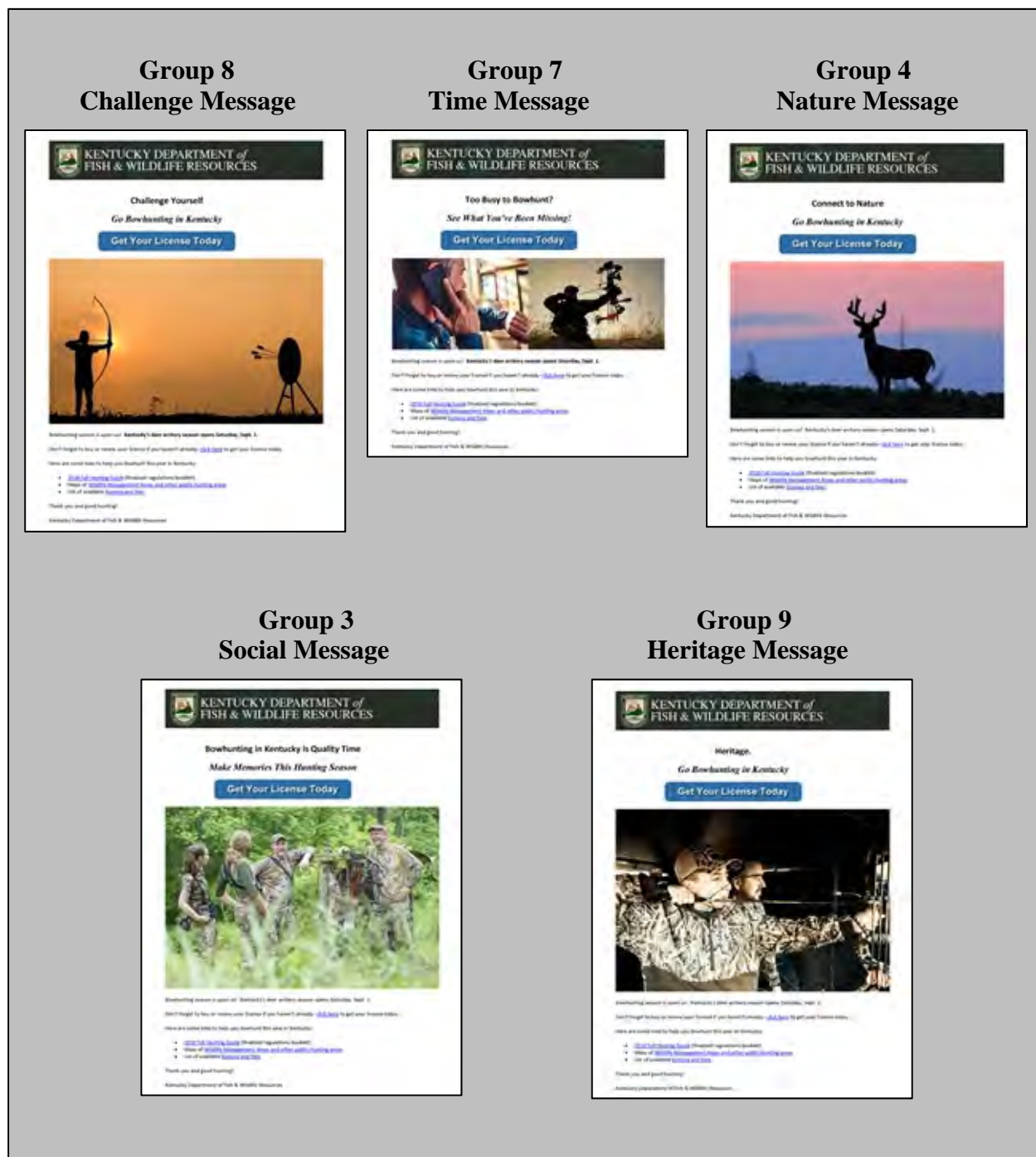
Group	Millennials (Ages 18 to 36)			Generation X (Ages 37 to 51)			Baby Boomers (Age 52 and older)		
	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in Kentucky Is Quality Time—Make Memories This Hunting Season</i> (couple image)	3.77%	0.48	No	1.97%	0.7515	No	2.29%	0.8062	No
Group 2 (Social): <i>Bowhunting in Kentucky Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	6.57%	0.22	No	3.57%	0.5648	No	5.25%	0.5743	No
Group 3 (Social): <i>Bowhunting in Kentucky Is Quality Time—Make Memories This Hunting Season</i> (group image)	13.78%	0.011*	*	0.64%	0.9169	No	-0.69%	0.9396	No
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Kentucky</i> (deer silhouette image)	14.80%	0.007**	**	5.88%	0.3416	No	-1.97%	0.8301	No
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in I Kentucky</i> (deer silhouette image)	8.00%	0.14	No	0.69%	0.9104	No	5.27%	0.5761	No
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Kentucky</i> (bowhunter image)	2.55%	0.63	No	-2.18%	0.7222	No	4.92%	0.5971	No
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	15.14%	0.006**	**	4.58%	0.4607	No	-3.69%	0.6891	No
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Kentucky</i> (target shooter silhouette)	17.84%	0.001**	**	5.28%	0.3965	No	7.38%	0.4383	No
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Kentucky</i> (father and son image)	11.77%	0.032*	*	5.10%	0.4155	No	-7.73%	0.3950	No
Group 10: Control Group (no email received)	--	--	--	--	--	--	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

**Difference statistically significant, $p \leq 0.01$; Welch Two Sample t-test versus control.

²Lift Estimate (Percent Difference Between Treatment and Control Groups)

Figure 3.13. Messages With Statistically Significant Positive Lift Among Millennials, Kentucky



MARYLAND'S RESULTS

Prior to any statistical tests, the raw data were tabulated for analyses. Taking the number in the original sample, the first step in the analysis was to categorize each of these hunters as having purchased a 2018-2019 hunting license or having not purchased a license during the time period following the email marketing campaign (Tables 3.30 to 3.36). All Maryland general hunting licenses were included. Although Maryland has an archery stamp, a general license is still needed with the archery stamp and hunting with archery equipment is also allowed during firearm seasons. The analysis was performed on resident license holders from the original sample only.

Based on the data above, statistical tests were run. The tests looked at any treatment at all versus no treatment, as well as each treatment group versus no treatment.

In Tables 3.30 and 3.31, any treatment was compared to the control group. All treatment groups (Groups 1 to 9) combined have 65,727 hunters of which 26,430 bought licenses in the time period following the email marketing campaign, and this is compared to 14,453 hunters in the control group, of which 5,763 bought licenses (Table 3.30). Overall, those who received a marketing email (i.e., any treatment) bought at a slightly higher rate than the control group; however, this difference is not significant, based on an independent samples t-test (Table 3.31).

Table 3.30. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment), Maryland

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (9/6/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (9/6/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (9/6/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (9/6/2018)
Any Treatment (received email)	65,727	26,430	40.2%	39,297	59.8%
Control Group (no email received)	14,453	5,763	39.9%	8,690	60.1%

Table 3.31. Any Treatment Versus Control (No Treatment) Lift Analysis, Maryland

Group	Percent That Purchased a License at Any Time After the First Treatment Date (9/6/2018)	Lift Estimate (Percent Difference Between Treatment and Control Groups)	P-Value	P-Value Significance
Any Treatment (received email)	40.2%	0.85%	0.45	Not Significant
Control Group (no email received)	39.9%	--	--	--

Difference not statistically significant, Welch Two Sample t-test versus control.

Additionally, the email marketing campaign consisted of an initial email message and a second identical email message sent at approximately the mid-point of the hunting season. Table 3.32 shows the number and percentage of license purchases that occurred after the first email treatment date (September 6, 2018) but before the second email treatment date (December 27, 2018), as well as purchases that occurred after the second email. There is very little difference in the license purchase rate between those who received an email and those who did not for both the first email and second email treatment dates.

Table 3.32. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment) by Treatment Date, Maryland

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (9/6/2018)	Number That Purchased a License After the First Treatment Date and Before the Second Treatment Date (9/6/2018 to 12/26/2018)	Percent That Purchased a License After the First Treatment Date and Before the Second Treatment Date (9/6/2018 to 12/26/2018)	Number That Purchased a License After the Second Treatment Date (12/27/2018)	Percent That Purchased a License After the Second Treatment Date (12/27/2018)
Any Treatment (received email)	65,727	26,430	25,464	38.7%	966	1.5%
Control Group (no email received)	14,453	5,763	5,533	38.3%	230	1.6%

The analysis also examined the individual treatment groups (Groups 1 to 9) separately against the control group to assess the effectiveness of the various email marketing messages, shown in Table 3.33. The rate of purchase was higher than the control group for five of the nine treatment groups individually (note that a sixth group had a purchase rate almost identical to that of the control group; the remaining three treatment groups had purchase rates lower than the control group). The two groups with the highest rate of purchase in Maryland are Group 4 (Nature) and Group 3 (Social).

Table 3.33. Purchasers of Licenses in the 2018-2019 Season by Treatment Group, Maryland

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (9/6/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (9/6/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (9/6/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (9/6/2018)
Group 1 (Social): <i>Bowhunting in Maryland Is Quality Time—Make Memories This Hunting Season</i> (couple image)	7,366	2,953	40.1%	4,413	59.9%
Group 2 (Social): <i>Bowhunting in Maryland Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	7,360	2,982	40.5%	4,378	59.5%
Group 3 (Social): <i>Bowhunting in Maryland Is Quality Time—Make Memories This Hunting Season</i> (group image)	7,273	2,976	40.9%	4,297	59.1%
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Maryland</i> (deer silhouette image)	7,187	2,967	41.3%	4,220	58.7%
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Maryland</i> (deer silhouette image)	7,324	2,916	39.8%	4,408	60.2%
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Maryland</i> (bowhunter silhouette image)	7,142	2,848	39.9%	4,294	60.1%
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	7,255	2,884	39.8%	4,371	60.2%
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Maryland</i> (target shooter silhouette)	7,371	2,895	39.3%	4,476	60.7%
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Maryland</i> (father and son image)	7,449	3,009	40.4%	4,440	59.6%
Group 10: Control Group (no email received)	14,453	5,763	39.9%	8,690	60.1%

The lift analysis results for all of the treatment groups are summarized in Table 3.34. Significance tests were run using an independent samples t-test. While five treatment groups had a rate of purchase higher than the control group, the analysis found one treatment group with a positive lift to be statistically significant. Although three treatment groups showed negative lift, none of the negative results are statistically significant. The group with statistically significant positive lift in Maryland is Group 4 (Nature).

Table 3.34. Treatment Groups Versus Control (No Treatment) Lift Analysis, Maryland

Group	Percent That Purchased a License at Any Time After the First Treatment Date (9/6/2018)	Lift Estimate (Percent Difference Between Treatment and Control Group)	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in Maryland Is Quality Time—Make Memories This Hunting Season</i> (couple image)	40.1%	0.54%	0.76	Not Significant
Group 2 (Social): <i>Bowhunting in Maryland Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	40.5%	1.61%	0.36	Not Significant
Group 3 (Social): <i>Bowhunting in Maryland Is Quality Time—Make Memories This Hunting Season</i> (group image)	40.9%	2.62%	0.14	Not Significant
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Maryland</i> (deer silhouette image)	41.3%	3.53%	0.05*	Significant*
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Maryland</i> (deer silhouette image)	39.8%	-0.15%	0.93	Not Significant
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Maryland</i> (bowhunter silhouette image)	39.9%	0.01%	1.00	Not Significant
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	39.8%	-0.31%	0.86	Not Significant
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Maryland</i> (target shooter silhouette)	39.3%	-1.50%	0.39	Not Significant
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Maryland</i> (father and son image)	40.4%	1.31%	0.46	Not Significant
Group 10: Control Group (no email received)	39.9%	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

The treatment group lift results are summarized in Figure 3.14. Five treatment groups had positive lift results for Maryland. Lift for one of those treatment groups is statistically significant. As discussed previously, the group with statistically significant positive lift in Maryland is Group 4 (Nature).

Figure 3.14. Lift Estimates for Treatment Groups, Maryland

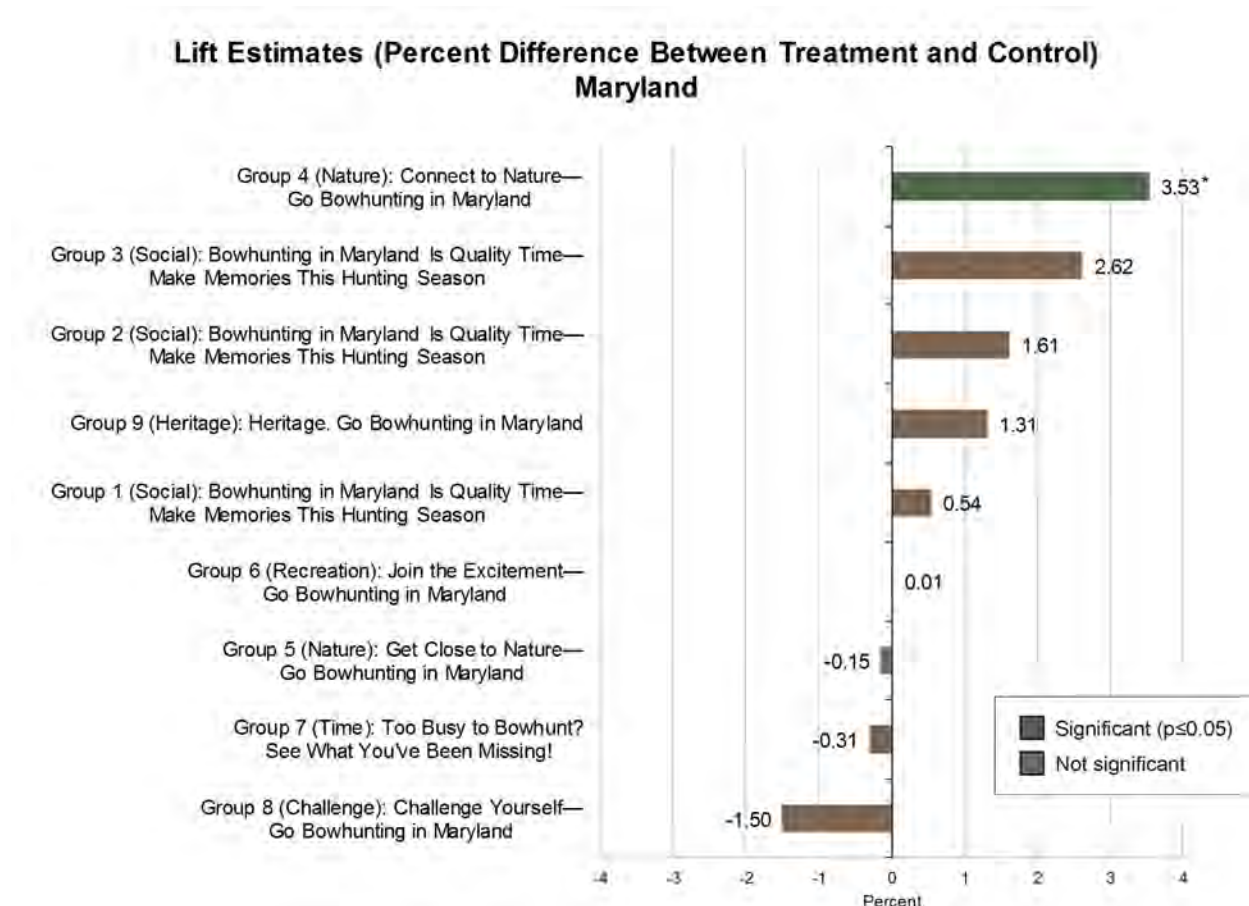
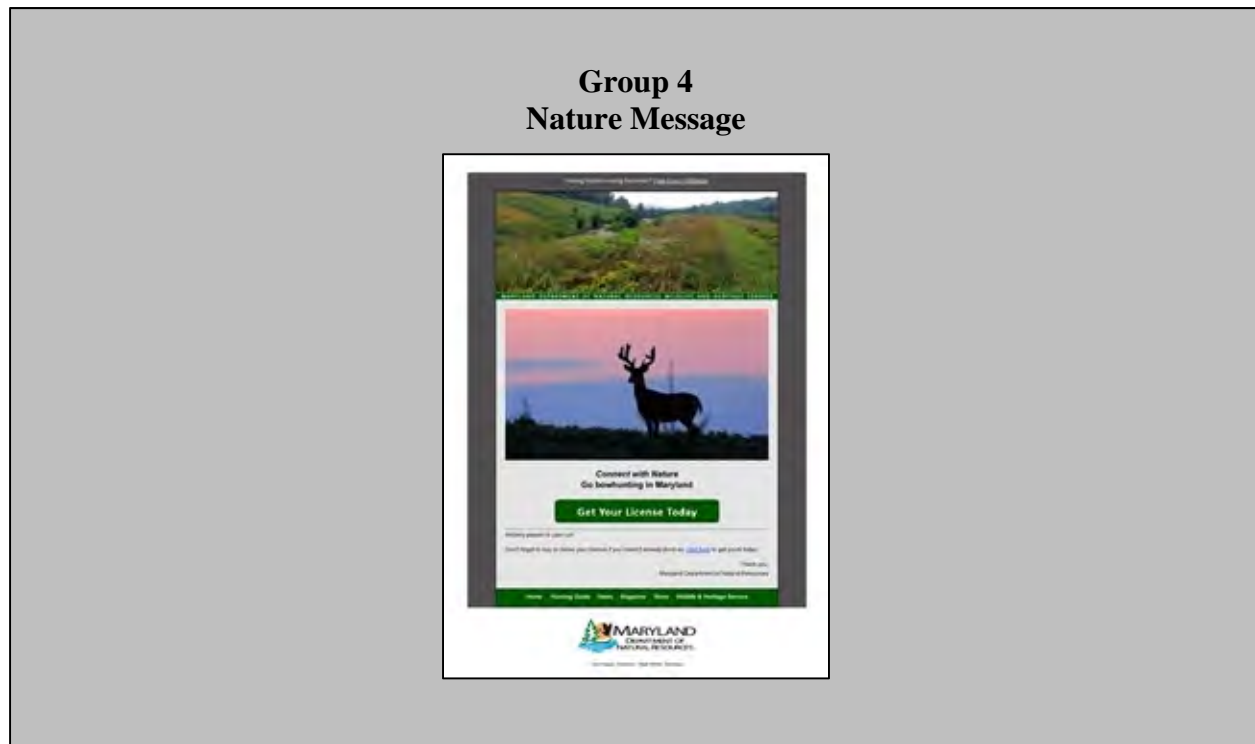


Figure 3.15. Message With Statistically Significant Positive Lift, Maryland



The lift analysis also examined the results for any treatment compared to the control group by age (or generation), summarized in Table 3.35. For each age group in Maryland, there is little difference in the license purchase rate between those who received an email and those who did not in the age group, and the slight differences are not statistically significant.

Table 3.35. Any Treatment Versus Control (No Treatment) Lift Analysis by Age Group, Maryland

Group	Millennials (Ages 18 to 36)				Generation X (Ages 37 to 51)				Baby Boomers (Age 52 and older)			
	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance
Any Treatment (received email)	38.2%	0.87%	0.64	No	42.7%	1.37%	0.51	No	40.6%	0.34%	0.86	No
Control Group (no email received)	37.8%	--	--	--	42.1%	--	--	--	40.5%	--	--	--

Differences not statistically significant, Welch Two Sample t-test versus control.

¹ Percent That Purchased a License at Any Time After the First Treatment Date (9/6/2018)

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

The lift analysis results for all of the treatment groups by age are summarized in Table 3.36. Group 4 (Nature) is within the top two treatment groups for each age group in Maryland. Among Millennials, the two groups with the most lift in comparison to the Millennial control group are Group 2 (Social) and Group 4 (Nature). Among Gen Xers, the two groups with the most lift are Group 4 (Nature) and Group 9 (Heritage). Among Baby Boomers, the two groups with the most lift are Group 3 (Social) and Group 4 (Nature). There are no statistically significant lift results, positive or negative, for any treatment group in these age categories.

Table 3.36. Treatment Groups Versus Control (No Treatment) Lift Analysis by Age Group, Maryland

Group	Millennials (Ages 18 to 36)			Generation X (Ages 37 to 51)			Baby Boomers (Age 52 and older)		
	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in Maryland Is Quality Time—Make Memories This Hunting Season</i> (couple image)	-2.43%	0.40	No	3.20%	0.32	No	1.77%	0.56	No
Group 2 (Social): <i>Bowhunting in Maryland Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	3.03%	0.30	No	1.96%	0.55	No	-0.09%	0.98	No
Group 3 (Social): <i>Bowhunting in Maryland Is Quality Time—Make Memories This Hunting Season</i> (group image)	0.43%	0.89	No	2.11%	0.52	No	5.19%	0.09	No
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Maryland</i> (deer silhouette image)	2.78%	0.35	No	4.48%	0.16	No	3.33%	0.28	No
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Maryland</i> (deer silhouette image)	0.75%	0.80	No	1.03%	0.75	No	-2.26%	0.46	No
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Maryland</i> (bowhunter silhouette image)	2.18%	0.46	No	0.97%	0.77	No	-3.34%	0.27	No
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	-0.91%	0.76	No	-0.12%	0.97	No	0.27%	0.93	No
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Maryland</i> (target shooter silhouette)	-0.10%	0.97	No	-4.91%	0.12	No	-0.15%	0.96	No
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Maryland</i> (father and son image)	2.15%	0.46	No	3.57%	0.26	No	-1.81%	0.55	No
Group 10: Control Group (no email received)	--	--	--	--	--	--	--	--	--

Differences not statistically significant, Welch Two Sample t-test versus control.

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

NEBRASKA'S RESULTS

Prior to any statistical tests, the raw data were tabulated for analyses. Taking the number in the original sample, the first step in the analysis was to categorize each of these hunters as having purchased a 2018-2019 hunting license or having not purchased a license during the time period following the email marketing campaign (Tables 3.37 to 3.43). All Nebraska licenses with bowhunting privileges were included, and the analysis was performed on resident license holders from the original sample only.

Based on the data above, statistical tests were run. The tests looked at any treatment at all versus no treatment, as well as each treatment group versus no treatment.

In Tables 3.37 and 3.38, any treatment was compared to the control group. All treatment groups (Groups 1 to 9) combined have 73,012 hunters of which 27,339 bought licenses in the time period following the email marketing campaign, and this is compared to 16,078 hunters in the control group, of which 6,069 bought licenses (Table 3.37). Those who received a marketing email (i.e., any treatment) did not buy at a higher rate than the control group (Table 3.38); the slight difference shown is not statistically significant.

Table 3.37. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment), Nebraska

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (8/29/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (8/29/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (8/29/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (8/29/2018)
Any Treatment (received email)	73,012	27,339	37.4%	45,673	62.6%
Control Group (no email received)	16,078	6,069	37.7%	10,009	62.3%

Table 3.38. Any Treatment Versus Control (No Treatment) Lift Analysis, Nebraska

Group	Percent That Purchased a License at Any Time After the First Treatment Date (8/29/2018)	Lift Estimate (Percent Difference Between Treatment and Control Groups)	P-Value	P-Value Significance
Any Treatment (received email)	37.4%	-0.80%	0.47	Not Significant
Control Group (no email received)	37.7%	--	--	--

Difference not statistically significant, Welch Two Sample t-test versus control.

Additionally, the email marketing campaign consisted of an initial email message and a second identical email message sent at approximately the mid-point of the hunting season. Table 3.39 shows the number and percentage of license purchases that occurred after the first email treatment date (August 29, 2018) but before the second email treatment date (October 25, 2018), as well as purchases that occurred after the second email. Interestingly, both the any treatment group and the control group purchased licenses at a higher rate after the second treatment date than the time period between the first and second treatment dates. There is very little difference in the license purchase rate between those who received an email and those who did not for both the first email and second email treatment dates.

Table 3.39. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment) by Treatment Date, Nebraska

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (8/29/2018)	Number That Purchased a License After the First Treatment Date and Before the Second Treatment Date (8/29/2018 to 10/24/2018)	Percent That Purchased a License After the First Treatment Date and Before the Second Treatment Date (8/29/2018 to 10/24/2018)	Number That Purchased a License After the Second Treatment Date (10/25/2018)	Percent That Purchased a License After the Second Treatment Date (10/25/2018)
Any Treatment (received email)	73,012	27,339	11,738	16.1%	15,601	21.4%
Control Group (no email received)	16,078	6,069	2,690	16.7%	3,379	21.0%

The analysis also examined the individual treatment groups (Groups 1 to 9) separately against the control group to assess the effectiveness of the various email marketing messages, shown in Table 3.40. The rate of purchase was higher than the control group for two of the nine treatment groups individually. The two groups with a rate of purchase higher than the control group in Nebraska are Group 5 (Nature) and Group 9 (Heritage).

Table 3.40. Purchasers of Licenses in the 2018-2019 Season by Treatment Group, Nebraska

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (8/29/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (8/29/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (8/29/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (8/29/2018)
Group 1 (Social): <i>Bowhunting in Nebraska Is Quality Time—Make Memories This Hunting Season</i> (couple image)	8,200	3,059	37.3%	5,141	62.7%
Group 2 (Social): <i>Bowhunting in Nebraska Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	8,177	2,984	36.5%	5,193	63.5%
Group 3 (Social): <i>Bowhunting in Nebraska Is Quality Time—Make Memories This Hunting Season</i> (group image)	8,073	3,045	37.7%	5,028	62.3%
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Nebraska</i> (deer silhouette image)	8,065	3,008	37.3%	5,057	62.7%
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Nebraska</i> (deer silhouette image)	8,121	3,090	38.0%	5,031	62.0%
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Nebraska</i> (bowhunter silhouette image)	7,909	2,941	37.2%	4,968	62.8%
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	8,024	3,006	37.5%	5,018	62.5%
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Nebraska</i> (target shooter silhouette)	8,209	3,073	37.4%	5,136	62.6%
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Nebraska</i> (father and son image)	8,234	3,133	38.0%	5,101	62.0%
Group 10: Control Group (no email received)	16,078	6,069	37.7%	10,009	62.3%

The lift analysis results for all of the treatment groups are summarized in Table 3.41. Significance tests were run using an independent samples t-test. Although two treatment groups showed positive lift and the remaining treatment groups had negative lift, none of the results are statistically significant.

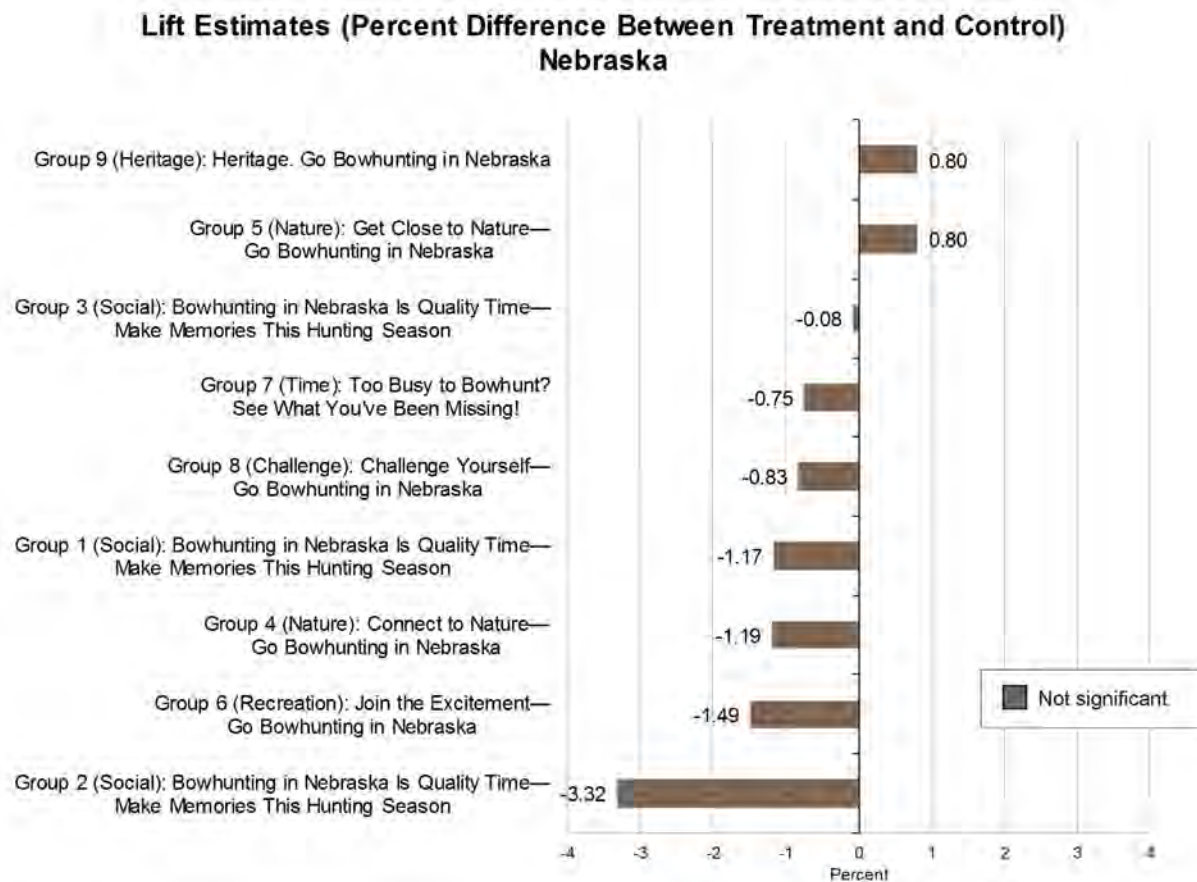
Table 3.41. Treatment Groups Versus Control (No Treatment) Lift Analysis, Nebraska

Group	Percent That Purchased a License at Any Time After the First Treatment Date (8/29/2018)	Lift Estimate (Percent Difference Between Treatment and Control Group)	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in Nebraska Is Quality Time—Make Memories This Hunting Season</i> (couple image)	37.3%	-1.17%	0.50	Not Significant
Group 2 (Social): <i>Bowhunting in Nebraska Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	36.5%	-3.32%	0.06	Not Significant
Group 3 (Social): <i>Bowhunting in Nebraska Is Quality Time—Make Memories This Hunting Season</i> (group image)	37.7%	-0.08%	0.97	Not Significant
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Nebraska</i> (deer silhouette image)	37.3%	-1.19%	0.50	Not Significant
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Nebraska</i> (deer silhouette image)	38.0%	0.80%	0.65	Not Significant
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Nebraska</i> (bowhunter silhouette image)	37.2%	-1.49%	0.40	Not Significant
Group 7 (Time): <i>Too Busy to Bowhunt? See What You’ve Been Missing!</i> (man on phone and bowhunter silhouette images)	37.5%	-0.75%	0.67	Not Significant
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Nebraska</i> (target shooter silhouette)	37.4%	-0.83%	0.63	Not Significant
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Nebraska</i> (father and son image)	38.0%	0.80%	0.65	Not Significant
Group 10: Control Group (no email received)	37.7%	--	--	--

Differences not statistically significant, Welch Two Sample t-test versus control.

The treatment group lift results are summarized in Figure 3.16. Two treatment groups had positive lift results for Nebraska, neither of which is statistically significant.

Figure 3.16. Lift Estimates for Treatment Groups, Nebraska



The lift analysis also examined the results for any treatment compared to the control group by age (or generation), summarized in Table 3.42. In Nebraska, the Baby Boomers age group is the only one with positive lift. Otherwise, there is little difference in the license purchase rate between those who received an email and those who did not in each age group, and the slight differences, positive or negative, are not statistically significant.

Table 3.42. Any Treatment Versus Control (No Treatment) Lift Analysis by Age Group, Nebraska

Group	Millennials (Ages 18 to 36)				Generation X (Ages 37 to 51)				Baby Boomers (Age 52 and older)			
	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance
Any Treatment (received email)	37.6%	-0.79%	0.67	No	41.8%	-2.17%	0.28	No	33.9%	0.43%	0.84	No
Control Group (no email received)	37.9%	--	--	--	42.7%	--	--	--	33.7%	--	--	--

Differences not statistically significant, Welch Two Sample t-test versus control.

¹ Percent That Purchased a License at Any Time After the First Treatment Date (8/29/2018)

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

The lift analysis results for all of the treatment groups by age are summarized in Table 3.43. Among Millennials and Gen Xers in Nebraska, only two or three treatment groups show positive lift results; most other treatment groups have negative lift results. Baby Boomers have five treatment groups with positive lift. None of the positive lift results, nor most of the negative lift results, are statistically significant. Gen Xers did have statistically significant negative lift, however, for Group 2 (Social) ($p \leq 0.01$) and Group 6 (Recreation) ($p \leq 0.05$).

Table 3.43. Treatment Groups Versus Control (No Treatment) Lift Analysis by Age Group, Nebraska

Group	Millennials (Ages 18 to 36)			Generation X (Ages 37 to 51)			Baby Boomers (Age 52 and older)		
	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in Nebraska Is Quality Time—Make Memories This Hunting Season</i> (couple image)	0.23%	0.93	No	-1.05%	0.74	No	-3.19%	0.33	No
Group 2 (Social): <i>Bowhunting in Nebraska Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	-2.62%	0.33	No	-8.49%	0.006**	**	0.79%	0.81	No
Group 3 (Social): <i>Bowhunting in Nebraska Is Quality Time—Make Memories This Hunting Season</i> (group image)	-1.16%	0.67	No	-1.04%	0.74	No	1.92%	0.57	No
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Nebraska</i> (deer silhouette image)	-1.08%	0.69	No	-4.00%	0.20	No	1.60%	0.63	No
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Nebraska</i> (deer silhouette image)	-1.75%	0.51	No	2.82%	0.37	No	2.28%	0.50	No
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Nebraska</i> (bowhunter image)	1.03%	0.71	No	-6.52%	0.04*	*	0.00%	1.00	No
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	-0.37%	0.89	No	-1.92%	0.54	No	-0.18%	0.96	No
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Nebraska</i> (target shooter silhouette)	-2.41%	0.37	No	-0.34%	0.91	No	0.80%	0.81	No
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Nebraska</i> (father and son image)	1.45%	0.59	No	0.82%	0.79	No	-0.09%	0.98	No
Group 10: Control Group (no email received)	--	--	--	--	--	--	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

**Difference statistically significant, $p \leq 0.01$; Welch Two Sample t-test versus control.

²Lift Estimate (Percent Difference Between Treatment and Control Groups)

NEW JERSEY'S RESULTS

Prior to any statistical tests, the raw data were tabulated for analyses. Taking the number in the original sample, the first step in the analysis was to categorize each of these hunters as having purchased a 2018-2019 hunting license or having not purchased a license during the time period following the email marketing campaign (Tables 3.44 to 3.50). All New Jersey bowhunting licenses were included, and the analysis was performed on resident license holders from the original sample only.

Based on the data above, statistical tests were run. The tests looked at any treatment at all versus no treatment, as well as each treatment group versus no treatment.

In Tables 3.44 and 3.45, any treatment was compared to the control group. All treatment groups (Groups 1 to 9) combined have 16,102 hunters of which 2,424 bought licenses in the time period following the email marketing campaign, and this is compared to 3,572 hunters in the control group, of which 542 bought licenses (Table 3.44). Those who received a marketing email (i.e., any treatment) did not buy a bowhunting or archery license at a higher rate than the control group (Table 3.45); the one-tenth of a percentage point difference is not statistically significant.

Table 3.44. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment), New Jersey

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (9/6/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (9/6/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (9/6/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (9/6/2018)
Any Treatment (received email)	16,102	2,424	15.1%	13,678	84.9%
Control Group (no email received)	3,572	542	15.2%	3,030	84.8%

Table 3.45. Any Treatment Versus Control (No Treatment) Lift Analysis, New Jersey

Group	Percent That Purchased a License at Any Time After the First Treatment Date (9/6/2018)	Lift Estimate (Percent Difference Between Treatment and Control Groups)	P-Value	P-Value Significance
Any Treatment (received email)	15.1%	-0.79%	0.86	Not Significant
Control Group (no email received)	15.2%	--	--	--

Difference not statistically significant, Welch Two Sample t-test versus control.

Additionally, the email marketing campaign consisted of an initial email message sent a few days prior to the fall bow season for deer and a second identical email message sent a few days prior to the winter bow season for deer. Table 3.46 shows the number and percentage of bowhunting license purchases that occurred after the first email treatment date (September 6, 2018) but before the second email treatment date (December 29, 2018), as well as purchases that occurred after the second email. Interestingly, there were no license purchases at all after the second email for the treatment group nor the control group. There is very little difference in the license purchase rate between those who received an email and those who did not.

Table 3.46. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment) by Treatment Date, New Jersey

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (9/6/2018)	Number That Purchased a License After the First Treatment Date and Before the Second Treatment Date (9/6/2018 to 12/28/2018)	Percent That Purchased a License After the First Treatment Date and Before the Second Treatment Date (9/6/2018 to 12/28/2018)	Number That Purchased a License After the Second Treatment Date (12/29/2018)	Percent That Purchased a License After the Second Treatment Date (12/29/2018)
Any Treatment (received email)	16,102	2,424	2,424	15.1%	0	0%
Control Group (no email received)	3,572	542	542	15.2%	0	0%

The analysis also examined the individual treatment groups (Groups 1 to 9) separately against the control group to assess the effectiveness of the various email marketing messages, shown in Table 3.47. The rate of purchase was higher than the control group for two of the nine treatment groups individually. The group with the highest rate of purchase in New Jersey is Group 3 (Social). Group 6 (Recreation) Message had a slightly higher purchase rate (when not rounded) than the control group.

Table 3.47. Purchasers of Licenses in the 2018-2019 Season by Treatment Group, New Jersey

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (9/6/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (9/6/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (9/6/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (9/6/2018)
Group 1 (Social): <i>Bowhunting in New Jersey Is Quality Time—Make Memories This Hunting Season</i> (couple image)	1,858	271	14.6%	1,587	85.4%
Group 2 (Social): <i>Bowhunting in New Jersey Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	1,808	267	14.8%	1,541	85.2%
Group 3 (Social): <i>Bowhunting in New Jersey Is Quality Time—Make Memories This Hunting Season</i> (group image)	1,736	298	17.2%	1,438	82.8%
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in New Jersey</i> (deer silhouette image)	1,777	266	15.0%	1,511	85.0%
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in New Jersey</i> (deer silhouette image)	1,798	264	14.7%	1,534	85.3%
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in New Jersey</i> (bowhunter silhouette image)	1,756	267	15.2%	1,489	84.8%
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	1,812	265	14.6%	1,547	85.4%
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in New Jersey</i> (target shooter silhouette)	1,749	261	14.9%	1,488	85.1%
Group 9 (Heritage): <i>Heritage. Go Bowhunting in New Jersey</i> (father and son image)	1,808	265	14.7%	1,543	85.3%
Group 10: Control Group (no email received)	3,572	542	15.2%	3,030	84.8%

The lift analysis results for all of the treatment groups are summarized in Table 3.48. Significance tests were run using an independent samples t-test. Although two treatment groups showed positive lift and seven treatment groups showed negative lift, none of the results are statistically significant.

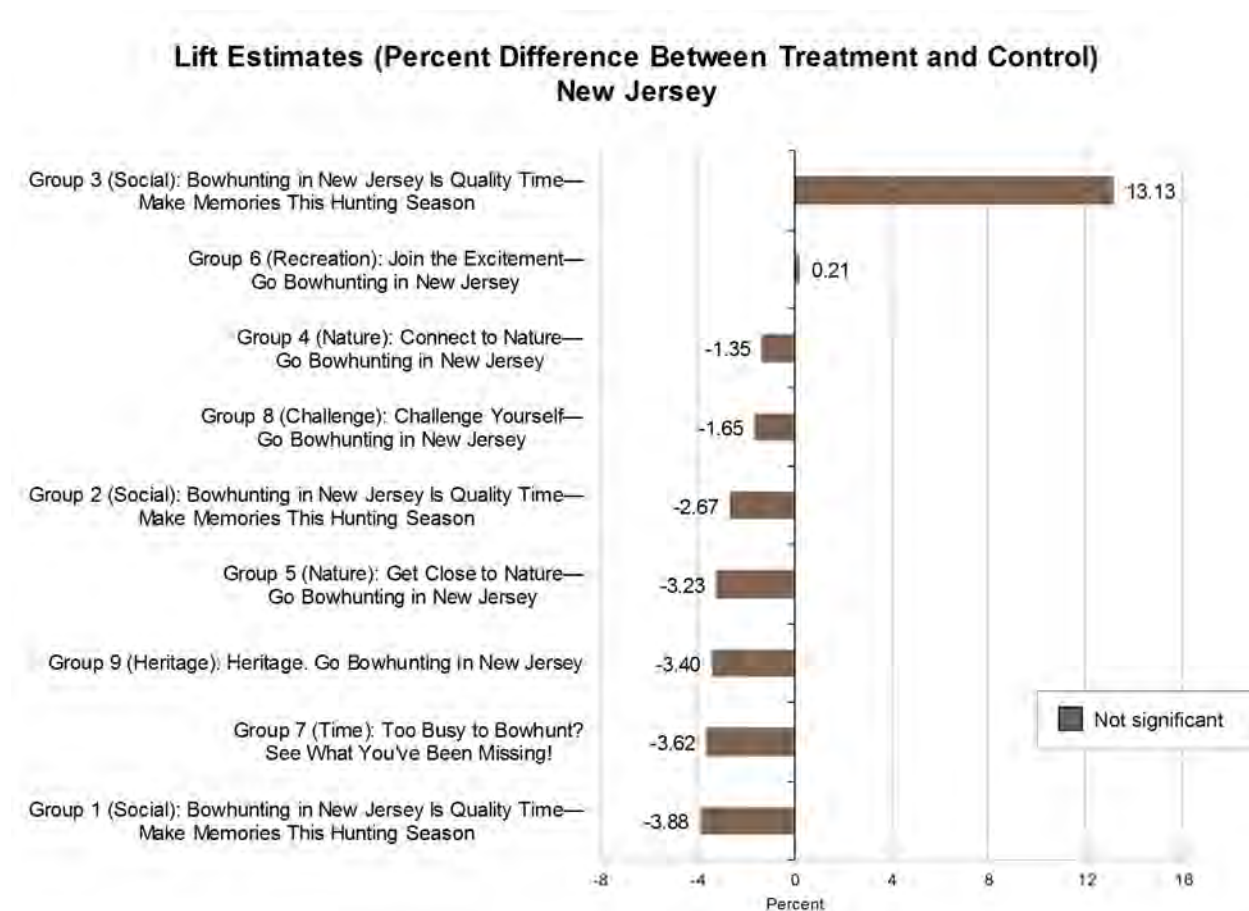
Table 3.48. Treatment Groups Versus Control (No Treatment) Lift Analysis, New Jersey

Group	Percent That Purchased a License at Any Time After the First Treatment Date (9/6/2018)	Lift Estimate (Percent Difference Between Treatment and Control Group)	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in New Jersey Is Quality Time—Make Memories This Hunting Season</i> (couple image)	14.6%	-3.88%	0.56	Not Significant
Group 2 (Social): <i>Bowhunting in New Jersey Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	14.8%	-2.68%	0.69	Not Significant
Group 3 (Social): <i>Bowhunting in New Jersey Is Quality Time—Make Memories This Hunting Season</i> (group image)	17.2%	13.13%	0.07	Not Significant
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in New Jersey</i> (deer silhouette image)	15.0%	-1.35%	0.84	Not Significant
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in New Jersey</i> (deer silhouette image)	14.7%	-3.23%	0.63	Not Significant
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in New Jersey</i> (bowhunter silhouette image)	15.2%	0.21%	0.98	Not Significant
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	14.6%	-3.62%	0.59	Not Significant
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in New Jersey</i> (target shooter silhouette)	14.9%	-1.65%	0.81	Not Significant
Group 9 (Heritage): <i>Heritage. Go Bowhunting in New Jersey</i> (father and son image)	14.7%	-3.40%	0.62	Not Significant
Group 10: Control Group (no email received)	15.2%	--	--	--

Differences not statistically significant, Welch Two Sample t-test versus control.

The treatment group lift results are summarized in Figure 3.17. Two treatment groups had positive lift results for New Jersey, but neither is statistically significant.

Figure 3.17. Lift Estimates for Treatment Groups, New Jersey



The lift analysis also examined the results for any treatment compared to the control group by age (or generation), summarized in Table 3.49. For each age group in New Jersey, there is little difference in the license purchase rate between those who received an email and those who did not in the age group, and the differences, positive or negative, are not statistically significant.

Table 3.49. Any Treatment Versus Control (No Treatment) Lift Analysis by Age Group, New Jersey

Group	Millennials (Ages 18 to 36)				Generation X (Ages 37 to 51)				Baby Boomers (Age 52 and older)			
	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance
Any Treatment (received email)	16.9%	2.06%	0.74	No	18.2%	1.06%	0.88	No	15.8%	-3.91%	0.66	No
Control Group (no email received)	16.5%	--	--	--	18.0%	--	--	--	16.4%	--	--	--

Differences not statistically significant, Welch Two Sample t-test versus control.

¹ Percent That Purchased a License at Any Time After the First Treatment Date (9/6/2018)

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

The lift analysis results for all of the treatment groups by age are summarized in Table 3.50. In New Jersey, Group 3 (Social) has the highest positive lift for both Gen Xers and Baby Boomers. Among Millennials, Group 7 (Time) and Group 6 (Recreation) are the top two treatment groups, followed by Group 3 (Social). There are no statistically significant lift results, positive or negative, for any treatment group in these age categories.

Table 3.50. Treatment Groups Versus Control (No Treatment) Lift Analysis by Age Group, New Jersey

Group	Millennials (Ages 18 to 36)			Generation X (Ages 37 to 51)			Baby Boomers (Age 52 and older)		
	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in New Jersey Is Quality Time—Make Memories This Hunting Season</i> (couple image)	-2.88%	0.76	No	-3.14%	0.77	No	-9.10%	0.49	No
Group 2 (Social): <i>Bowhunting in New Jersey Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	-1.79%	0.85	No	-0.82%	0.94	No	-1.92%	0.89	No
Group 3 (Social): <i>Bowhunting in New Jersey Is Quality Time—Make Memories This Hunting Season</i> (group image)	6.97%	0.49	No	21.07%	0.06	No	22.30%	0.13	No
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in New Jersey</i> (deer silhouette image)	3.19%	0.75	No	1.49%	0.89	No	2.16%	0.88	No
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in New Jersey</i> (deer silhouette image)	-3.80%	0.70	No	-0.75%	0.94	No	-16.49%	0.21	No
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in New Jersey</i> (bowhunter silhouette image)	7.74%	0.44	No	2.14%	0.85	No	-12.23%	0.36	No
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	8.02%	0.42	No	-8.99%	0.40	No	-6.70%	0.61	No
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in New Jersey</i> (target shooter silhouette)	-1.70%	0.86	No	-0.48%	0.96	No	-3.93%	0.77	No
Group 9 (Heritage): <i>Heritage. Go Bowhunting in New Jersey</i> (father and son image)	2.84%	0.77	No	-1.35%	0.90	No	-7.22%	0.59	No
Group 10: Control Group (no email received)	--	--	--	--	--	--	--	--	--

Differences not statistically significant, Welch Two Sample t-test versus control.

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

NEW MEXICO'S RESULTS

Prior to any statistical tests, the raw data were tabulated for analyses. Taking the number in the original sample, the first step in the analysis was to categorize each of these hunters as having purchased a 2018-2019 hunting license or having not purchased a license during the time period following the email marketing campaigns (Tables 3.51 to 3.59). All New Mexico hunting licenses that are *not* a special draw license (i.e., primarily license referred to as over-the-counter licenses) were included, and the analysis was performed on resident license holders from the original sample only.

New Mexico's email marketing campaign differed from other states' campaigns due to the hunting season and license system structure. After collaboration between the New Mexico Department of Game and Fish and the researchers, two email marketing campaigns were implemented: one campaign targeting turkey bowhunters in the fall and one targeting javelina bowhunters in the winter. Each New Mexico email marketing campaign did, however, follow the same approach as most other states, with nine treatment email groups using the same themes and two email treatment dates per campaign. Across the two New Mexico email marketing campaigns, there was a total of 18 different treatment groups. One master control group was used for analysis. Note that in lieu of a deer silhouette image for the nature-themed messages, the fall turkey bowhunter campaign used an image of a turkey and the javelina bowhunter campaign used an image of a javelina, neither of which was a silhouette only.

Additionally, the email marketing campaign consisted of an initial email message and a second identical email message sent at approximately the mid-point of each season. The first email treatment date for the fall turkey hunting season was August 31, 2018, and the second email treatment date was September 12, 2018. The first email treatment date for the javelina hunting season was December 28, 2018, and the second email treatment date was January 24, 2019.

Based on the data above, statistical tests were run. The tests looked at any treatment at all versus no treatment, as well as each treatment group versus no treatment. The results are shown on the following pages in Tables 3.51 to 3.59.

In Tables 3.51 and 3.52, any treatment was compared to the control group. All treatment groups (Fall Turkey Groups 1 to 9 and Javelina Groups 1 to 9) combined have 150,756 hunters of which 14,149 bought licenses in the time period following the appropriate email marketing campaign, and this is compared to 33,355 hunters in the control group, of which 3,016 bought licenses (Table 3.51). Overall, those who received a marketing email (i.e., any treatment) bought at a higher rate than the control group. Based on an independent samples t-test, this difference is statistically significant (Table 3.52).

Table 3.51. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment), New Mexico

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date ¹	Percent That Purchased a License at Any Time After the First Treatment Date ¹	Number That Did Not Purchase a License at Any Time After the First Treatment Date ¹	Percent That Did Not Purchase a License at Any Time After the First Treatment Date ¹
Any Treatment (received email)	150,756	14,149	9.4%	136,607	90.6%
Control Group (no email received)	33,355	3,016	9.0%	30,339	91.0%

¹First treatment dates were 8/31/2018 for fall turkey and 12/28/2018 for javelina.

Table 3.52. Any Treatment Versus Control (No Treatment) Lift Analysis, New Mexico

Group	Percent That Purchased a License at Any Time After the First Treatment Date	Lift Estimate (Percent Difference Between Treatment and Control Groups)	P-Value	P-Value Significance
Any Treatment (received email)	9.4%	3.78%	0.049*	*
Control Group (no email received)	9.0%	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

The analysis also examined the 18 individual treatment groups (Fall Turkey Groups 1 to 9 and Javelina Groups 1 to 9) separately against the control group to assess the effectiveness of the various email marketing messages, shown in Tables 3.53 and 3.54. The rate of purchase was higher than the control group for 15 of the 18 treatment groups individually. The four groups with the highest rate of purchase in New Mexico are Turkey Group 6 (Recreation), Turkey Group 4 (Nature), Javelina Group 9 (Heritage), and Javelina Group 4 (Nature) (see both Tables 3.53 and 3.54).

Table 3.53. Purchasers of Licenses in the 2018-2019 Season by Fall Turkey Season Treatment Group, New Mexico

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (8/31/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (8/31/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (8/31/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (8/31/2018)
Group 1 (Social): <i>Bowhunting in New Mexico Is Quality Time—Make Memories This Hunting Season</i> (couple image)	8,435	777	9.2%	7,658	90.8%
Group 2 (Social): <i>Bowhunting in New Mexico Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	8,328	788	9.5%	7,540	90.5%
Group 3 (Social): <i>Bowhunting in New Mexico Is Quality Time—Make Memories This Hunting Season</i> (group image)	8,191	782	9.5%	7,409	90.5%
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in New Mexico</i> (turkey image)	8,452	830	9.8%	7,622	90.2%
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in New Mexico</i> (turkey image)	8,470	809	9.6%	7,661	90.4%
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in New Mexico</i> (bowhunter silhouette image)	8,423	848	10.1%	7,575	89.9%
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	8,341	708	8.5%	7,633	91.5%
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in New Mexico</i> (target shooter silhouette)	8,644	832	9.6%	7,812	90.4%
Group 9 (Heritage): <i>Heritage. Go Bowhunting in New Mexico</i> (father and son image)	8,259	723	8.8%	7,536	91.2%
Group 10: Control Group (no email received)	33,355	3,016	9.0%	30,339	91.0%

Table 3.54. Purchasers of Licenses in the 2018-2019 Season by Javelina Season Treatment Group, New Mexico

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (12/28/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (12/28/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (12/28/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (12/28/2018)
Group 1 (Social): <i>Bowhunting in New Mexico Is Quality Time—Make Memories This Hunting Season</i> (couple image)	8,351	807	9.7%	7,544	90.3%
Group 2 (Social): <i>Bowhunting in New Mexico Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	8,375	769	9.2%	7,606	90.8%
Group 3 (Social): <i>Bowhunting in New Mexico Is Quality Time—Make Memories This Hunting Season</i> (group image)	8,670	796	9.2%	7,874	90.8%
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in New Mexico</i> (turkey image)	8,286	811	9.8%	7,475	90.2%
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in New Mexico</i> (javelina image)	8,432	790	9.4%	7,642	90.6%
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in New Mexico</i> (bowhunter silhouette image)	8,212	763	9.3%	7,449	90.7%
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	8,297	725	8.7%	7,572	91.3%
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in New Mexico</i> (target shooter silhouette)	8,183	768	9.4%	7,415	90.6%
Group 9 (Heritage): <i>Heritage. Go Bowhunting in New Mexico</i> (father and son image)	8,407	823	9.8%	7,584	90.2%
Group 10: Control Group (no email received)	33,355	3,016	9.0%	30,339	91.0%

The lift analysis results for all of the treatment groups are summarized in Tables 3.55 and 3.56. Significance tests were run using an independent samples t-test. While 15 (i.e., 7 turkey and 8 javelina) treatment groups had a rate of purchase higher than the control group, the analysis found a positive lift for four of those treatment groups (two turkey and two javelina) that is statistically significant. The four groups with statistically significant lift in New Mexico are Turkey Group 6 (Recreation), Turkey Group 4 (Nature), Javelina Group 9 (Heritage), and Javelina Group 4 (Nature) (see both Tables 3.55 and 3.56 on the following pages).

Table 3.55. Treatment Groups Versus Control (No Treatment) Lift Analysis for Fall Turkey Season, New Mexico

Group	Percent That Purchased a License at Any Time After the First Treatment Date (8/31/2018)	Lift Estimate (Percent Difference Between Treatment and Control Group)	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in New Mexico Is Quality Time—Make Memories This Hunting Season</i> (couple image)	9.2%	1.88%	0.63	Not Significant
Group 2 (Social): <i>Bowhunting in New Mexico Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	9.5%	4.64%	0.24	Not Significant
Group 3 (Social): <i>Bowhunting in New Mexico Is Quality Time—Make Memories This Hunting Season</i> (group image)	9.5%	5.58%	0.16	Not Significant
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in New Mexico</i> (turkey image)	9.8%	8.61%	0.03*	Significant*
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in New Mexico</i> (turkey image)	9.6%	5.63%	0.15	Not Significant
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in New Mexico</i> (bowhunter silhouette image)	10.1%	11.34%	0.005**	Significant**
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	8.5%	-6.13%	0.11	Not Significant
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in New Mexico</i> (target shooter silhouette)	9.6%	6.45%	0.10	Not Significant
Group 9 (Heritage): <i>Heritage. Go Bowhunting in New Mexico</i> (father and son image)	8.8%	-3.19%	0.11	Not Significant
Group 10: Control Group (no email received)	9.0%	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

**Difference statistically significant, $p \leq 0.01$; Welch Two Sample t-test versus control.

Table 3.56. Treatment Groups Versus Control (No Treatment) Lift Analysis for Javelina Season, New Mexico

Group	Percent That Purchased a License at Any Time After the First Treatment Date (12/28/2018)	Lift Estimate (Percent Difference Between Treatment and Control Group)	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in New Mexico Is Quality Time—Make Memories This Hunting Season</i> (couple image)	9.7%	6.87%	0.08	Not Significant
Group 2 (Social): <i>Bowhunting in New Mexico Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	9.2%	1.55%	0.69	Not Significant
Group 3 (Social): <i>Bowhunting in New Mexico Is Quality Time—Make Memories This Hunting Season</i> (group image)	9.2%	1.54%	0.69	Not Significant
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in New Mexico</i> (javelina image)	9.8%	8.24%	0.04*	Significant*
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in New Mexico</i> (javelina image)	9.4%	3.62%	0.36	Not Significant
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in New Mexico</i> (bowhunter silhouette image)	9.3%	2.76%	0.49	Not Significant
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	8.7%	-3.36%	0.38	Not Significant
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in New Mexico</i> (target shooter silhouette)	9.4%	3.80%	0.34	Not Significant
Group 9 (Heritage): <i>Heritage. Go Bowhunting in New Mexico</i> (father and son image)	9.8%	8.27%	0.04*	Significant*
Group 10: Control Group (no email received)	9.0%	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

The treatment group lift results are summarized in Figures 3.18 and 3.19. Fifteen (15) treatment groups had positive lift results for New Mexico. Lift for four of those treatment groups was statistically significant. As discussed previously, the four groups with statistically significant lift in New Jersey are Turkey Group 6 (Recreation), Turkey Group 4 (Nature), Javelina Group 9 (Heritage), and Javelina Group 4 (Nature).

Figure 3.18. Lift Estimates for Treatment Groups for Fall Turkey Season, New Mexico

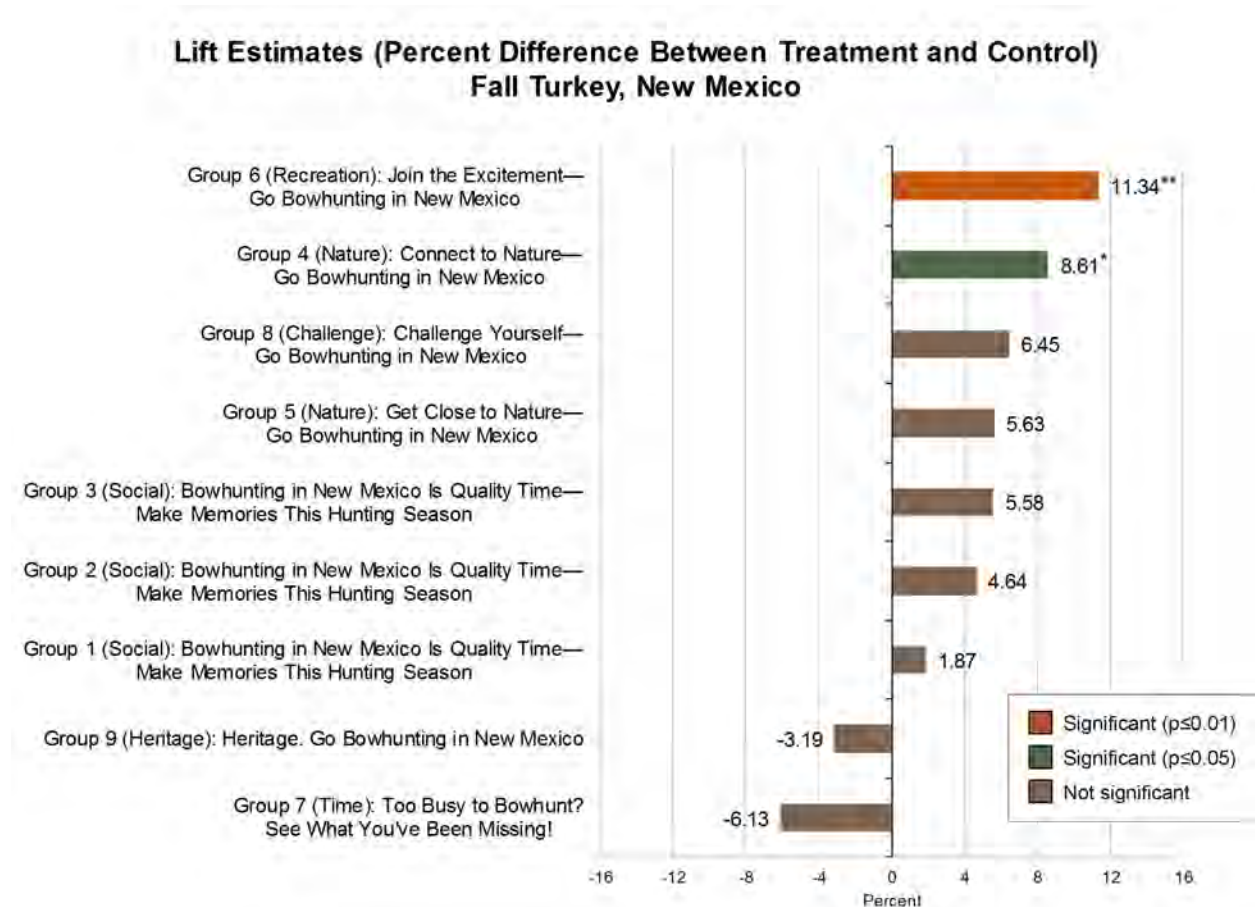


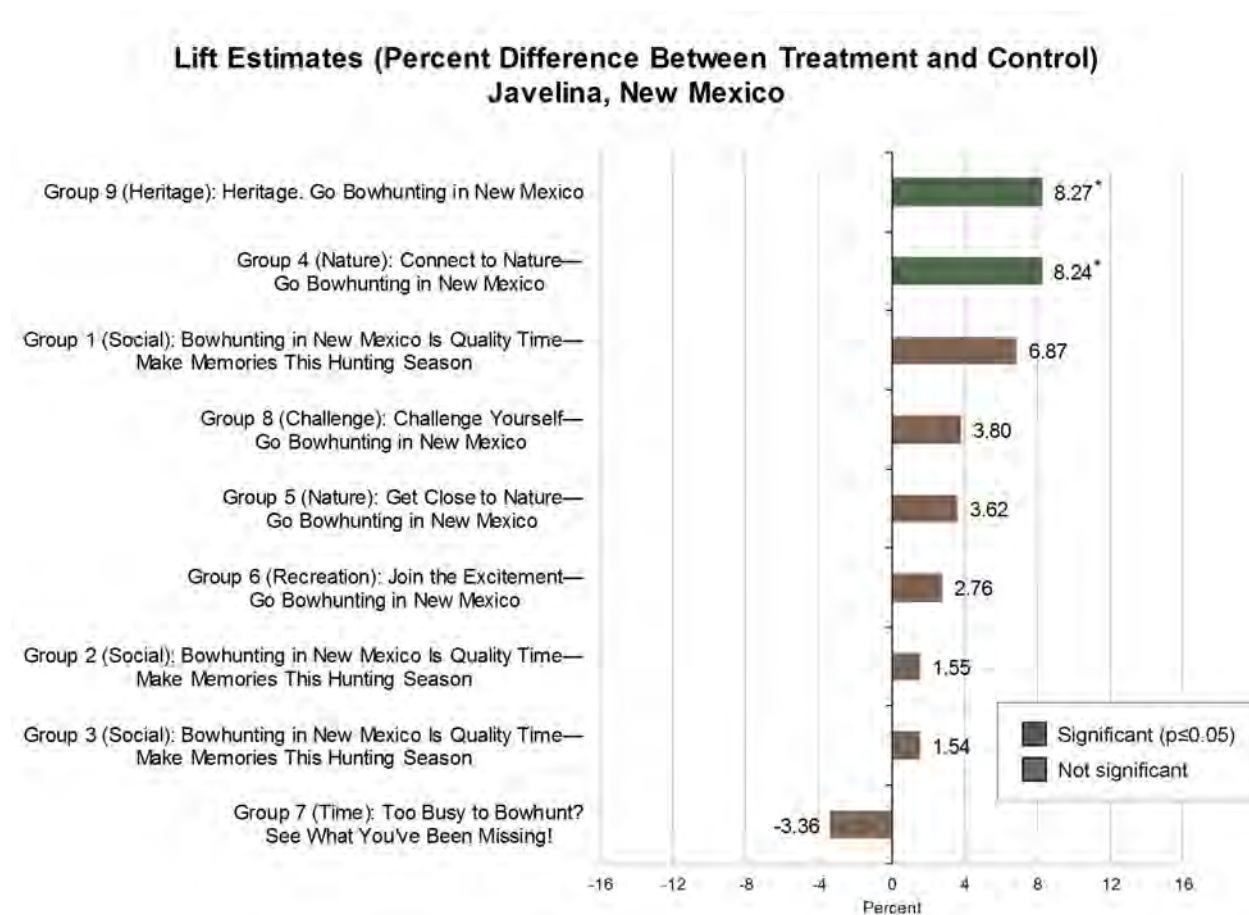
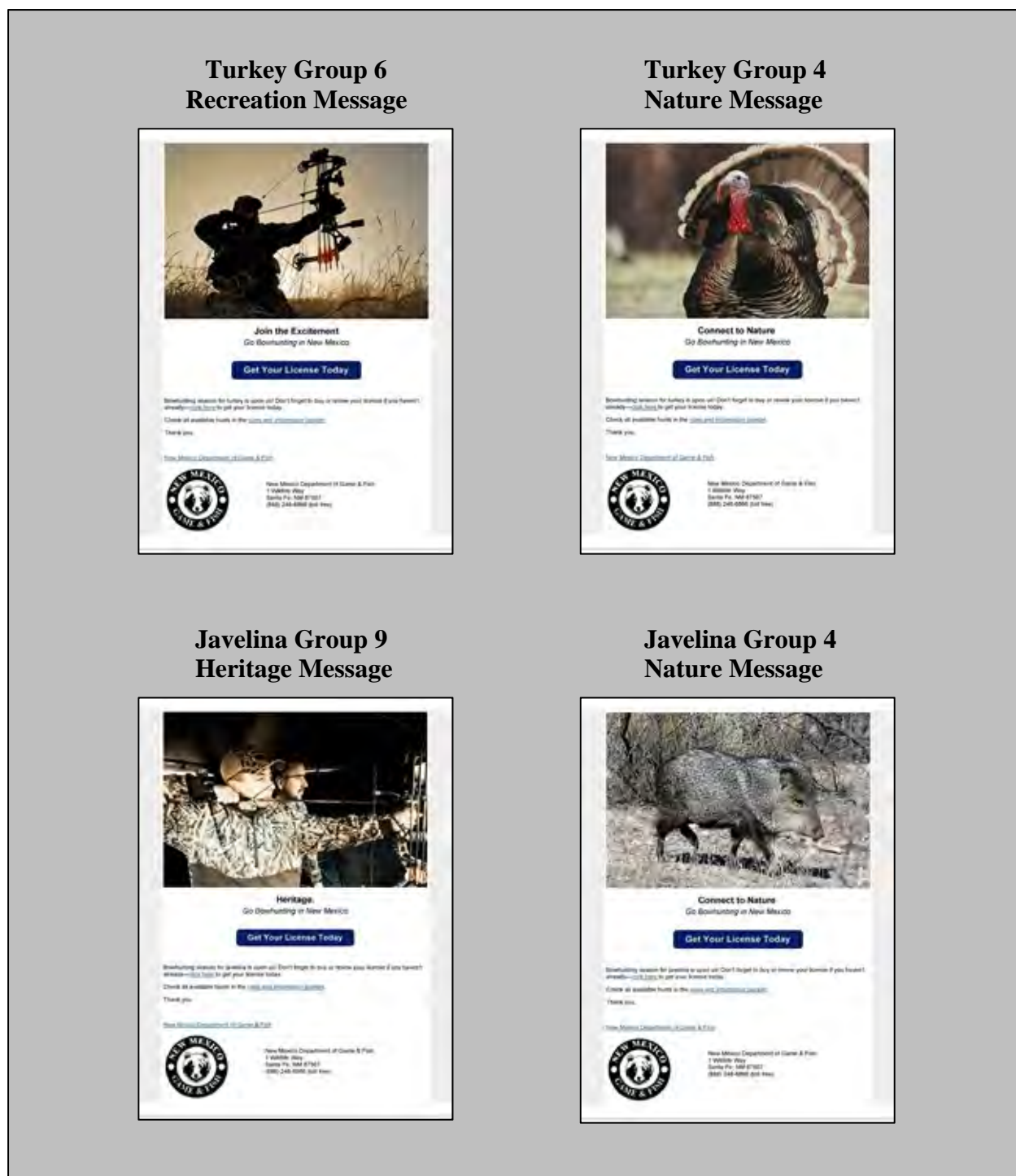
Figure 3.19. Lift Estimates for Treatment Groups for Javelina Season, New Mexico

Figure 3.20. Messages With Statistically Significant Positive Lift, New Mexico

The lift analysis also examined the results for any treatment compared to the control group by age (or generation), summarized in Table 3.57. The treatment groups for each age category have positive lift results in New Mexico. The lift is greatest for Millennials, and this positive lift is also statistically significant.

Table 3.57. Any Treatment Versus Control (No Treatment) Lift Analysis by Age Group, New Mexico

Group	Millennials (Ages 18 to 36)				Generation X (Ages 37 to 51)				Baby Boomers (Age 52 and older)			
	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance
Any Treatment (received email)	11.0%	6.42%	0.03	*	9.0%	1.49%	0.69	No	8.0%	1.94%	0.58	No
Control Group (no email received)	10.4%	--	--	--	8.8%	--	--	--	7.9%	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

¹ Percent That Purchased a License at Any Time After the First Treatment Date (Fall Turkey 8/31/2018; Javelina 12/28/2018)

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

The lift analysis results for all of the treatment groups by age are summarized in Tables 3.58 and 3.59 on the following pages. Significance tests were run using an independent samples t-test. More treatment groups have positive lift than have negative lift for the age categories overall for both seasons.

Baby Boomers have the most treatment groups with negative lift (four groups) for fall turkey season while Gen Xers have the most treatment groups with negative lift (four groups) for javelina season. Most notably, the negative lift among Baby Boomers for Turkey Group 9 (Heritage) is statistically significant. It is also worth noting that, although not statistically significant, Group 7 (Time) has negative lift results among all three age categories for fall turkey season and among both Gen Xers and Baby Boomers for javelina season.

All statistically significant positive lift results for both seasons are among Millennials. The positive lift for Turkey Group 6 (Recreation) is statistically significant at the $p \leq 0.001$ level among Millennials. Javelina Group 1 (Social) ($p \leq 0.01$) and Turkey Group 2 (Social) ($p \leq 0.05$) are also statistically significant among Millennials (see both Tables 3.58 and 3.59 on the following pages). There are no statistically significant lift results among Gen Xers for either season.

Table 3.58. Treatment Groups Versus Control (No Treatment) Lift Analysis for Fall Turkey Season by Age Group, New Mexico

Group	Millennials (Ages 18 to 36)			Generation X (Ages 37 to 51)			Baby Boomers (Age 52 and older)		
	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in New Mexico Is Quality Time—Make Memories This Hunting Season</i> (couple image)	2.23%	0.71	No	-2.53%	0.73	No	4.51%	0.53	No
Group 2 (Social): <i>Bowhunting in New Mexico Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	13.10%	0.03*	*	-6.38%	0.39	No	2.19%	0.76	No
Group 3 (Social): <i>Bowhunting in New Mexico Is Quality Time—Make Memories This Hunting Season</i> (group image)	10.78%	0.08	No	7.36%	0.34	No	-4.39%	0.53	No
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in New Mexico</i> (turkey image)	7.48%	0.21	No	15.03%	0.057	No	4.16%	0.56	No
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in New Mexico</i> (turkey image)	2.59%	0.66	No	4.33%	0.57	No	10.71%	0.14	No
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in New Mexico</i> (bowhunter silhouette image)	22.30%	*** 0.0004	***	9.27%	0.23	No	-2.64%	0.70	No
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	-4.42%	0.45	No	-3.86%	0.61	No	-10.15%	0.13	No
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in New Mexico</i> (target shooter silhouette)	5.17%	0.39	No	4.56%	0.54	No	9.96%	0.16	No
Group 9 (Heritage): <i>Heritage. Go Bowhunting in New Mexico</i> (father and son image)	0.71%	0.90	No	3.15%	0.69	No	-13.78%	0.038*	*
Group 10: Control Group (no email received)	--	--	--	--	--	--	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

***Difference statistically significant, $p \leq 0.001$; Welch Two Sample t-test versus control.

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

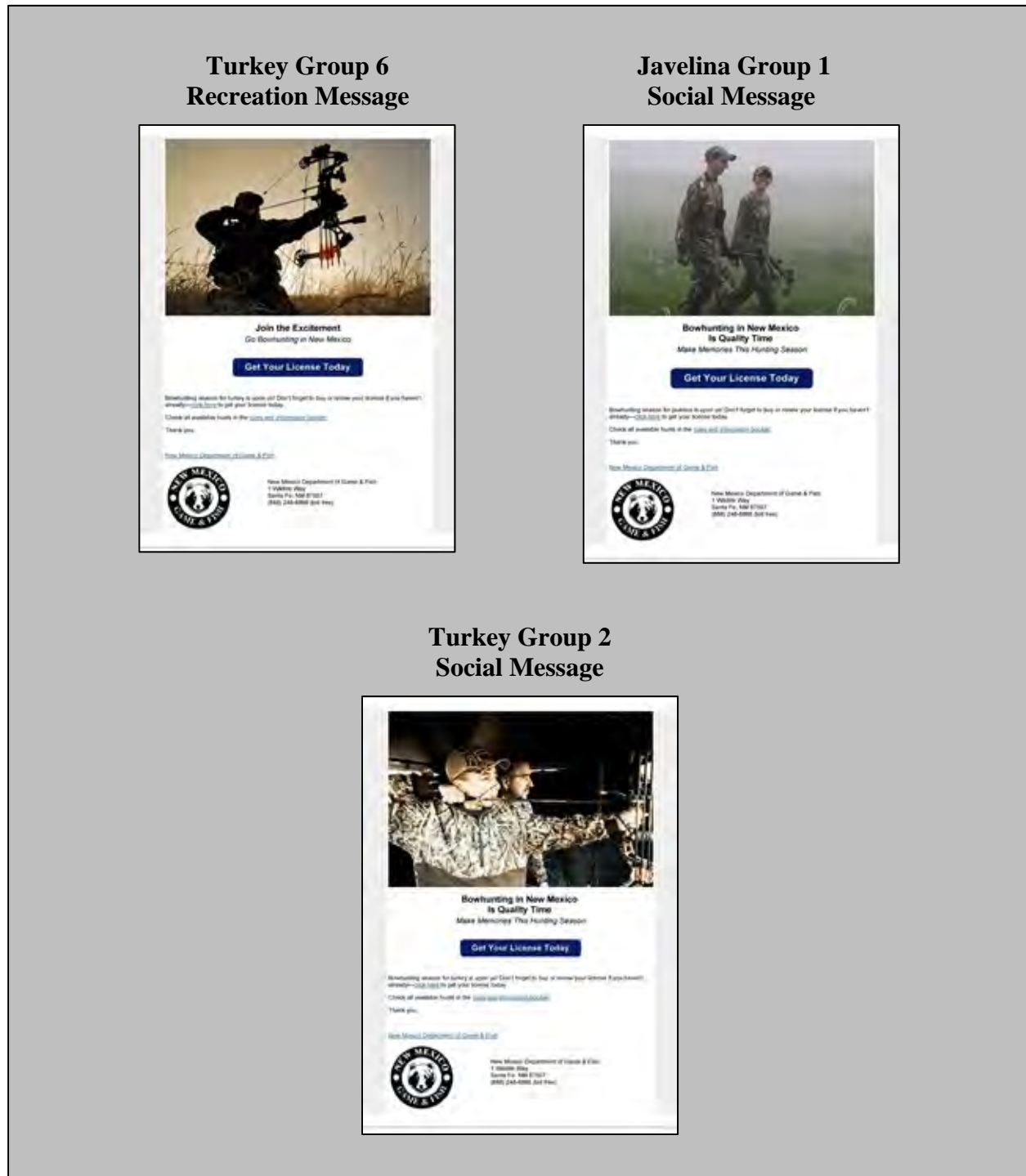
Table 3.59. Treatment Groups Versus Control (No Treatment) Lift Analysis for Javelina Season by Age Group, New Mexico

Group	Millennials (Ages 18 to 36)			Generation X (Ages 37 to 51)			Baby Boomers (Age 52 and older)		
	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in New Mexico Is Quality Time—Make Memories This Hunting Season</i> (couple image)	17.56%	0.005**	**	-2.41%	0.75	No	-0.44%	0.95	No
Group 2 (Social): <i>Bowhunting in New Mexico Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	0.08%	0.99	No	-0.24%	0.97	No	4.43%	0.54	No
Group 3 (Social): <i>Bowhunting in New Mexico Is Quality Time—Make Memories This Hunting Season</i> (group image)	2.50%	0.67	No	-8.04%	0.26	No	8.28%	0.25	No
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in New Mexico</i> (javelina image)	10.95%	0.08	No	4.45%	0.57	No	8.07%	0.26	No
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in New Mexico</i> (javelina image)	1.64%	0.78	No	7.56%	0.33	No	3.05%	0.66	No
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in New Mexico</i> (bowhunter silhouette image)	2.44%	0.68	No	2.03%	0.79	No	3.27%	0.65	No
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	3.78%	0.53	No	-6.52%	0.37	No	-10.15%	0.13	No
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in New Mexico</i> (target shooter silhouette)	9.16%	0.14	No	-6.47%	0.38	No	5.89%	0.42	No
Group 9 (Heritage): <i>Heritage. Go Bowhunting in New Mexico</i> (father and son image)	7.60%	0.21	No	5.79%	0.45	No	11.39%	0.12	No
Group 10: Control Group (no email received)	--	--	--	--	--	--	--	--	--

**Difference statistically significant, $p \leq 0.01$; Welch Two Sample t-test versus control.

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

Figure 3.21. Messages With Statistically Significant Positive Lift Among Millennials, New Mexico



OKLAHOMA'S RESULTS

Prior to any statistical tests, the raw data were tabulated for analyses. Taking the number in the original sample, the first step in the analysis was to categorize each of these hunters as having purchased a 2018-2019 license or having not purchased a license during the time period following the email marketing campaign (Tables 3.60 to 3.66). Oklahoma archery licenses were included, and the analysis was performed on resident license holders from the original sample only.

Based on the data above, statistical tests were run. The tests looked at any treatment at all versus no treatment, as well as each treatment group versus no treatment.

In Tables 3.60 and 3.61, any treatment was compared to the control group. All treatment groups (Groups 1 to 9) combined have 22,013 hunters of which 2,260 bought licenses in the time period following the email marketing campaign, and this is compared to 4,906 hunters in the control group, of which 526 bought licenses (Table 3.60). Those who received a marketing email (i.e., any treatment) did not buy at a higher rate than the control group (Table 3.61); the slightly negative lift is not statistically significant.

Table 3.60. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment), Oklahoma

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (9/28/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (9/28/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (9/28/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (9/28/2018)
Any Treatment (received email)	22,013	2,260	10.3%	19,753	89.7%
Control Group (no email received)	4,906	526	10.7%	4,380	89.3%

Table 3.61. Any Treatment Versus Control (No Treatment) Lift Analysis, Oklahoma

Group	Percent That Purchased a License at Any Time After the First Treatment Date (9/28/2018)	Lift Estimate (Percent Difference Between Treatment and Control Groups)	P-Value	P-Value Significance
Any Treatment (received email)	10.3%	-4.24%	0.35	Not Significant
Control Group (no email received)	10.7%	--	--	--

Difference not statistically significant, Welch Two Sample t-test versus control.

Additionally, the email marketing campaign consisted of an initial email message and a second identical email message sent at approximately the mid-point of the hunting season. Table 3.62 shows the number and percentage of archery license purchases that occurred after the first email treatment date (September 28, 2018) but before the second email treatment date (November 9, 2018), as well as purchases that occurred after the second email. There is very little difference in the license purchase rate between those who received an email and those who did not for both the first email and second email treatment dates.

Table 3.62. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment) by Treatment Date, Oklahoma

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (9/28/2018)	Number That Purchased a License After the First Treatment Date and Before the Second Treatment Date (9/28/2018 to 11/8/2018)	Percent That Purchased a License After the First Treatment Date and Before the Second Treatment Date (9/28/2018 to 11/8/2018)	Number That Purchased a License After the Second Treatment Date (11/9/2018)	Percent That Purchased a License After the Second Treatment Date (11/9/2018)
Any Treatment (received email)	22,013	2,260	1,734	7.9%	526	2.4%
Control Group (no email received)	4,906	526	427	8.7%	99	2.0%

The analysis also examined the individual treatment groups (Groups 1 to 9) separately against the control group to assess the effectiveness of the various email marketing messages, shown in Table 3.63. The rate of purchase was higher than the control group for two of the nine treatment groups individually. The two groups with a rate of purchase higher than the control group in Oklahoma are Group 9 (Heritage) and Group 5 (Nature).

Table 3.63. Purchasers of Licenses in the 2018-2019 Season by Treatment Group, Oklahoma

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (9/28/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (9/28/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (9/28/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (9/28/2018)
Group 1 (Social): <i>Bowhunting in Oklahoma Is Quality Time—Make Memories This Hunting Season</i> (couple image)	2,457	243	9.9%	2,214	90.1%
Group 2 (Social): <i>Bowhunting in Oklahoma Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	2,445	227	9.3%	2,218	90.7%
Group 3 (Social): <i>Bowhunting in Oklahoma Is Quality Time—Make Memories This Hunting Season</i> (group image)	2,466	246	10.0%	2,220	90.0%
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Oklahoma</i> (deer silhouette image)	2,365	237	10.0%	2,128	90.0%
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Oklahoma</i> (deer silhouette image)	2,466	277	11.2%	2,189	88.8%
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Oklahoma</i> (bowhunter silhouette image)	2,418	238	9.8%	2,180	90.2%
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	2,400	248	10.3%	2,152	89.7%
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Oklahoma</i> (target shooter silhouette)	2,455	254	10.3%	2,201	89.7%
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Oklahoma</i> (father and son image)	2,541	290	11.4%	2,251	88.6%
Group 10: Control Group (no email received)	4,906	526	10.7%	4,380	89.3%

The lift analysis results for all of the treatment groups are summarized in Table 3.64. Significance tests were run using an independent samples t-test. Although two treatment groups showed positive lift and the remaining treatment groups had negative lift, none of the results are statistically significant.

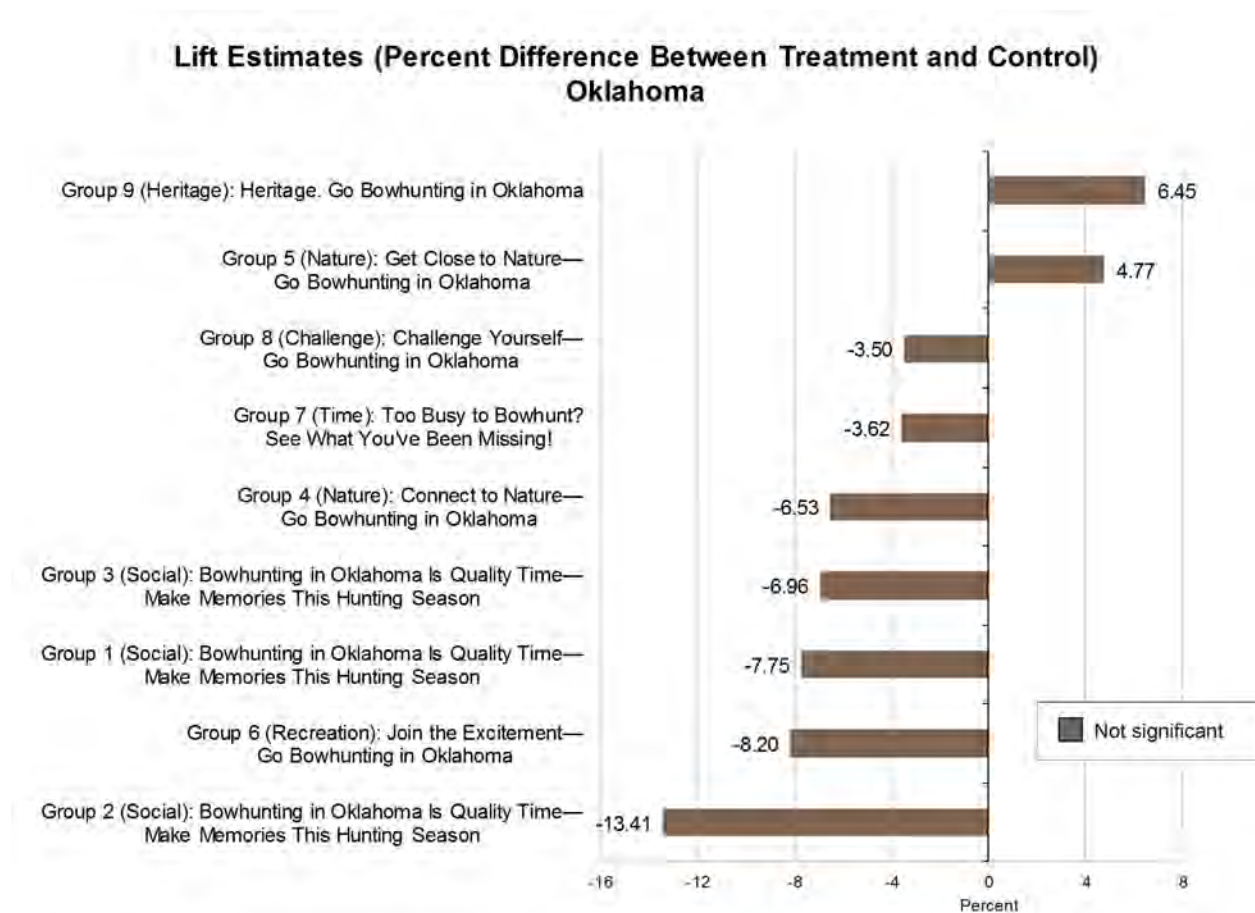
Table 3.64. Treatment Groups Versus Control (No Treatment) Lift Analysis, Oklahoma

Group	Percent That Purchased a License at Any Time After the First Treatment Date (9/28/2018)	Lift Estimate (Percent Difference Between Treatment and Control Group)	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in Oklahoma Is Quality Time—Make Memories This Hunting Season</i> (couple image)	9.9%	-7.76%	0.27	Not Significant
Group 2 (Social): <i>Bowhunting in Oklahoma Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	9.3%	-13.41%	0.0504	Not Significant
Group 3 (Social): <i>Bowhunting in Oklahoma Is Quality Time—Make Memories This Hunting Season</i> (group image)	10.0%	-6.96%	0.32	Not Significant
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Oklahoma</i> (deer silhouette image)	10.0%	-6.53%	0.36	Not Significant
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Oklahoma</i> (deer silhouette image)	11.2%	4.77%	0.51	Not Significant
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Oklahoma</i> (bowhunter silhouette image)	9.8%	-8.20%	0.24	Not Significant
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	10.3%	-3.62%	0.61	Not Significant
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Oklahoma</i> (target shooter silhouette)	10.3%	-3.50%	0.62	Not Significant
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Oklahoma</i> (father and son image)	11.4%	6.45%	0.37	Not Significant
Group 10: Control Group (no email received)	10.7%	--	--	--

Differences not statistically significant, Welch Two Sample t-test versus control.

The treatment group lift results are summarized in Figure 3.22. Two treatment groups had positive lift results for Nebraska, neither of which is statistically significant.

Figure 3.22. Lift Estimates for Treatment Groups, Oklahoma



The lift analysis also examined the results for any treatment compared to the control group by age (or generation), summarized in Table 3.65. For each age group in Oklahoma, there is negative lift, meaning that the license purchase rate of those who received an email is slightly less than those who did not receive an email in the same age group; however, none of the differences are statistically significant.

Table 3.65. Any Treatment Versus Control (No Treatment) Lift Analysis by Age Group, Oklahoma

Group	Millennials (Ages 18 to 36)				Generation X (Ages 37 to 51)				Baby Boomers (Age 52 and older)			
	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance
Any Treatment (received email)	10.5%	-4.99%	0.38	No	10.2%	-1.83%	0.84	No	9.3%	-5.64%	0.67	No
Control Group (no email received)	11.1%	--	--	--	10.4%	--	--	--	9.8%	--	--	--

Differences not statistically significant, Welch Two Sample t-test versus control.

¹ Percent That Purchased a License at Any Time After the First Treatment Date (9/28/2018)

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

The lift analysis results for all of the treatment groups by age are summarized in Table 3.66. For each age category, only two or three treatment groups show positive lift results; most other treatment groups have negative lift results. None of the positive lift results are statistically significant. Baby Boomers did have statistically significant negative lift, however, for Group 7 (Time).

Table 3.66. Treatment Groups Versus Control (No Treatment) Lift Analysis by Age Group, Oklahoma

Group	Millennials (Ages 18 to 36)			Generation X (Ages 37 to 51)			Baby Boomers (Age 52 and older)		
	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in Oklahoma Is Quality Time—Make Memories This Hunting Season</i> (couple image)	-5.22%	0.55	No	-7.74%	0.58	No	-22.85%	0.25	No
Group 2 (Social): <i>Bowhunting in Oklahoma Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	-16.51%	0.06	No	-10.97%	0.42	No	-2.08%	0.92	No
Group 3 (Social): <i>Bowhunting in Oklahoma Is Quality Time—Make Memories This Hunting Season</i> (group image)	-10.97%	0.21	No	-9.58%	0.48	No	19.58%	0.37	No
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Oklahoma</i> (deer silhouette image)	-5.40%	0.55	No	-7.95%	0.57	No	-10.53%	0.62	No
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Oklahoma</i> (deer silhouette image)	5.23%	0.57	No	2.69%	0.85	No	7.45%	0.7	No
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Oklahoma</i> (bowhunter silhouette image)	-9.32%	0.29	No	-13.04%	0.33	No	9.97%	0.65	No
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	-0.83%	0.93	No	5.52%	0.70	No	-37.91%	0.04	*
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Oklahoma</i> (target shooter silhouette)	-5.96%	0.50	No	2.22%	0.87	No	-3.86%	0.86	No
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Oklahoma</i> (father and son image)	3.59%	0.69	No	21.49%	0.14	No	-13.64%	0.50	No
Group 10: Control Group (no email received)	--	--	--	--	--	--	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

PENNSYLVANIA'S RESULTS

Prior to any statistical tests, the raw data were tabulated for analyses. Taking the number in the original sample, the first step in the analysis was to categorize each of these hunters as having purchased a 2018-2019 license or having not purchased a license during the time period following the email marketing campaign (Tables 3.67 to 3.73). Pennsylvania archery licenses were included, and the analysis was performed on resident license holders from the original sample only.

Based on the data above, statistical tests were run. The tests looked at any treatment at all versus no treatment, as well as each treatment group versus no treatment.

In Tables 3.67 and 3.68, any treatment was compared to the control group. All treatment groups (Groups 1 to 9) combined have 115,136 hunters of which 12,004 bought licenses in the time period following the email marketing campaign, and this is compared to 25,383 hunters in the control group, of which 2,704 bought licenses (Table 3.67). Those who received a marketing email (i.e., any treatment) did not buy at a higher rate than the control group (Table 3.68); the slight difference is not statistically significant.

Table 3.67. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment), Pennsylvania

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (9/12/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (9/12/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (9/12/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (9/12/2018)
Any Treatment (received email)	115,136	12,004	10.4%	103,132	89.6%
Control Group (no email received)	25,383	2,704	10.7%	22,679	89.3%

Table 3.68. Any Treatment Versus Control (No Treatment) Lift Analysis, Pennsylvania

Group	Percent That Purchased a License at Any Time After the First Treatment Date (9/12/2018)	Lift Estimate (Percent Difference Between Treatment and Control Groups)	P-Value	P-Value Significance
Any Treatment (received email)	10.4%	-2.13%	0.29	Not Significant
Control Group (no email received)	10.7%	--	--	--

Difference not statistically significant, Welch Two Sample t-test versus control.

Additionally, the email marketing campaign consisted of an initial email message and a second identical email message sent at approximately the mid-point of the hunting season. Table 3.69 shows the number and percentage of archery license purchases that occurred after the first email treatment date (September 12, 2018) but before the second email treatment date (December 21, 2018), as well as purchases that occurred after the second email. There is very little difference in the license purchase rate between those who received an email and those who did not for both the first email and second email treatment dates.

Table 3.69. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment) by Treatment Date, Pennsylvania

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (9/12/2018)	Number That Purchased a License After the First Treatment Date and Before the Second Treatment Date (9/12/2018 to 12/20/2018)	Percent That Purchased a License After the First Treatment Date and Before the Second Treatment Date (9/12/2018 to 12/20/2018)	Number That Purchased a License After the Second Treatment Date (12/21/2018)	Percent That Purchased a License After the Second Treatment Date (12/21/2018)
Any Treatment (received email)	115,136	12,004	11,827	10.3%	177	0.2%
Control Group (no email received)	25,383	2,704	2,675	10.5%	29	0.1%

The analysis also examined the individual treatment groups (Groups 1 to 9) separately against the control group to assess the effectiveness of the various email marketing messages, shown in Table 3.70. The rate of purchase was higher than the control group for three of the nine treatment groups individually. Group 6 (Recreation) had a higher rate of purchase than the control group. Group 4 (Nature) and Group 2 (Social) had slightly higher rates of purchase than the control group when not rounded (i.e., rounding gives these two groups the same rate of 10.7% as the control group).

Table 3.70. Purchasers of Licenses in the 2018-2019 Season by Treatment Group, Pennsylvania

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (9/12/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (9/12/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (9/12/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (9/12/2018)
Group 1 (Social): <i>Bowhunting in Pennsylvania Is Quality Time—Make Memories This Hunting Season</i> (couple image)	12,879	1,310	10.2%	11,569	89.8%
Group 2 (Social): <i>Bowhunting in Pennsylvania Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	12,850	1,370	10.7%	11,480	89.3%
Group 3 (Social): <i>Bowhunting in Pennsylvania Is Quality Time—Make Memories This Hunting Season</i> (group image)	12,897	1,313	10.2%	11,584	89.8%
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Pennsylvania</i> (deer silhouette image)	12,726	1,366	10.7%	11,360	89.3%
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Pennsylvania</i> (deer silhouette image)	12,825	1,275	9.9%	11,550	90.1%
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Pennsylvania</i> (bowhunter silhouette image)	12,544	1,371	10.9%	11,173	89.1%
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	12,748	1,315	10.3%	11,433	89.7%
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Pennsylvania</i> (target shooter silhouette)	12,803	1,363	10.6%	11,440	89.4%
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Pennsylvania</i> (father and son image)	12,864	1,321	10.3%	11,543	89.7%
Group 10: Control Group (no email received)	25,383	2,704	10.7%	22,679	89.3%

The lift analysis results for all of the treatment groups are summarized in Table 3.71. Significance tests were run using an independent samples t-test. Although three treatment groups showed positive lift, none of them are statistically significant. The one instance of negative lift for Group 5 (Nature) is statistically significant.

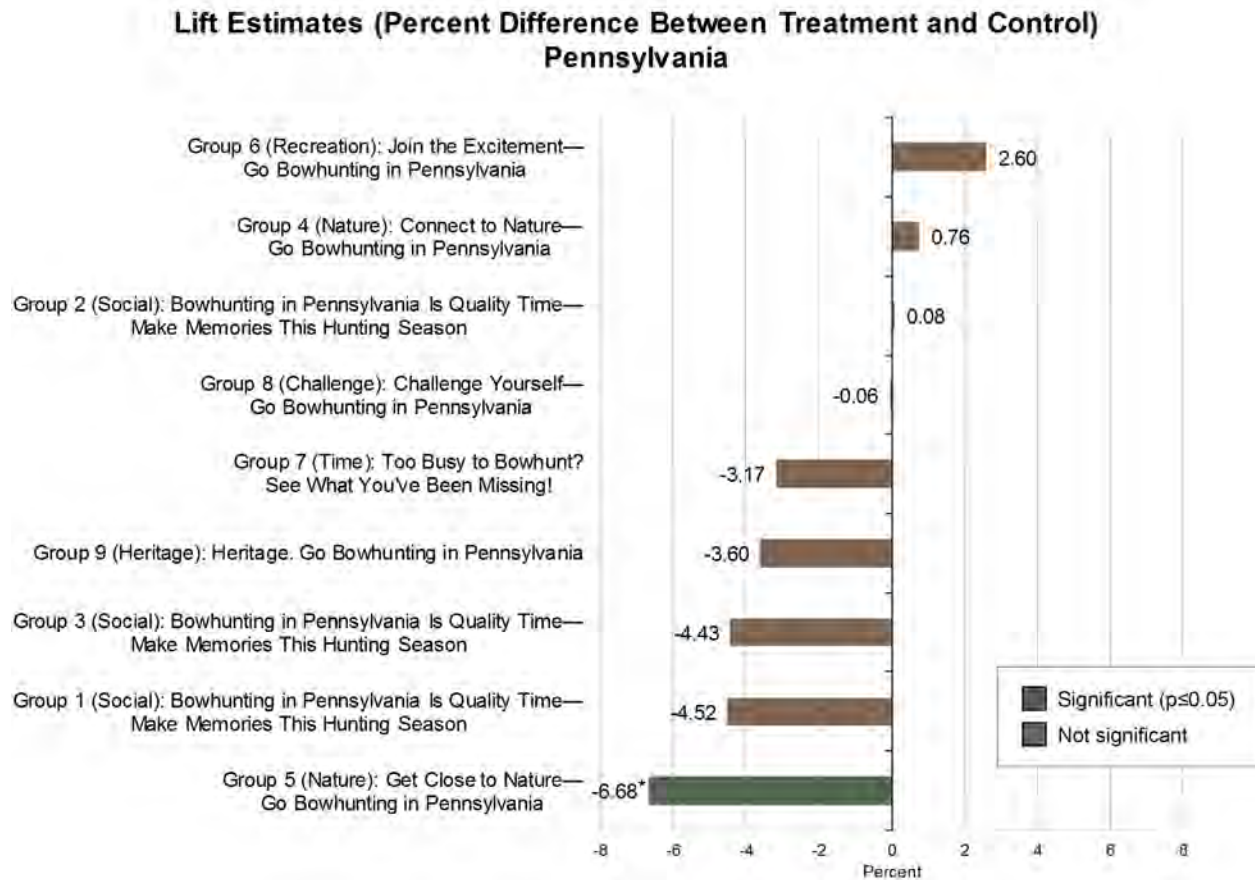
Table 3.71. Treatment Groups Versus Control (No Treatment) Lift Analysis, Pennsylvania

Group	Percent That Purchased a License at Any Time After the First Treatment Date (9/12/2018)	Lift Estimate (Percent Difference Between Treatment and Control Group)	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in Pennsylvania Is Quality Time—Make Memories This Hunting Season</i> (couple image)	10.2%	-4.52%	0.14	Not Significant
Group 2 (Social): <i>Bowhunting in Pennsylvania Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	10.7%	0.08%	0.98	Not Significant
Group 3 (Social): <i>Bowhunting in Pennsylvania Is Quality Time—Make Memories This Hunting Season</i> (group image)	10.2%	-4.43%	0.15	Not Significant
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Pennsylvania</i> (deer silhouette image)	10.7%	0.76%	0.81	Not Significant
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Pennsylvania</i> (deer silhouette image)	9.9%	-6.68%	0.03*	Significant*
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Pennsylvania</i> (bowhunter silhouette image)	10.9%	2.60%	0.41	Not Significant
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	10.3%	-3.17%	0.31	Not Significant
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Pennsylvania</i> (target shooter silhouette)	10.6%	-0.06%	0.98	Not Significant
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Pennsylvania</i> (father and son image)	10.3%	-3.60%	0.25	Not Significant
Group 10: Control Group (no email received)	10.7%	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

The treatment group lift results are summarized in Figure 3.23. Three treatment groups had positive lift results for Pennsylvania, and none are statistically significant. The one instance of negative lift for Group 5 (Nature) is statistically significant.

Figure 3.23. Lift Estimates for Treatment Groups, Pennsylvania



The lift analysis also examined the results for any treatment compared to the control group by age (or generation), summarized in Table 3.72. In Pennsylvania, the Millennial treatment group is the only age category that has positive lift results for any treatment. None of the lift results, positive or negative, are statistically significant.

Table 3.72. Any Treatment Versus Control (No Treatment) Lift Analysis by Age Group, Pennsylvania

Group	Millennials (Ages 18 to 36)				Generation X (Ages 37 to 51)				Baby Boomers (Age 52 and older)			
	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance
Any Treatment (received email)	12.3%	3.17%	0.35	No	11.6%	-4.31%	0.18	No	7.6%	-6.16%	0.12	No
Control Group (no email received)	11.9%	--	--	--	12.1%	--	--	--	8.1%	--	--	--

Differences not statistically significant, Welch Two Sample t-test versus control.

¹ Percent That Purchased a License at Any Time After the First Treatment Date (9/12/2018)

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

The lift analysis results for all of the treatment groups by age are summarized in Table 3.73. In Pennsylvania, Millennials have positive lift results for nearly all treatment groups except Group 1 (Social), but none of the results are statistically significant. Gen Xers and Baby Boomers have negative lift results for nearly all treatment groups. For Gen Xers, the negative lift result for Group 3 (Social) is statistically significant ($p \leq 0.05$), and for Baby Boomers the negative lift for Group 5 (Nature) is statistically significant ($p \leq 0.001$).

Table 3.73. Treatment Groups Versus Control (No Treatment) Lift Analysis by Age Group, Pennsylvania

Group	Millennials (Ages 18 to 36)			Generation X (Ages 37 to 51)			Baby Boomers (Age 52 and older)		
	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in Pennsylvania Is Quality Time—Make Memories This Hunting Season</i> (couple image)	-1.92%	0.71	No	-5.21%	0.29	No	-7.48%	0.22	No
Group 2 (Social): <i>Bowhunting in Pennsylvania Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	6.89%	0.20	No	-5.58%	0.26	No	-0.87%	0.89	No
Group 3 (Social): <i>Bowhunting in Pennsylvania Is Quality Time—Make Memories This Hunting Season</i> (group image)	2.93%	0.58	No	-11.72%	0.02	*	-2.88%	0.64	No
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Pennsylvania</i> (deer silhouette image)	5.93%	0.27	No	-3.40%	0.49	No	-0.13%	0.98	No
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Pennsylvania</i> (deer silhouette image)	0.53%	0.92	No	-1.79%	0.72	No	-23.22%	0.00005***	***
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Pennsylvania</i> (bowhunter silhouette image)	3.18%	0.55	No	2.95%	0.56	No	1.93%	0.76	No
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	1.82%	0.73	No	-2.30%	0.64	No	-10.68%	0.08	No
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Pennsylvania</i> (target shooter)	3.42%	0.52	No	-3.28%	0.51	No	-1.54%	0.81	No
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Pennsylvania</i> (father and son image)	5.72%	0.28	No	-8.23%	0.09	No	-10.25%	0.09	No
Group 10: Control Group (no email received)	--	--	--	--	--	--	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

***Difference statistically significant, $p \leq 0.001$; Welch Two Sample t-test versus control.

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

SOUTH DAKOTA'S RESULTS

Prior to any statistical tests, the raw data were tabulated for analyses. Taking the number in the original sample, the first step in the analysis was to categorize each of these hunters as having purchased a 2018-2019 hunting license or having not purchased a license during the time period following the email marketing campaign (Tables 3.74 to 3.80). While South Dakota has archery permits, the state allows bowhunting during firearms seasons; therefore, all South Dakota licenses that would allow or have the option of hunting with archery equipment were included in the original sample (specifically, this excluded some small game and pheasant licenses), and the analysis was performed on resident license holders from the original sample only.

Based on the data above, statistical tests were run. The tests looked at any treatment at all versus no treatment, as well as each treatment group versus no treatment.

In Tables 3.74 and 3.75, any treatment was compared to the control group. All treatment groups (Groups 1 to 9) combined have 103,433 hunters of which 28,515 bought licenses in the time period following the email marketing campaign, and this is compared to 22,789 hunters in the control group, of which 6,171 bought licenses (Table 3.74). Overall, those who received a marketing email (i.e., any treatment) bought at a slightly higher rate than the control group. However, this difference is not statistically significant (Table 3.75).

Table 3.74. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment), South Dakota

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (8/29/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (8/29/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (8/29/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (8/29/2018)
Any Treatment (received email)	103,433	28,515	27.6%	74,918	72.4%
Control Group (no email received)	22,789	6,171	27.1%	16,618	72.9%

Table 3.75. Any Treatment Versus Control (No Treatment) Lift Analysis, South Dakota

Group	Percent That Purchased a License at Any Time After the First Treatment Date (8/29/2018)	Lift Estimate (Percent Difference Between Treatment and Control Groups)	P-Value	P-Value Significance
Any Treatment (received email)	27.6%	1.81%	0.13	Not Significant
Control Group (no email received)	27.1%	--	--	--

*Difference not statistically significant, Welch Two Sample t-test versus control.

Additionally, the email marketing campaign consisted of an initial email message and a second identical email message sent at approximately the mid-point of the hunting season. Table 3.76 shows the number and percentage of license purchases that occurred after the first email treatment date (August 29, 2018) but before the second email treatment date (November 1, 2018), as well as purchases that occurred after the second email. There is very little difference in the license purchase rate between those who received an email and those who did not for both the first email and second email treatment dates.

Table 3.76. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment) by Treatment Date, South Dakota

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (8/29/2018)	Number That Purchased a License After the First Treatment Date and Before the Second Treatment Date (8/29/2018 to 10/31/2018)	Percent That Purchased a License After the First Treatment Date and Before the Second Treatment Date (8/28/2018 to 10/31/2018)	Number That Purchased a License After the Second Treatment Date (11/1/2018)	Percent That Purchased a License After the Second Treatment Date (11/1/2018)
Any Treatment (received email)	103,433	28,515	24,312	23.5%	4,203	4.1%
Control Group (no email received)	22,789	6,171	5,247	23.0%	924	4.1%

The analysis also examined the individual treatment groups (Groups 1 to 9) separately against the control group to assess the effectiveness of the various email marketing messages, shown in Table 3.77. The rate of purchase was higher than the control group for six of the nine treatment groups individually. The three groups with the highest rate of purchase in South Dakota are Group 6 (Recreation), Group 8 (Challenge), and Group 9 (Heritage).

Table 3.77. Purchasers of Licenses in the 2018-2019 Season by Treatment Group, South Dakota

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (8/29/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (8/29/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (8/29/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (8/29/2018)
Group 1 (Social): <i>Bowhunting in South Dakota Is Quality Time—Make Memories This Hunting Season</i> (couple image)	11,458	3,095	27.0%	8,363	73.0%
Group 2 (Social): <i>Bowhunting in South Dakota Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	11,474	3,089	26.9%	8,385	73.1%
Group 3 (Social): <i>Bowhunting in South Dakota Is Quality Time—Make Memories This Hunting Season</i> (group image)	11,678	3,229	27.7%	8,449	72.3%
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in South Dakota</i> (deer silhouette image)	11,483	3,092	26.9%	8,391	73.1%
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in South Dakota</i> (deer silhouette image)	11,491	3,192	27.8%	8,299	72.2%
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in South Dakota</i> (bowhunter silhouette image)	11,335	3,187	28.1%	8,148	71.9%
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	11,672	3,223	27.6%	8,449	72.4%
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in South Dakota</i> (target shooter silhouette)	11,369	3,194	28.1%	8,175	71.9%
Group 9 (Heritage): <i>Heritage. Go Bowhunting in South Dakota</i> (father and son image)	11,473	3,214	28.0%	8,259	72.0%
Group 10: Control Group (no email received)	22,789	6,171	27.1%	16,618	72.9%

The lift analysis results for all of the treatment groups are summarized in Table 3.78. Significance tests were run using an independent samples t-test. While six treatment groups had a rate of purchase higher than the control group, the analysis found a positive lift for two of those treatment groups to be statistically significant. The two groups with statistically significant positive lift in South Dakota are Group 6 (Recreation) and Group 8 (Challenge).

Table 3.78. Treatment Groups Versus Control (No Treatment) Lift Analysis, South Dakota

Group	Percent That Purchased a License at Any Time After the First Treatment Date (8/29/2018)	Lift Estimate (Percent Difference Between Treatment and Control Group)	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in South Dakota Is Quality Time—Make Memories This Hunting Season</i> (couple image)	27.0%	-0.25%	0.90	Not Significant
Group 2 (Social): <i>Bowhunting in South Dakota Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	26.9%	-0.58%	0.76	Not Significant
Group 3 (Social): <i>Bowhunting in South Dakota Is Quality Time—Make Memories This Hunting Season</i> (group image)	27.7%	2.11%	0.26	Not Significant
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in South Dakota</i> (deer silhouette image)	26.9%	-0.56%	0.77	Not Significant
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in South Dakota</i> (deer silhouette image)	27.8%	2.58%	0.17	Not Significant
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in South Dakota</i> (bowhunter silhouette image)	28.1%	3.83%	0.04*	Significant*
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	27.6%	1.97%	0.29	Not Significant
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in South Dakota</i> (target shooter silhouette)	28.1%	3.75%	0.05*	Significant*
Group 9 (Heritage): <i>Heritage. Go Bowhunting in South Dakota</i> (father and son image)	28.0%	3.45%	0.07	Not Significant
Group 10: Control Group (no email received)	27.1%	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

The treatment group lift results are summarized in Figure 3.24. Six of the nine treatment groups had positive lift results for South Dakota. Lift for two of those treatment groups is statistically significant. The negative lift shown for three groups is not statistically significant. The two groups with statistically significant positive lift in South Dakota are Group 6 (Recreation) and Group 8 (Challenge).

Figure 3.24. Lift Estimates for Treatment Groups, South Dakota

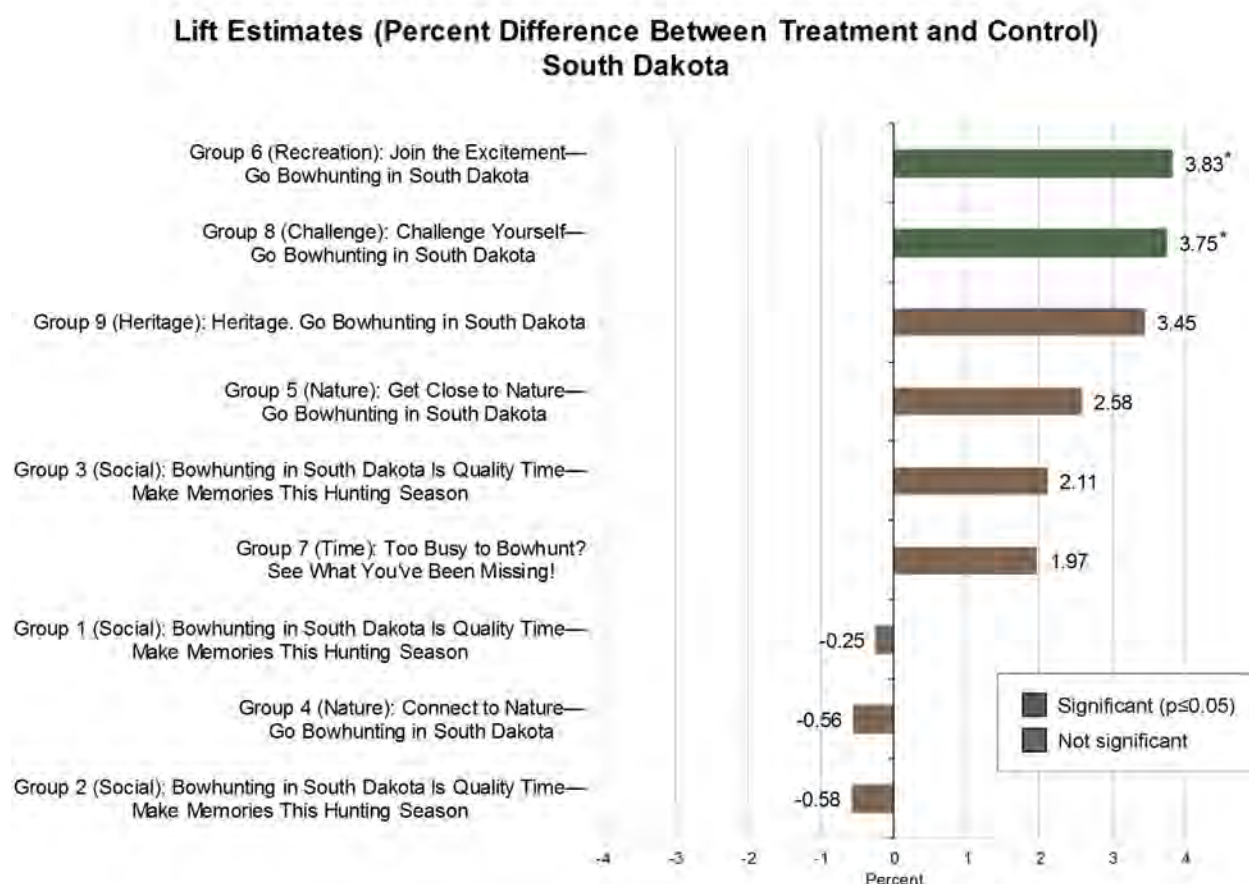



Figure 3.25. Messages With Statistically Significant Positive Lift, South Dakota


Group 6
Recreation Message



Join the Excitement
Go Bowhunting in South Dakota
Bowhunting season is right now!
Get out the weekend ahead of the bowhunting season and share your
moments with us using #SDonthePace.

[Get Your License Today](#)

Group 8
Challenge Message



Challenge Yourself
Go bowhunting in South Dakota
Bowhunting season is upon us!
Don't forget to buy your license if you haven't already.

[Get Your License Today](#)

The lift analysis also examined the results for any treatment compared to the control group by age (or generation), summarized in Table 3.79. In South Dakota, Millennials in the treatment group exhibited the most substantial positive lift, and the difference is statistically significant. Although Baby Boomers show slightly negative lift, the difference is not statistically significant.

Table 3.79. Any Treatment Versus Control (No Treatment) Lift Analysis by Age Group, South Dakota

Group	Millennials (Ages 18 to 36)				Generation X (Ages 37 to 51)				Baby Boomers (Age 52 and older)			
	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance
Any Treatment (received email)	28.6%	4.05%	0.04	*	29.3%	3.00%	0.18	No	25.3%	-1.42%	0.49	No
Control Group (no email received)	27.5%	--	--	--	28.5%	--	--	--	25.6%	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

¹ Percent That Purchased a License at Any Time After the First Treatment Date (8/29/2018)

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

The lift analysis results for all of the treatment groups by age are summarized in Table 3.80. Most notably, the positive lift for Group 9 (Heritage) is statistically significant ($p \leq 0.01$) among Millennials in South Dakota. Group 8 (Challenge) is statistically significant ($p \leq 0.05$) among Gen Xers. There are no statistically significant lift results among Baby Boomers.

Table 3.80. Treatment Groups Versus Control (No Treatment) Lift Analysis by Age Group, South Dakota

Group	Millennials (Ages 18 to 36)			Generation X (Ages 37 to 51)			Baby Boomers (Age 52 and older)		
	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in South Dakota Is Quality Time—Make Memories This Hunting Season</i> (couple image)	0.64%	0.84	No	3.33%	0.34	No	-3.82%	0.23	No
Group 2 (Social): <i>Bowhunting in South Dakota Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	-1.23%	0.69	No	1.48%	0.67	No	-1.55%	0.63	No
Group 3 (Social): <i>Bowhunting in South Dakota Is Quality Time—Make Memories This Hunting Season</i> (group image)	4.14%	0.18	No	4.76%	0.17	No	-1.92%	0.55	No
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in South Dakota</i> (deer silhouette image)	3.07%	0.32	No	1.11%	0.75	No	-5.71%	0.07	No
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in South Dakota</i> (deer silhouette image)	4.80%	0.13	No	1.63%	0.64	No	1.14%	0.72	No
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in South Dakota</i> (bowhunter silhouette image)	4.92%	0.12	No	5.05%	0.15	No	1.82%	0.58	No
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	5.76%	0.06	No	1.70%	0.63	No	-1.77%	0.58	No
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in South Dakota</i> (target shooter silhouette)	5.91%	0.06	No	8.85%	0.012*	*	-2.76%	0.39	No
Group 9 (Heritage): <i>Heritage. Go Bowhunting in South Dakota</i> (father and son image)	8.50	0.007**	**	-0.90%	0.80	No	1.86%	0.57	No
Group 10: Control Group (no email received)	--	--	--	--	--	--	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

**Difference statistically significant, $p \leq 0.01$; Welch Two Sample t-test versus control.

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

Figure 3.26. Message With Statistically Significant Positive Lift Among Millennials, South Dakota

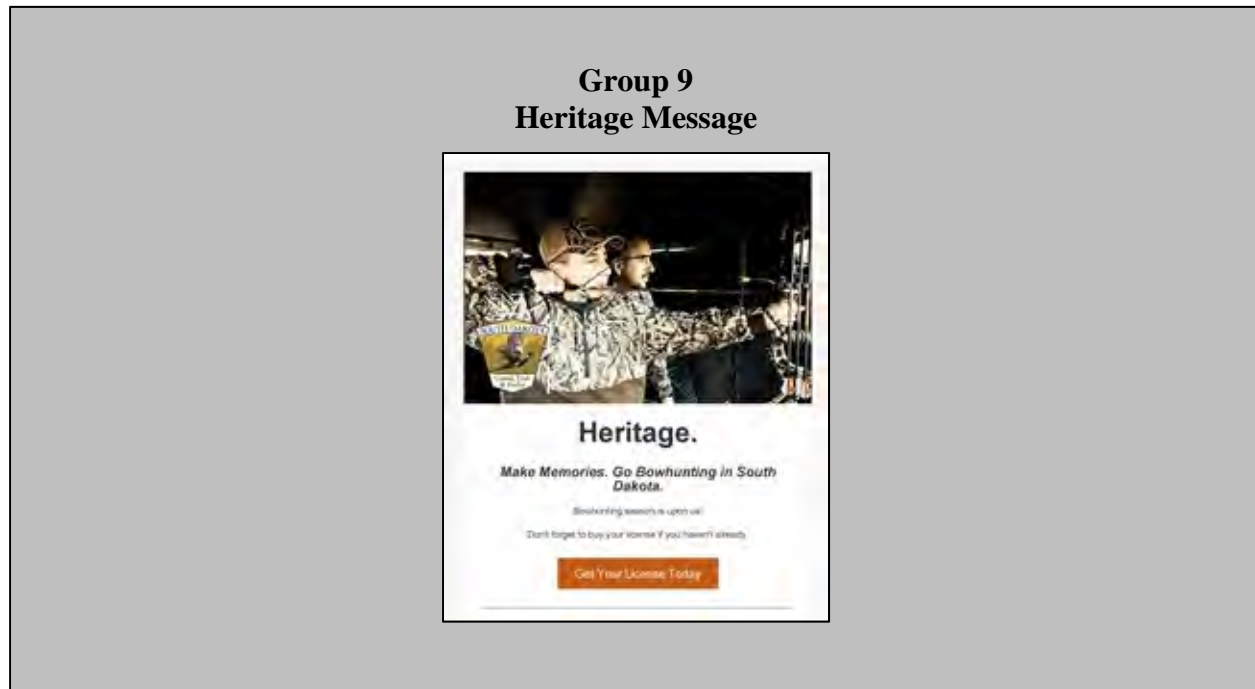
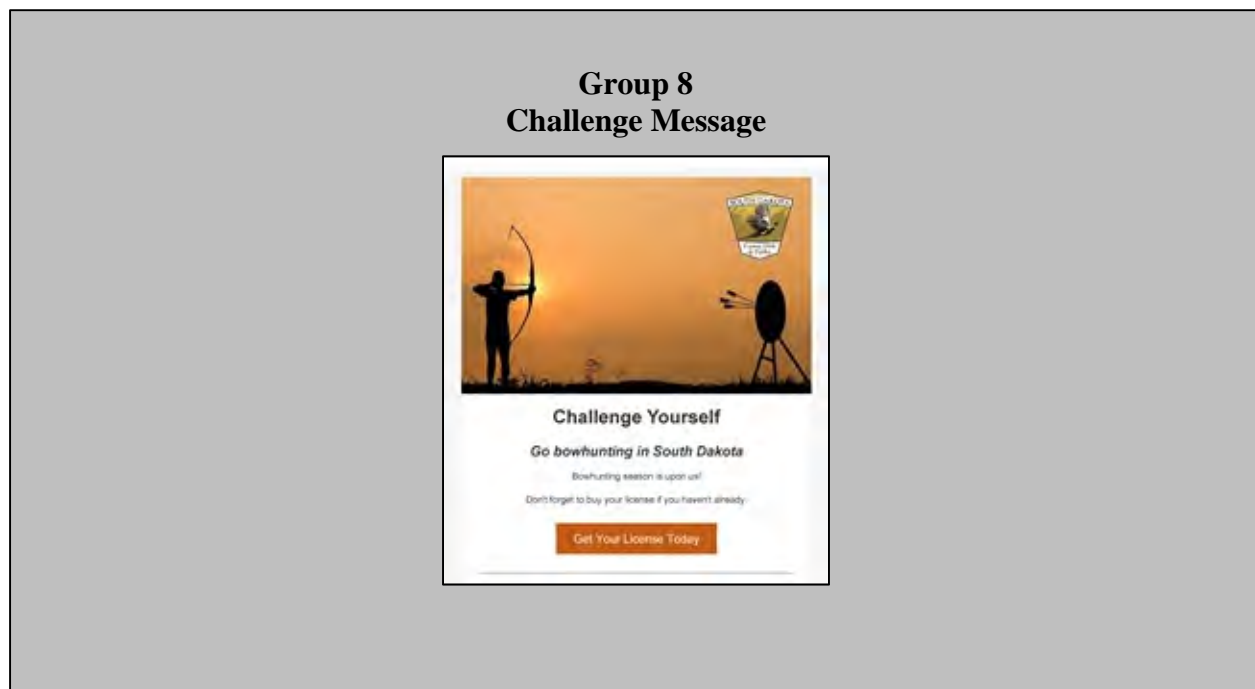


Figure 3.27. Message With Statistically Significant Positive Lift Among Generation X, South Dakota



VIRGINIA'S RESULTS

Prior to any statistical tests, the raw data were tabulated for analyses. Taking the number in the original sample, the first step in the analysis was to categorize each of these hunters as having purchased a 2018-2019 hunting license or having not purchased a license during the time period following the email marketing campaign (Tables 3.81 to 3.87). Only Virginia archery licenses were used, and the analysis was performed on resident license holders from the original sample only.

Based on the data above, statistical tests were run. The tests looked at any treatment at all versus no treatment, as well as each treatment group versus no treatment.

In Tables 3.81 and 3.82, any treatment was compared to the control group. All treatment groups (Groups 1 to 9) combined have 55,407 hunters of which 12,357 bought archery licenses in the time period following the email marketing campaign, and this is compared to 12,130 hunters in the control group, of which 2,804 bought licenses (Table 3.81). Overall, those who received a marketing email (i.e., any treatment) bought at a slightly lower rate than the control group. Although the lift was negative among hunters in the any treatment group, the difference is not statistically significant based on an independent samples t-test (Table 3.82).

Table 3.81. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment), Virginia

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (10/3/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (10/3/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (10/3/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (10/3/2018)
Any Treatment (received email)	55,407	12,357	22.3%	43,050	77.7%
Control Group (no email received)	12,130	2,804	23.1%	9,326	76.9%

Table 3.82. Any Treatment Versus Control (No Treatment) Lift Analysis, Virginia

Group	Percent That Purchased a License at Any Time After the First Treatment Date (10/3/2018)	Lift Estimate (Percent Difference Between Treatment and Control Groups)	P-Value	P-Value Significance
Any Treatment (received email)	22.3%	-3.52%	0.054	Not Significant
Control Group (no email received)	23.1%	--	--	--

Difference not statistically significant, Welch Two Sample t-test versus control.

Additionally, the email marketing campaign consisted of an initial email message and a second identical email message sent at approximately the mid-point of the hunting season. Table 3.83 shows the number and percentage of archery license purchases that occurred after the first email treatment date (October 3, 2018) but before the second email treatment date (November 10, 2018), as well as purchases that occurred after the second email. There is very little difference in the license purchase rate between those who received an email and those who did not for both the first email and second email treatment dates.

Table 3.83. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment) by Treatment Date, Virginia

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (10/3/2018)	Number That Purchased a License After the First Treatment Date and Before the Second Treatment Date (10/3/2018 to 11/9/2018)	Percent That Purchased a License After the First Treatment Date and Before the Second Treatment Date (10/3/2018 to 11/9/2018)	Number That Purchased a License After the Second Treatment Date (11/10/2018)	Percent That Purchased a License After the Second Treatment Date (11/10/2018)
Any Treatment (received email)	55,407	12,357	11,517	20.8%	840	1.5%
Control Group (no email received)	12,130	2,804	2,612	21.5%	192	1.6%

The analysis also examined the individual treatment groups (Groups 1 to 9) separately against the control group to assess the effectiveness of the various email marketing messages, shown in Table 3.84. In Virginia, the rate of purchase was higher than the control group for one message: Group 5 (Nature), *Get Close to Nature—Go Bowhunting in Virginia*.

Table 3.84. Purchasers of Licenses in the 2018-2019 Season by Treatment Group, Virginia

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date (10/3/2018)	Percent That Purchased a License at Any Time After the First Treatment Date (10/3/2018)	Number That Did Not Purchase a License at Any Time After the First Treatment Date (10/3/2018)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date (10/3/2018)
Group 1 (Social): <i>Bowhunting in Virginia Is Quality Time—Make Memories This Hunting Season</i> (couple image)	6,112	1,309	21.4%	4,803	78.6%
Group 2 (Social): <i>Bowhunting in Virginia Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	6,134	1,366	22.3%	4,768	77.7%
Group 3 (Social): <i>Bowhunting in Virginia Is Quality Time—Make Memories This Hunting Season</i> (group image)	6,267	1,349	21.5%	4,918	78.5%
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Virginia</i> (deer silhouette image)	6,135	1,359	22.2%	4,776	77.8%
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Virginia</i> (deer silhouette image)	6,221	1,473	23.7%	4,748	76.3%
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Virginia</i> (bowhunter silhouette image)	6,141	1,400	22.8%	4,741	77.2%
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	6,120	1,358	22.2%	4,762	77.8%
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Virginia</i> (target shooter silhouette)	6,152	1,360	22.1%	4,792	77.9%
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Virginia</i> (father and son image)	6,125	1,383	22.6%	4,742	77.4%
Group 10: Control Group (no email received)	12,130	2,804	23.1%	9,326	76.9%

The lift analysis results for all of the treatment groups are summarized in Table 3.85. Significance tests were run using an independent samples t-test. The lift results were positive for Group 5 (Nature), although the difference is not statistically significant. The remaining treatment groups all have negative lift. Two instances of negative lift are statistically significant: Group 1 (Social) and Group 3 (Social).

Table 3.85. Treatment Groups Versus Control (No Treatment) Lift Analysis, Virginia

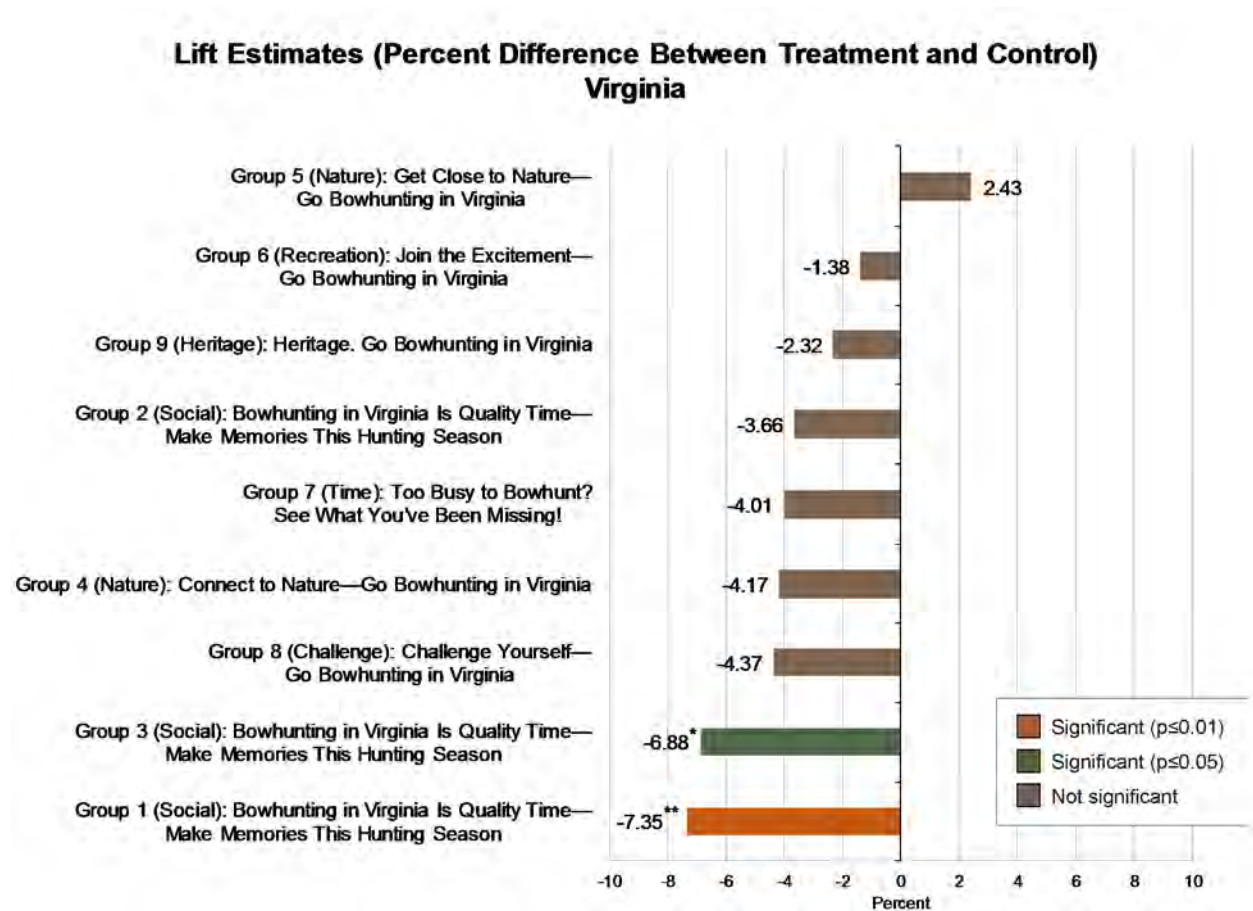
Group	Percent That Purchased a License at Any Time After the First Treatment Date (10/3/2018)	Lift Estimate (Percent Difference Between Treatment and Control Group)	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in Virginia Is Quality Time—Make Memories This Hunting Season</i> (couple image)	21.4%	-7.35%	0.009**	Significant**
Group 2 (Social): <i>Bowhunting in Virginia Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	22.3%	-3.66%	0.20	Not Significant
Group 3 (Social): <i>Bowhunting in Virginia Is Quality Time—Make Memories This Hunting Season</i> (group image)	21.5%	-6.88%	0.014*	Significant*
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Virginia</i> (deer silhouette image)	22.2%	-4.17%	0.14	Not Significant
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Virginia</i> (deer silhouette image)	23.7%	2.43%	0.40	Not Significant
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Virginia</i> (bowhunter silhouette image)	22.8%	-1.38%	0.63	Not Significant
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	22.2%	-4.01%	0.16	Not Significant
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Virginia</i> (target shooter silhouette)	22.1%	-4.37%	0.12	Not Significant
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Virginia</i> (father and son image)	22.6%	-2.32%	0.41	Not Significant
Group 10: Control Group (no email received)	23.1%	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

**Difference statistically significant, $p \leq 0.01$; Welch Two Sample t-test versus control.

The treatment group lift results are summarized in Figure 3.28. As discussed previously, Group 5 (Nature) had positive lift results for Virginia but is not statistically significant. Two instances of negative lift are statistically significant: Group 1 (Social) and Group 3 (Social).

Figure 3.28. Lift Estimates for Treatment Groups, Virginia



The lift analysis also examined the results for any treatment compared to the control group by age (or generation), summarized in Table 3.86. For each age group in Virginia, there is negative lift, meaning that the license purchase rate of those who received an email is slightly less than those who did not receive an email in the same age group; however, none of the differences are statistically significant.

Table 3.86. Any Treatment Versus Control (No Treatment) Lift Analysis by Age Group, Virginia

Group	Millennials (Ages 18 to 36)				Generation X (Ages 37 to 51)				Baby Boomers (Age 52 and older)			
	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance
Any Treatment (received email)	24.2%	-2.52%	0.39	No	23.1%	-2.31%	0.46	No	19.3%	-6.68%	0.06	No
Control Group (no email received)	24.8%	--	--	--	23.6%	--	--	--	20.7%	--	--	--

Differences not statistically significant, Welch Two Sample t-test versus control.

¹ Percent That Purchased a License at Any Time After the First Treatment Date (10/3/2018)

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

The lift analysis results for all of the treatment groups by age are summarized in Table 3.87. Most commonly, each age group has more treatment groups with negative lift results than with positive lift results in Virginia. Negative lift results indicate that the treatment group purchased licenses at a lower rate than the control group. The Baby Boomers group is the only age category that has statistically significant lift results, and those significant lift results are negative: Group 1 (Social), Group 3 (Social), and Group 4 (Nature) (each at $p \leq 0.05$). The lift results for all other treatment groups in each age category, positive or negative, are not statistically significant.

Table 3.87. Treatment Groups Versus Control (No Treatment) Lift Analysis by Age Group, Virginia

Group	Millennials (Ages 18 to 36)			Generation X (Ages 37 to 51)			Baby Boomers (Age 52 and older)		
	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance
Group 1 (Social): <i>Bowhunting in Virginia Is Quality Time—Make Memories This Hunting Season</i> (couple image)	-5.29%	0.24	No	-4.93%	0.31	No	-13.05%	0.013*	*
Group 2 (Social): <i>Bowhunting in Virginia Is Quality Time—Make Memories This Hunting Season</i> (father and son image)	-2.55%	0.57	No	-4.86%	0.32	No	-4.47%	0.41	No
Group 3 (Social): <i>Bowhunting in Virginia Is Quality Time—Make Memories This Hunting Season</i> (group image)	-6.36%	0.16	No	-4.29%	0.37	No	-10.83%	0.04*	*
Group 4 (Nature): <i>Connect to Nature—Go Bowhunting in Virginia</i> (deer silhouette image)	0.47%	0.92	No	-2.91%	0.55	No	-12.13%	0.02*	*
Group 5 (Nature): <i>Get Close to Nature—Go Bowhunting in Virginia</i> (deer silhouette image)	0.84%	0.85	No	3.53%	0.47	No	2.87%	0.60	No
Group 6 (Recreation): <i>Join the Excitement—Go Bowhunting in Virginia</i> (bowhunter silhouette image)	-0.63%	0.89	No	1.71%	0.73	No	-6.41%	0.23	No
Group 7 (Time): <i>Too Busy to Bowhunt? See What You've Been Missing!</i> (man on phone and bowhunter silhouette images)	1.02%	0.82	No	-6.73%	0.17	No	-8.45%	0.12	No
Group 8 (Challenge): <i>Challenge Yourself—Go Bowhunting in Virginia</i> (target shooter silhouette)	-7.80%	0.08	No	0.90%	0.85	No	-6.24%	0.25	No
Group 9 (Heritage): <i>Heritage. Go Bowhunting in Virginia</i> (father and son image)	-2.48%	0.59	No	-3.42%	0.48	No	-1.15%	0.83	No
Group 10: Control Group (no email received)	--	--	--	--	--	--	--	--	--

*Difference statistically significant, $p \leq 0.05$; Welch Two Sample t-test versus control.

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

OVERALL RESULTS

In addition to running data for each state, an analysis was run of all states together: Alabama, Georgia, Iowa, Kentucky, Maryland, Nebraska, New Jersey, New Mexico (Fall Turkey season), New Mexico (Javelina season), Oklahoma, Pennsylvania, South Dakota, and Virginia. As was done for each state, the raw data were tabulated for analyses.

The first step in the overall analysis was to categorize each of these hunters as having purchased a hunting license or having not purchased a license in each state's time period among the license types included for that state. Based on the data, statistical tests were run. The tests looked at any treatment at all versus no treatment, as well as each treatment group versus no treatment (Tables 3.88 to 3.93).

In Tables 3.88 and 3.89, any treatment was compared to the control group. All treatment groups (Groups 1 to 9 for all participating states) combined have 1,062,233 hunters of which 248,559 bought licenses in the time period following the email marketing campaign, and this is compared to 228,339 hunters total for the control groups of all states, of which 53,368 bought licenses (Table 3.88). Overall, those who received a marketing email (i.e., any treatment) did not buy a license at a higher rate than the control group (Table 3.89).

Table 3.88. Purchasers of Licenses in the 2018-2019 Season for Any Treatment Versus Control (No Treatment), Overall

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date	Percent That Purchased a License at Any Time After the First Treatment Date	Number That Did Not Purchase a License at Any Time After the First Treatment Date	Percent That Did Not Purchase a License at Any Time After the First Treatment Date
Any Treatment (received email)	1,062,233	248,559	23.4%	813,674	76.6%
Control Group (no email received)	228,339	53,368	23.4%	174,971	76.6%

Table 3.89. Any Treatment Versus Control (No Treatment) Lift Analysis, Overall

Group	Percent That Purchased a License at Any Time After the First Treatment Date	Lift Estimate (Percent Difference Between Treatment and Control Groups)	P-Value	P-Value Significance
Any Treatment (received email)	23.4%	0.12%	0.78	Not Significant
Control Group (no email received)	23.4%	--	--	--

Difference not statistically significant, Welch Two Sample t-test versus control.

The analysis also examined the individual treatment groups (Groups 1 to 9) separately against the control group to assess the effectiveness of the various email marketing messages, shown in Tables 3.90 and 3.91.

Note that while most states used the same email theme, image, and headline, occasionally a state would use a different photo as appropriate for the state and/or species season. Most notably, Georgia and New Mexico implemented changes.

Georgia used some different images for several messages and combined headlines so that Group 6 used both the recreation and nature themes together in a single email. Georgia also tweaked headlines for several other messages. For the overall analysis, the messages were still identifiable by theme and included in the corresponding treatment group for each message.

New Mexico implemented two different email marketing campaigns, using an image of a turkey for the fall turkey season and an image of a javelina for the javelina season for both the Group 4 and Group 5 Nature messages. The emails with the turkey images and the emails with the javelina images still used the same headlines for the Group 4 and Group 5 messages, respectively, and were included in the corresponding group for the analysis.

The rate of purchase was higher than the control group for six of the nine treatment groups individually (when not rounded). The three groups with the highest rate of purchase overall are Group 6 (Recreation; Mixed Recreation/Nature in Georgia), Group 9 (Heritage), and Group 4 (Nature) (Table 3.90).

Table 3.90. Purchasers of Licenses in the 2018-2019 Season by Treatment Group, Overall

Group	Number in Original Sample	Number That Purchased a License at Any Time After the First Treatment Date	Percent That Purchased a License at Any Time After the First Treatment Date	Number That Did Not Purchase a License at Any Time After the First Treatment Date)	Percent That Did Not Purchase a License at Any Time After the First Treatment Date
Group 1 (Social)	118,412	27,457	23.2%	90,955	76.8%
Group 2 (Social)	118,466	27,645	23.3%	90,821	76.7%
Group 3 (Social)	119,158	27,910	23.4%	91,248	76.6%
Group 4 (Nature)	117,511	27,576	23.5%	89,935	76.5%
Group 5 (Nature)	118,378	27,694	23.4%	90,684	76.6%
Group 6 (Recreation)	116,213	27,392	23.6%	88,821	76.4%
Group 7 (Time)	118,025	27,473	23.3%	90,552	76.7%
Group 8 (Challenge)	117,844	27,607	23.4%	90,237	76.6%
Group 9 (Heritage)	118,226	27,805	23.5%	90,421	76.5%
Group 10: Control Group (no email received)	228,339	53,368	23.4%	174,971	76.6%

The lift analysis results for all of the treatment groups are summarized in Table 3.91. Significance tests were run using an independent samples t-test. While six treatment groups had a rate of purchase slightly higher than the control group and three treatment groups had a rate of purchase slightly lower than the control group, none of the results are statistically significant overall. Again, the three groups with the highest rate of purchase overall are Group 6 (Recreation; Mixed Recreation/Nature in Georgia), Group 9 (Heritage), and Group 4 (Nature).

Table 3.91. Treatment Groups Versus Control (No Treatment) Lift Analysis, Overall

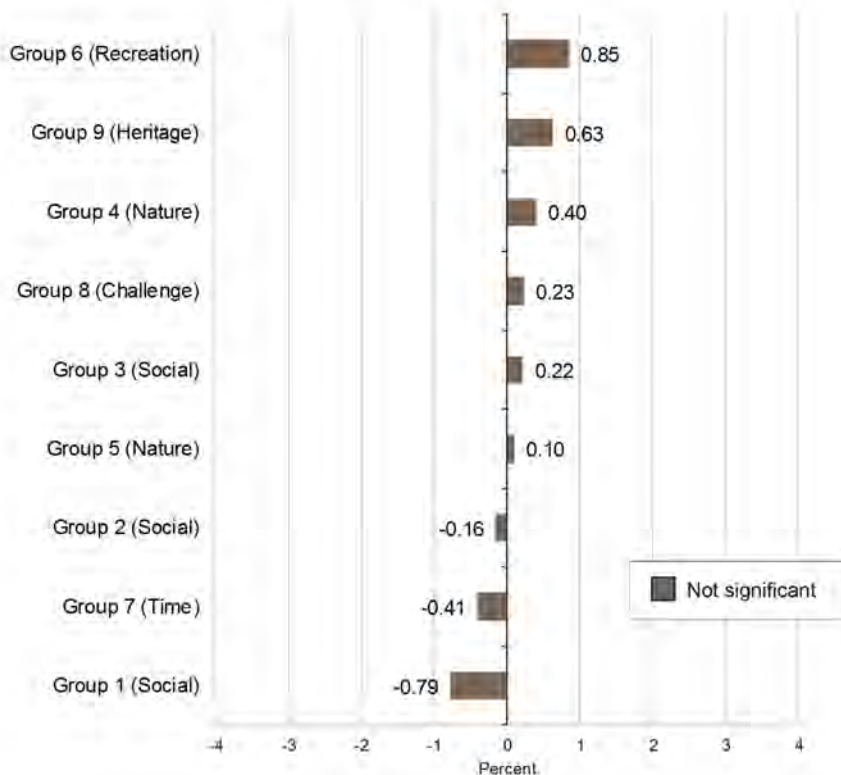
Group	Percent That Purchased a License at Any Time After the First Treatment Date (9/29/2018)	Lift Estimate (Percent Difference Between Treatment and Control Group)	P-Value	P-Value Significance
Group 1 (Social)	23.2%	-0.79%	0.22	Not Significant
Group 2 (Social)	23.3%	-0.16%	0.81	Not Significant
Group 3 (Social)	23.4%	0.22%	0.74	Not Significant
Group 4 (Nature)	23.5%	0.40%	0.53	Not Significant
Group 5 (Nature)	23.4%	0.10%	0.88	Not Significant
Group 6 (Recreation)	23.6%	0.85%	0.19	Not Significant
Group 7 (Time)	23.3%	-0.41%	0.53	Not Significant
Group 8 (Challenge)	23.4%	0.23%	0.72	Not Significant
Group 9 (Heritage)	23.5%	0.63%	0.34	Not Significant
Group 10: Control Group (no email received)	23.4%	--	--	--

Differences not statistically significant, Welch Two Sample t-test versus control.

The treatment group lift results are summarized in Figure 3.29. Six treatment groups had a rate of purchase slightly higher than the control group, and three treatment groups had a rate of purchase slightly lower than the control group. As discussed previously, none of the results are statistically significant. The three groups with the highest rate of purchase overall are Group 6 (Recreation; Mixed Recreation/Nature in Georgia), Group 9 (Heritage), and Group 4 (Nature).

Figure 3.29. Lift Estimates for Treatment Groups, Overall

**Lift Estimates (Percent Difference Between Treatment and Control)
Overall (All States)**



The lift analysis also examined the results for any treatment compared to the control group by age (or generation), summarized in Table 3.92. There is very little difference in the license purchase rate between those who received an email and those who did not for each age category. None of the results are statistically significant.

Table 3.92. Any Treatment Versus Control (No Treatment) Lift Analysis by Age Group, Overall

Group	Millennials (Ages 18 to 36)				Generation X (Ages 37 to 51)				Baby Boomers (Age 52 and older)			
	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance	Percent That Purchased ¹	Lift Estimate ²	P-Value	P-Value Significance
Any Treatment (received email)	26.5%	0.00%	0.21	No	28.9%	0.00%	0.55	No	24.1%	0.00%	0.40	No
Control Group (no email received)	26.7%	--	--	--	28.8%	--	--	--	23.9%	--	--	--

Differences not statistically significant, Welch Two Sample t-test versus control.

¹ Percent That Purchased a License at Any Time After the First Treatment Date (date varies by state)

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

The lift analysis results for all of the treatment groups by age are summarized in Table 3.93. About half of the treatment groups across all the age categories have a positive lift, and the other treatment groups have negative lift. None of the results are statistically significant.

Table 3.93. Treatment Groups Versus Control (No Treatment) Lift Analysis by Age Group, Overall

Group	Millennials (Ages 18 to 36)			Generation X (Ages 37 to 51)			Baby Boomers (Age 52 and older)		
	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance	Lift Estimate ²	P-Value	P-Value Significance
Group 1 (Social)	0.06%	0.95	No	-1.16%	0.26	No	-1.50%	0.20	No
Group 2 (Social)	-0.44%	0.64	No	-0.50%	0.63	No	0.45%	0.70	No
Group 3 (Social)	0.55%	0.56	No	-0.73%	0.47	No	-0.38%	0.75	No
Group 4 (Nature)	1.20%	0.21	No	-0.94%	0.36	No	-0.59%	0.62	No
Group 5 (Nature)	0.59%	0.53	No	-0.07%	0.95	No	0.05%	0.97	No
Group 6 (Recreation)	1.57%	0.10	No	0.50%	0.63	No	-0.22%	0.85	No
Group 7 (Time)	1.75%	0.06	No	-0.77%	0.45	No	-1.79%	0.12	No
Group 8 (Challenge)	0.42%	0.66	No	-0.42%	0.68	No	-0.29%	0.81	No
Group 9 (Heritage)	1.16%	0.22	No	0.59%	0.57	No	-1.39%	0.27	No
Group 10: Control Group (no email received)	--	--	--	--	--	--	--	--	--

Differences not statistically significant, Welch Two Sample t-test versus control.

² Lift Estimate (Percent Difference Between Treatment and Control Groups)

CHAPTER 4. SURVEY RESULTS

For Phase II, all hunters in the initial database used for the email marketing campaign in each participating state were invited via email to participate in a survey to assess awareness of and opinions on the messages they received. The survey was available to all hunters within the 12 states who had ever bowhunted. Note, however, that the survey was closed—only those who were in the initial database and specifically invited to participate in the survey could do so. It was not an open survey in which anybody surfing or searching the Internet could participate.

Those who had bowhunted in the state of interest within the past 5 years were asked about their recall of and opinions on the email marketing campaign messages, while those who had ever bowhunted but had not done so in the state of interest within the past 5 years received an abbreviated, relevant version of the survey. The survey includes bowhunters who received one of the nine possible email treatments (hereinafter referred to as “treatment bowhunters”) and those who did not receive an email treatment (“control bowhunters”) (see Table 1.1). Hunters in the database who had never bowhunted were not administered the survey.

Survey results are presented in one of two ways. For questions that are asked of bowhunters collectively, regardless of their state, the statewide results are shown side-by-side for comparison: the first graph of results shows the western states (South Dakota, Iowa, Nebraska, New Mexico, and Oklahoma), followed by a second graph showing results from the eastern states (Pennsylvania, New Jersey, Maryland, Kentucky, Virginia, Alabama, and Georgia). The western and eastern graphs both present the states in geographical order. On the other hand, several survey questions are tailored to bowhunters from a specific state (particularly those related to the email treatments), in which case the results are shown for each state individually. When the results are shown with one state per graph, the states are presented in alphabetical order for quick and easy reference.

Regardless of the type of presentation, survey results are being presented at a state-specific level, without being combined to show bowhunters overall. (In other words, the results are being presented as 12 statewide surveys rather than a national one.) Therefore, it was not necessary to weight the demographic or regional characteristics of statewide results to reflect bowhunters nationwide.

This section first looks at treatment bowhunters’ recall of receiving the emails, followed by bowhunters’ recall of the treatments and actions taken based on the treatments. Additional sections examine ratings of the emails and associated headlines and images, effectiveness of the emails, and hunting participation.

RECALL OF THE EMAIL MARKETING CAMPAIGN MESSAGE

Bowhunters in the nine email marketing campaign treatment groups (treatment bowhunters) were asked whether they recall receiving an email from their state agency (note that the specific state agency was used in the wording of the question). The question did not specify which email theme, only that it was an email encouraging bowhunting participation and license purchasing.

Overall, a minority of treatment bowhunters in each state recall receiving an email from the agency encouraging them to go bowhunting and to buy a license. Approximately 20% to 30% of bowhunters who received an email in each state recall receiving the email. Notable exceptions with more substantial recall are Oklahoma (40% recall receiving an email) among the western states and New Jersey (43%) among the eastern states. (See Figures 4.1 and 4.2.)

Figure 4.1. General Recall of Receiving an Email, Western Bowhunters

Do you recall receiving an email from the [state agency] that specifically encouraged you to go bowhunting and to buy a hunting license to do so?
(Asked of all email treatment bowhunters.)
(Western bowhunters)

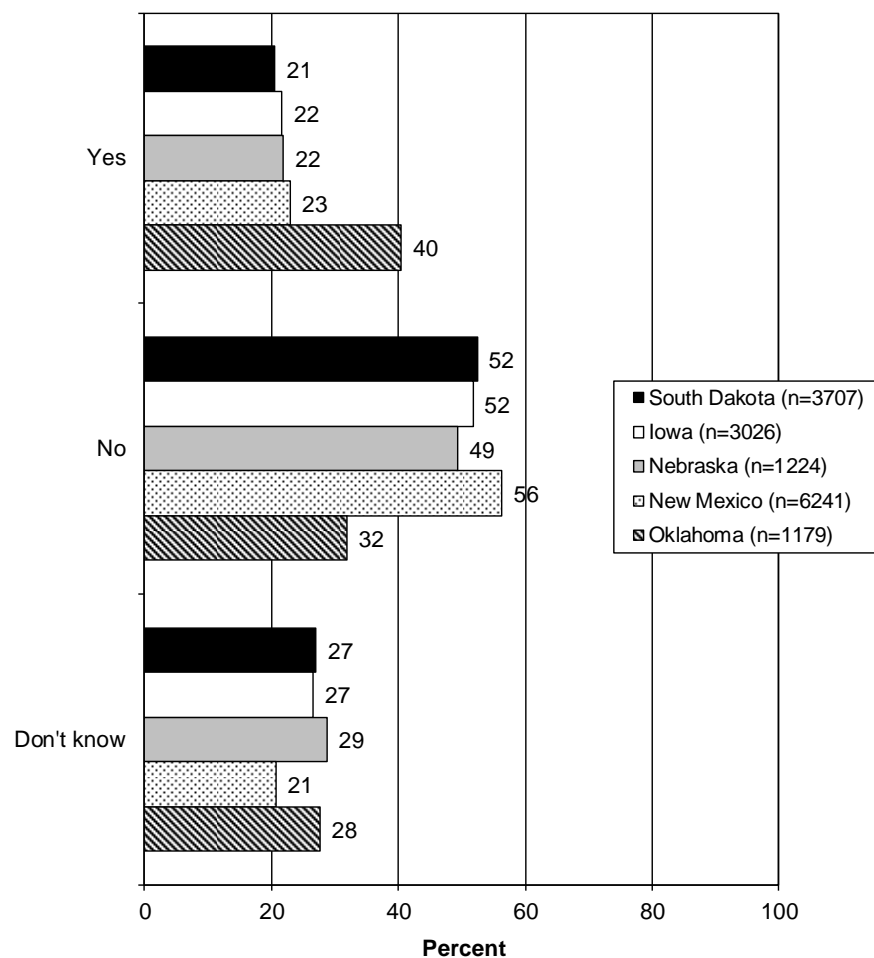
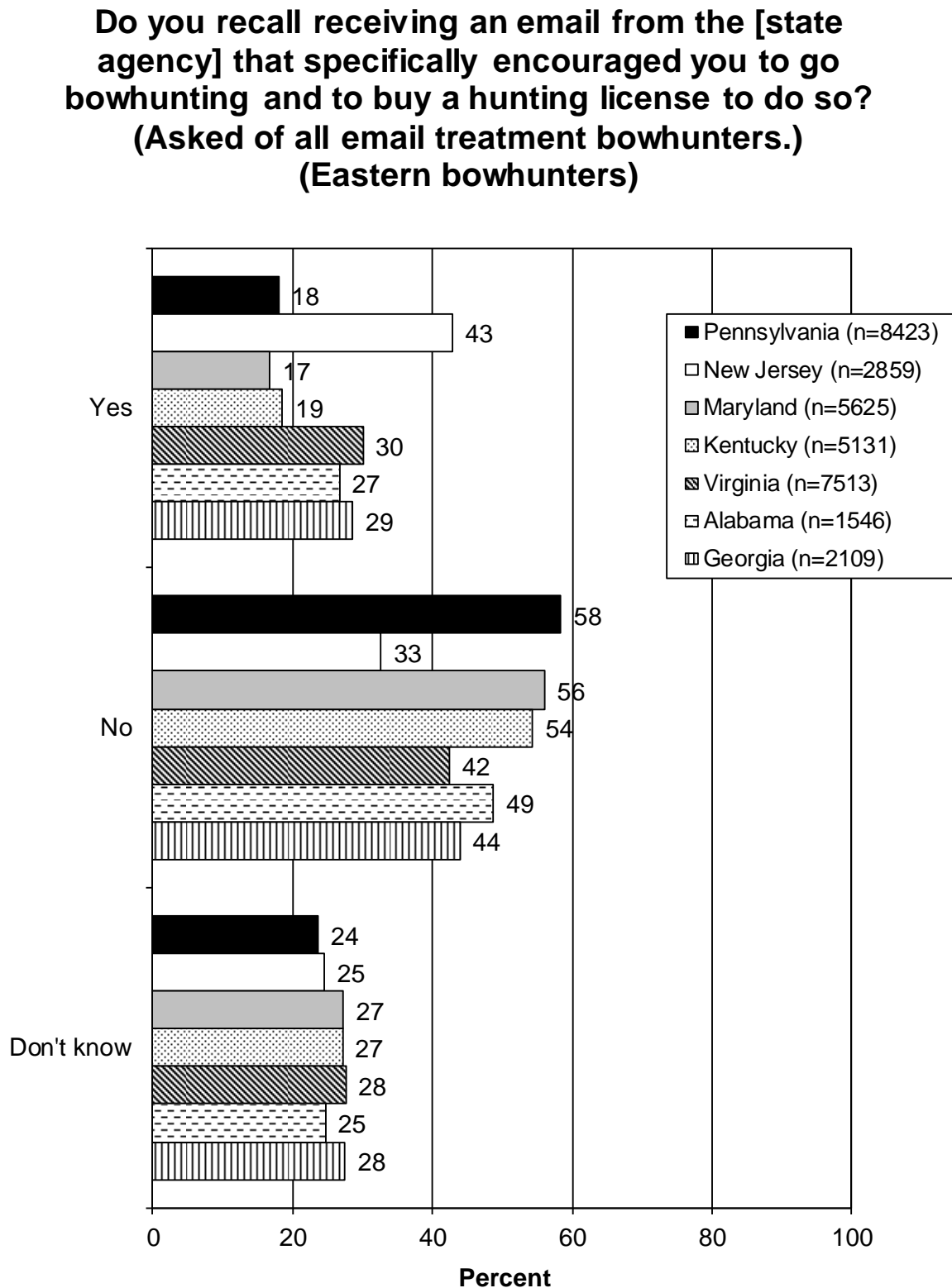


Figure 4.2. General Recall of Receiving an Email, Eastern Bowhunters

General recall of receiving a bowhunting email from the state agency was also examined among the age (or generation) groups for this study. While it is not a sizable difference, it is worth noting that Millennials are slightly more likely to recall receiving an email, particularly among the western states. Baby Boomers are slightly more likely to say they do *not* recall receiving an email; this pattern was consistent across most of the 12 states, (Figures 4.3 and 4.4).

Figure 4.3. General Recall of Receiving an Email, Western Bowhunters by Age Group

Do you recall receiving an email from the [state agency] that specifically encouraged you to go bowhunting and to buy a hunting license to do so?
(Asked of email treatment bowhunters.)
(Western bowhunters)

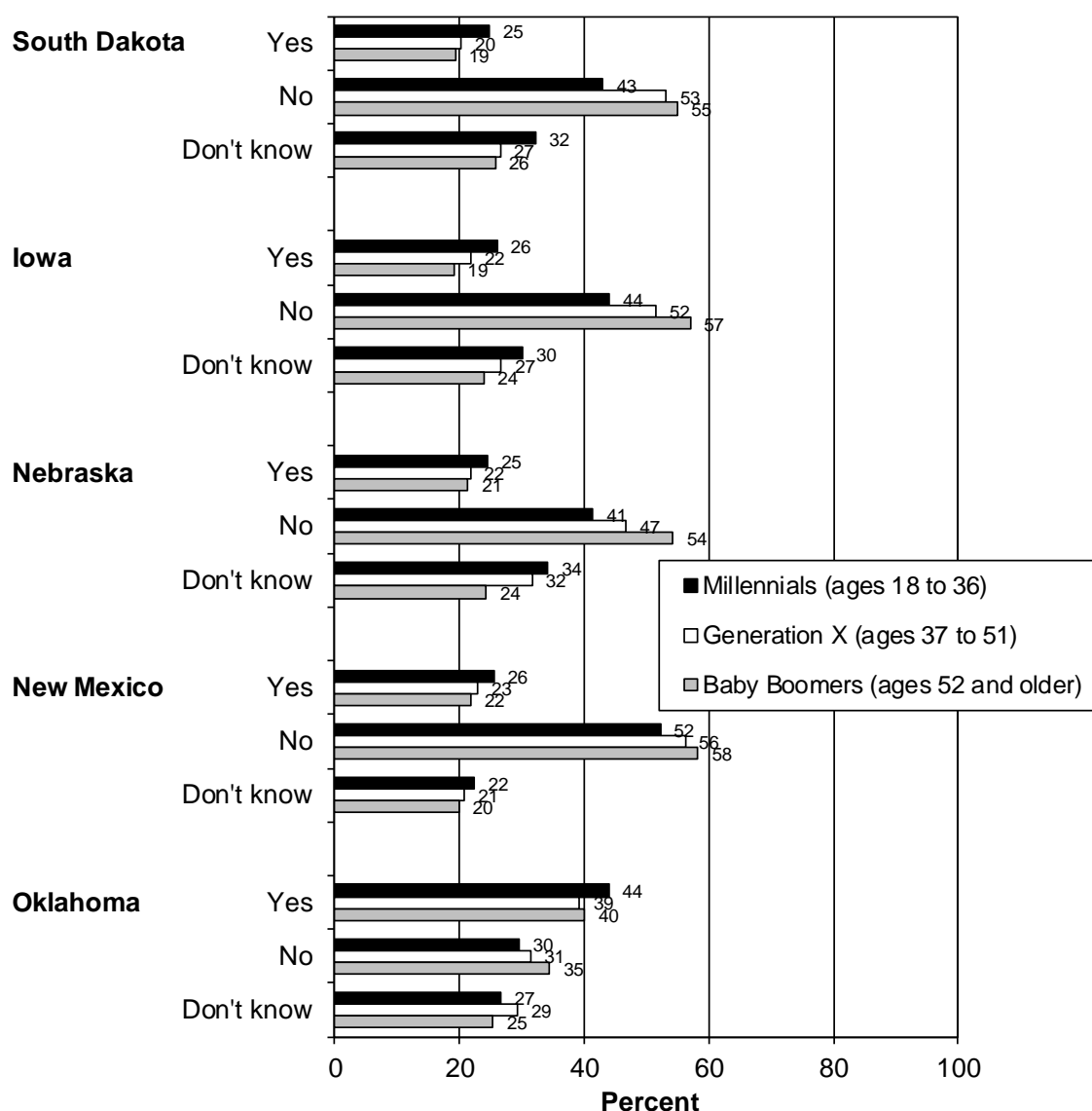
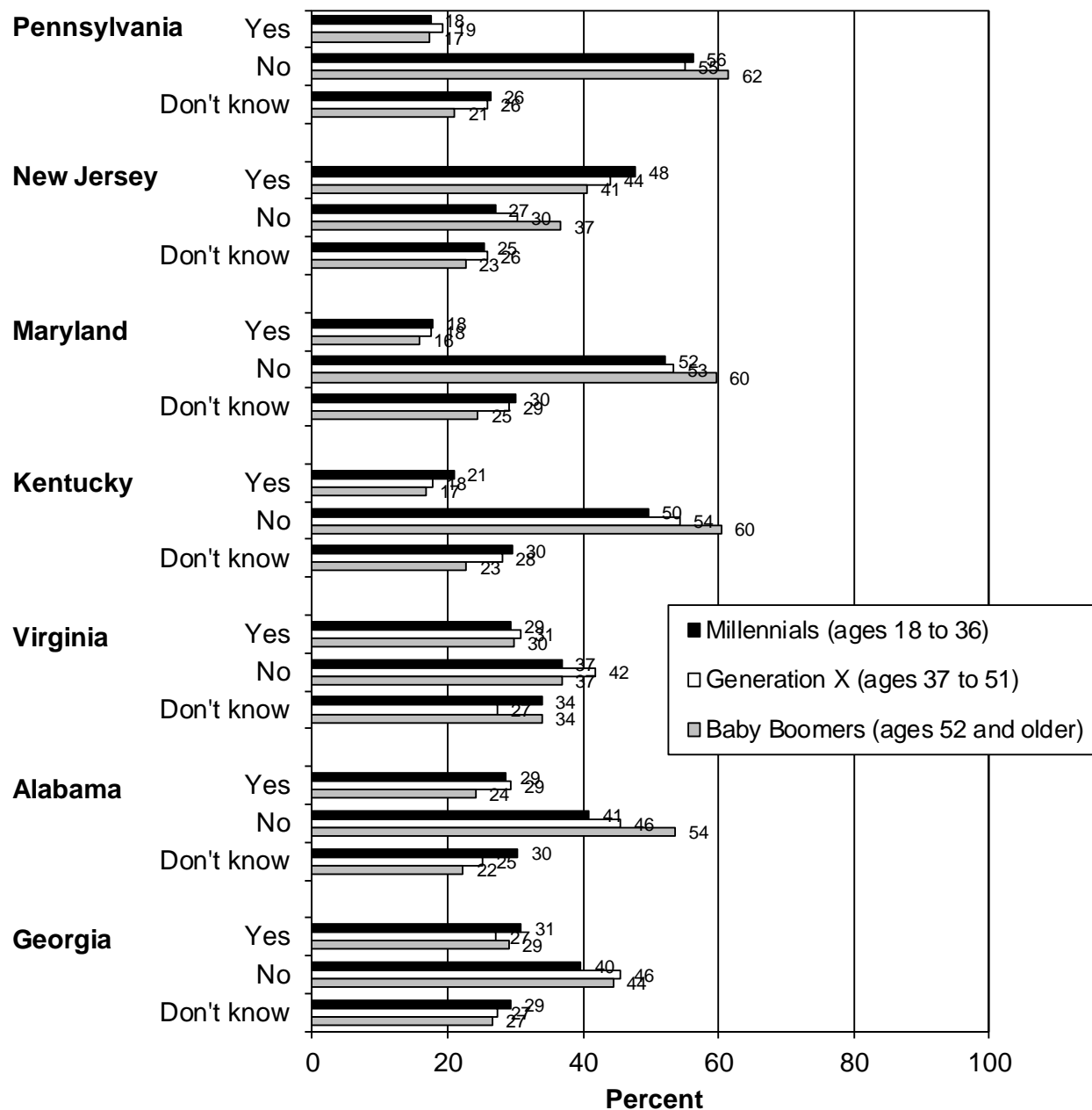


Figure 4.4. General Recall of Receiving an Email, Eastern Bowhunters by Age Group

Do you recall receiving an email from the [state agency] that specifically encouraged you to go bowhunting and to buy a hunting license to do so?
(Asked of email treatment bowhunters.)
(Eastern bowhunters)



To further assess bowhunters' recollections of the email marketing campaign messages that were sent to them, treatment bowhunters were presented with the nine different emails that were sent out in their state and were asked to identify the email that they had received. Note that *all* treatment bowhunters were informed that an email message about bowhunting had been sent and were asked to identify the email, regardless of whether they had initially recalled receiving an email. The expectation was that seeing images of the emails, including the one they had received, would potentially cause all treatment bowhunters to recall receiving and accurately identify the message they had received.

After being shown all nine treatment emails for the appropriate state, roughly half of treatment bowhunters in each state indicated that they received an email about bowhunting from the state agency but they are not sure which one they received among the options. This top response is consistent across the states, with 40% to 60% giving this answer. The second most common answer in each state is that they definitely did *not* receive an email, with approximately 20% to 40% giving this answer. Across the states, approximately 20% identified a specific email they recall receiving. Nonetheless, this means that—after being shown images of the emails to help recall—about 60% to 80% recall receiving an email message.

Although the percentages of those who indicate recalling the specific email message received are low, Message 1 (Social) is among the top two email messages recalled in each state and the top email recalled in 9 of the 12 states. Message 4 (Nature) is also one of the most commonly recalled, followed by Message 6 (Recreation). (Note that these results do not indicate whether the respondent *accurately* recalled the message received, only that, when presented with the options, this is the message they think they received.)

Results for each state are shown individually on the following pages in Figures 4.5 to 4.16.

Figure 4.5. Email Recall, Alabama

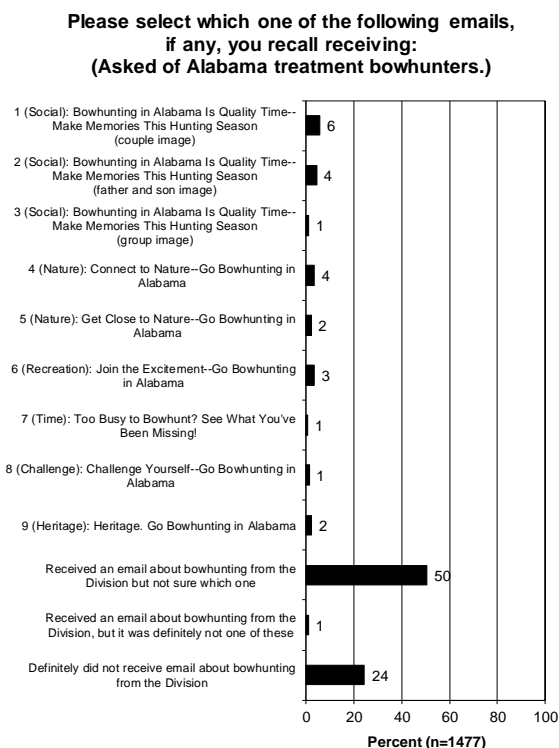


Figure 4.6. Email Recall, Georgia

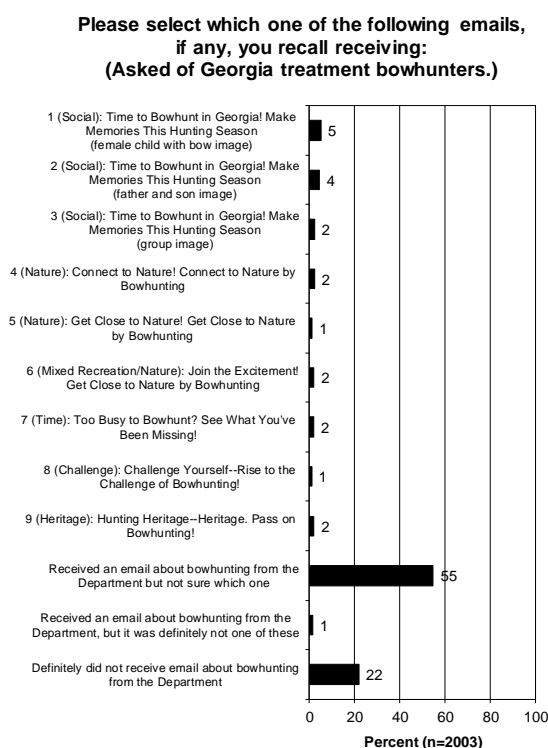


Figure 4.7. Email Recall, Iowa

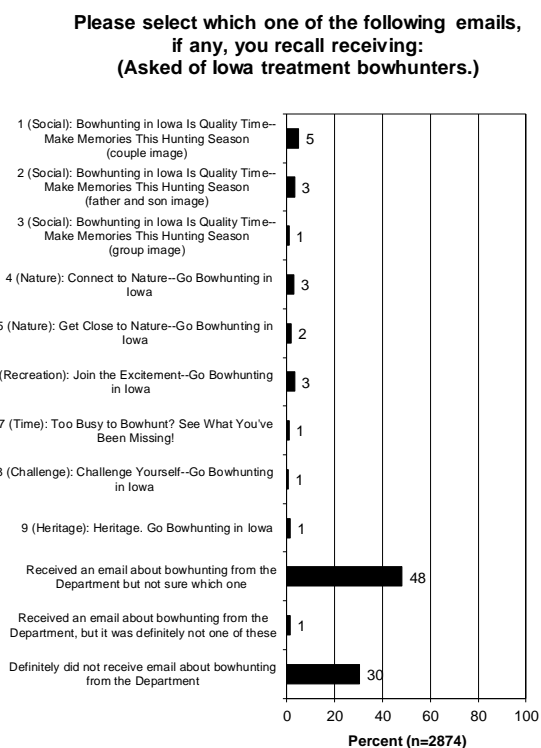


Figure 4.8. Email Recall, Kentucky

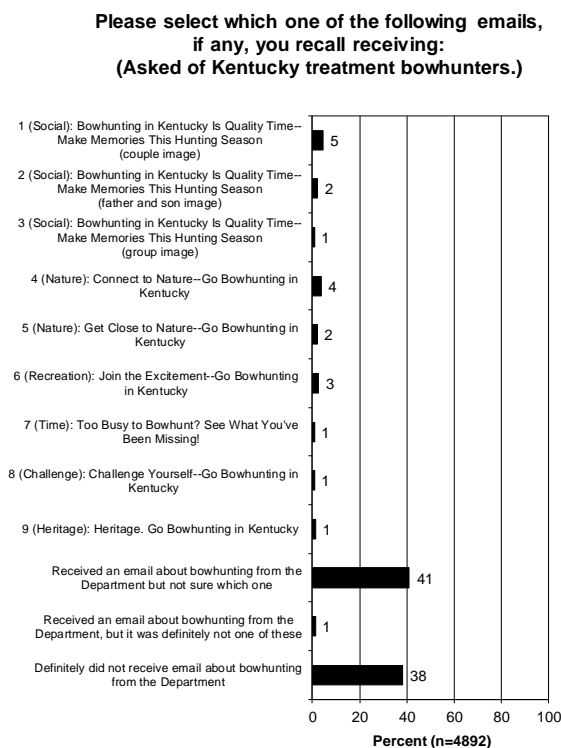


Figure 4.9. Email Recall, Maryland

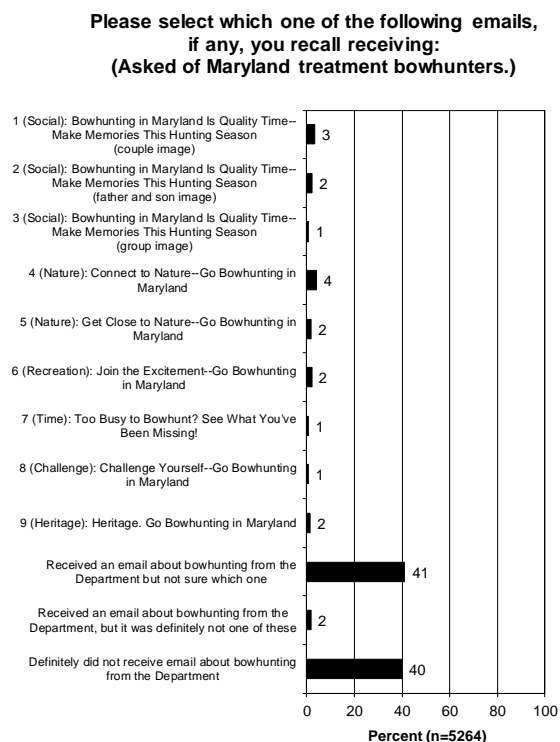


Figure 4.10. Email Recall, Nebraska

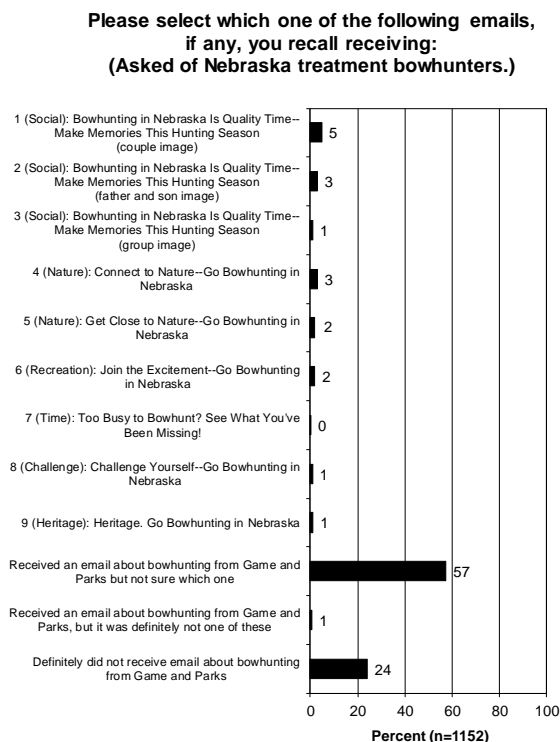


Figure 4.11. Email Recall, New Jersey

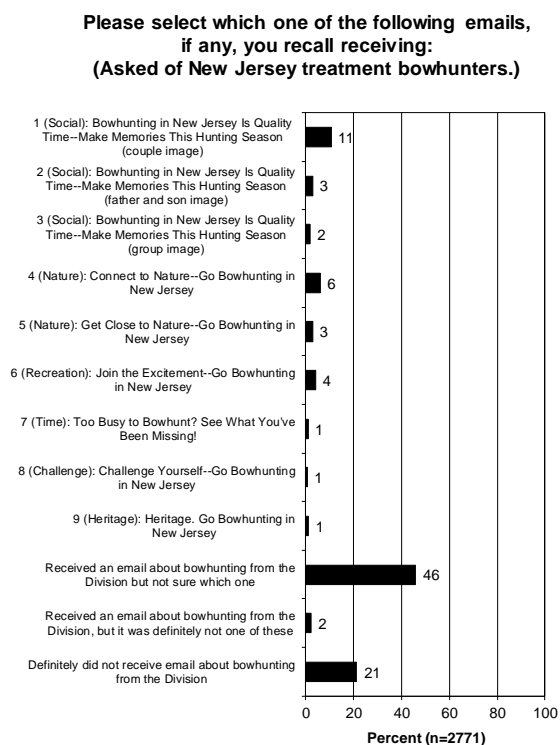


Figure 4.12. Email Recall, New Mexico

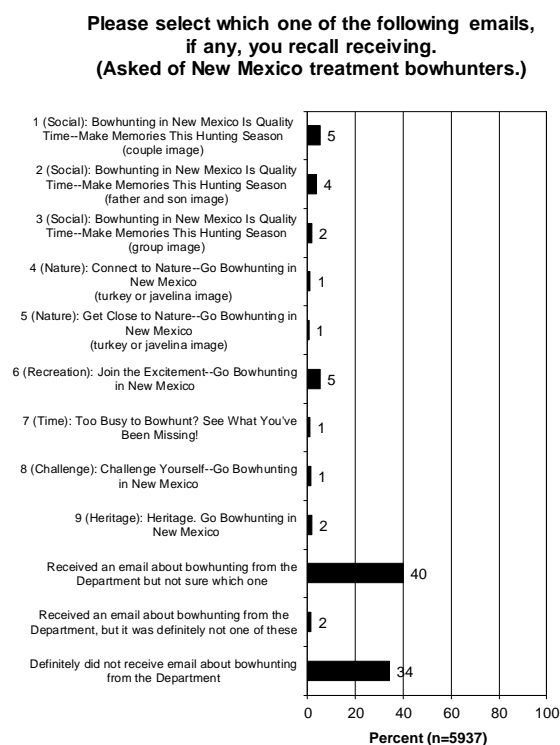


Figure 4.13. Email Recall, Oklahoma

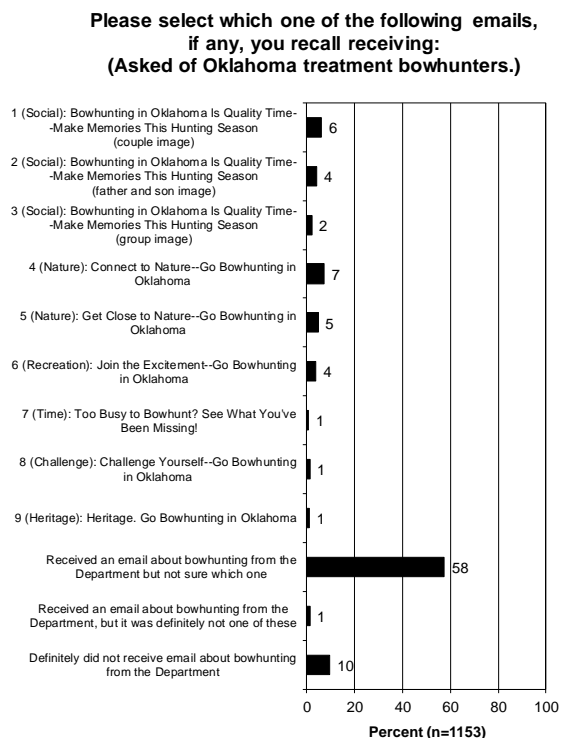


Figure 4.14. Email Recall, Pennsylvania

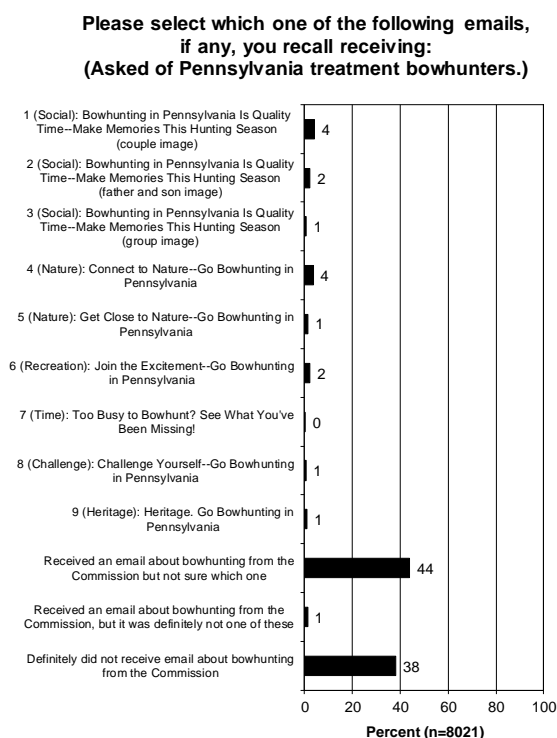


Figure 4.15. Email Recall, South Dakota

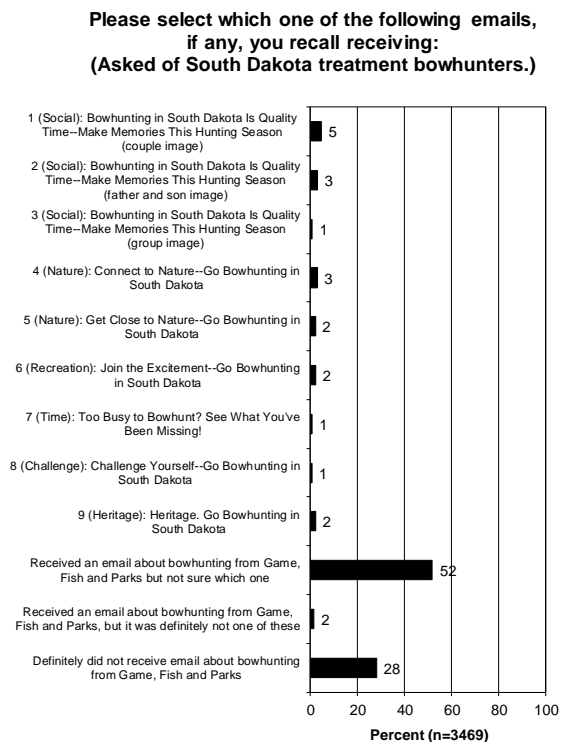
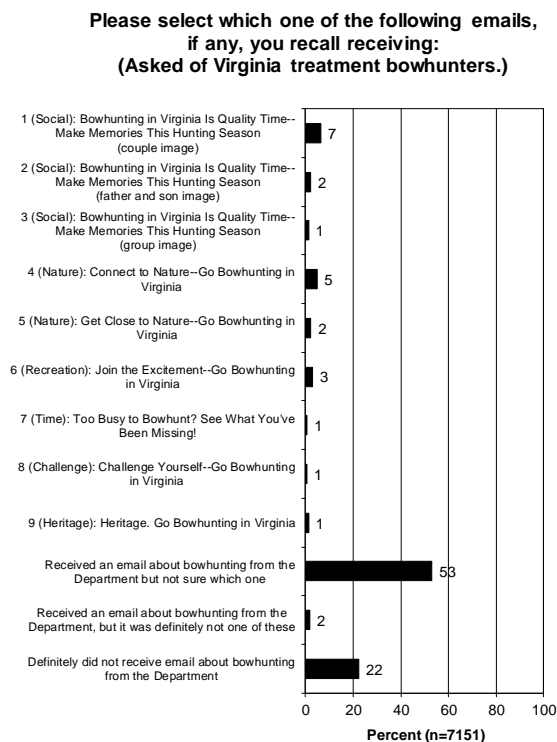


Figure 4.16. Email Recall, Virginia



Next, the survey results were analyzed to determine the percentages of treatment bowhunters *who received each email and correctly identified that email as the one they received*. Note that these percentages are not among all treatment bowhunters but rather among only those within each message treatment group. For example, Figure 4.18 indicates that 12% of those who did actually receive Group 1 (Social) Message in Alabama accurately identified that message as the one they received. Likewise, 9% of those who did actually receive Group 2 (Social) Message in Alabama correctly identified it as the message they received, and so on for each treatment group.

Although the percentages of those who correctly recall the specific email they received are low, Group 1 (Social) Message is again among the top two email messages, with it being among the top two messages correctly recalled in each state and the email most often correctly recalled in 9 of the 12 states. Group 2 (Social) Message and Group 6 (Recreation) Message are the next two most common correctly recalled messages across the states.

The highest rate of correct recall is in New Jersey, with 25% of Group 1 treatment bowhunters correctly identifying the Group 1 (Social) Message they received and 14% of Group 4 treatment bowhunters correctly identifying the Group 4 (Nature) Message they received (Figure 4.24). Note that in most other states the highest percentage correctly identifying the message they received was approximately 10% to 12%. New Mexico also had a slightly higher rate of correct recall in comparison to other states with two treatment groups having correct recall in double digits: Group 6 (Recreation) (13%) and Group 1 (Social) (12%) (Figure 4.25).

Results for each state are shown individually in Figures 4.18 to 4.29.

Figure 4.17. Messages With the Highest Rates of Correct Recall

Group 1 Social Message
(New Jersey is used as an example.)



Group 2 Social Message
(Iowa is used as an example.)



Group 6 Recreation Message
(New Mexico is used as an example.)



Figure 4.18. Correct Recall, Alabama

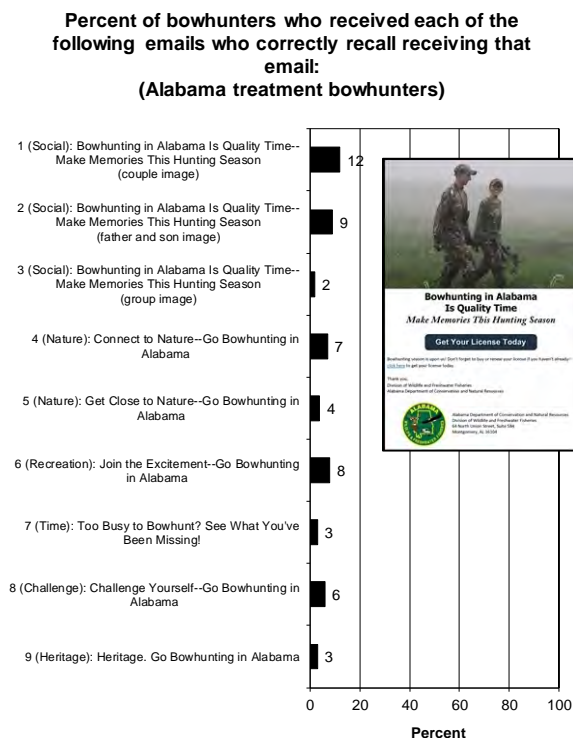


Figure 4.19. Correct Recall, Georgia

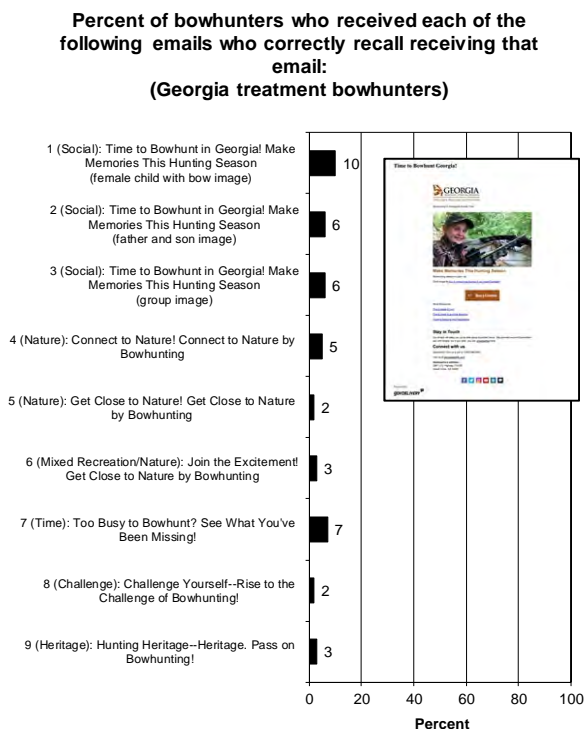


Figure 4.20. Correct Recall, Iowa

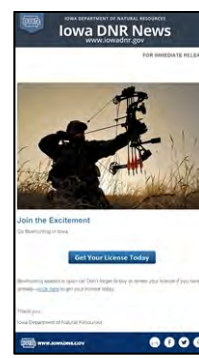
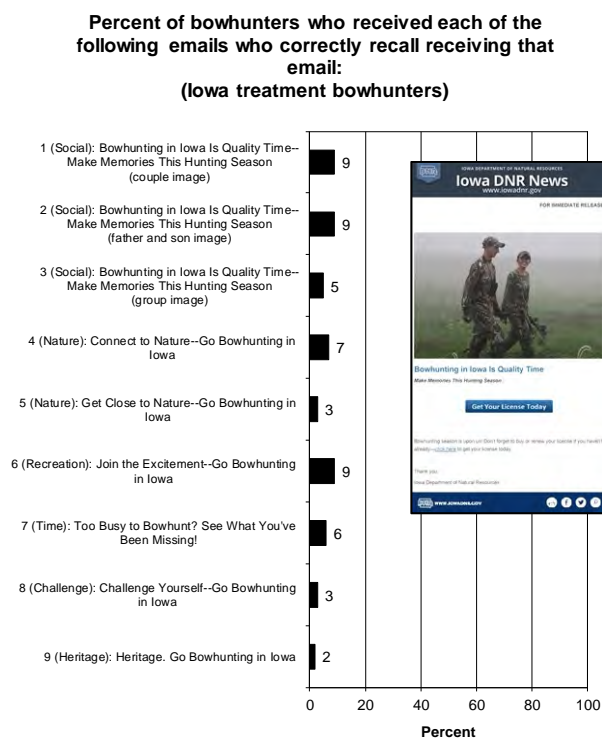


Figure 4.21. Correct Recall, Kentucky

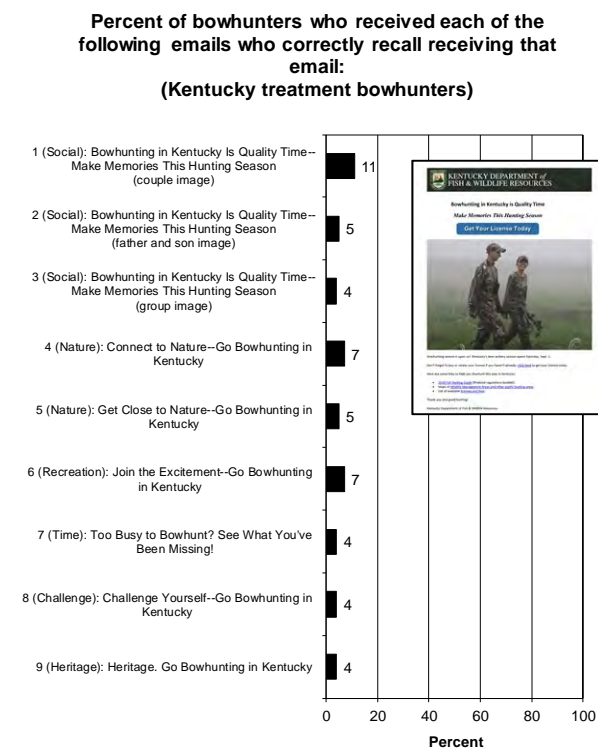


Figure 4.22. Correct Recall, Maryland

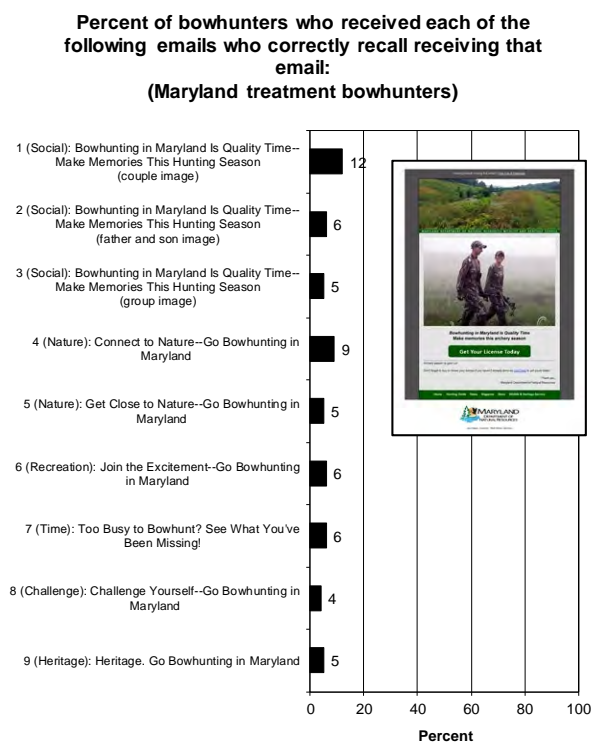


Figure 4.23. Correct Recall, Nebraska

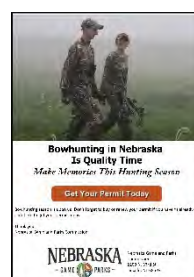


Figure 4.24. Correct Recall, New Jersey

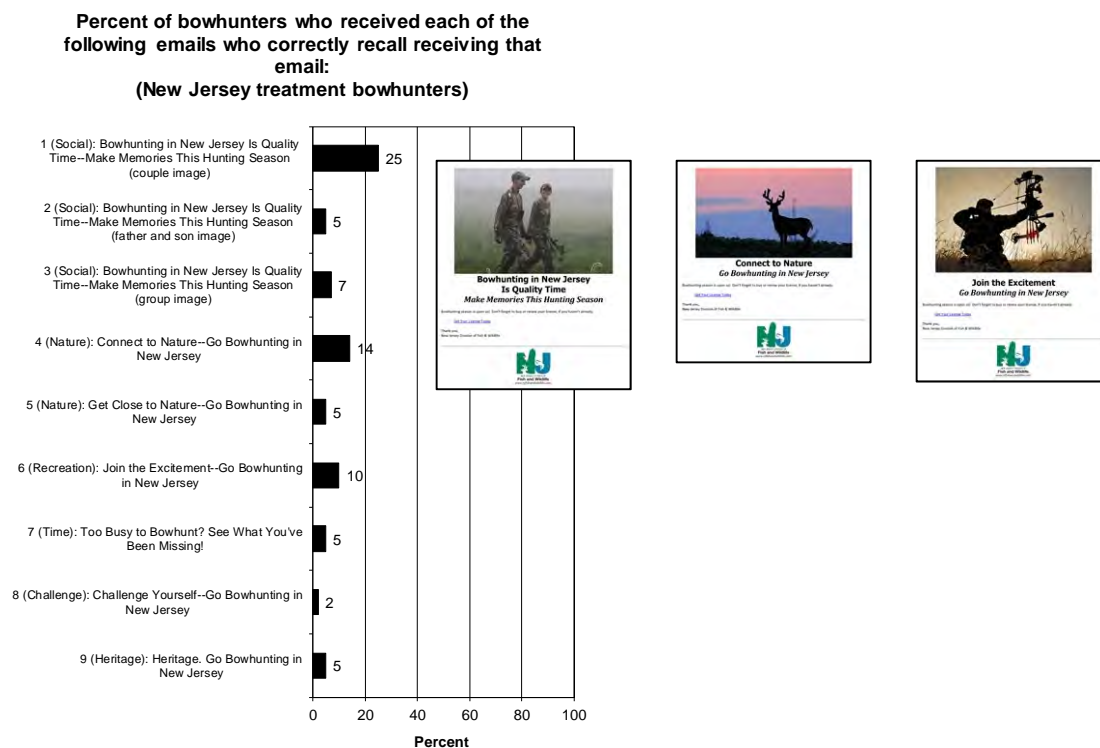


Figure 4.25. Correct Recall, New Mexico



Figure 4.26. Correct Recall, Oklahoma

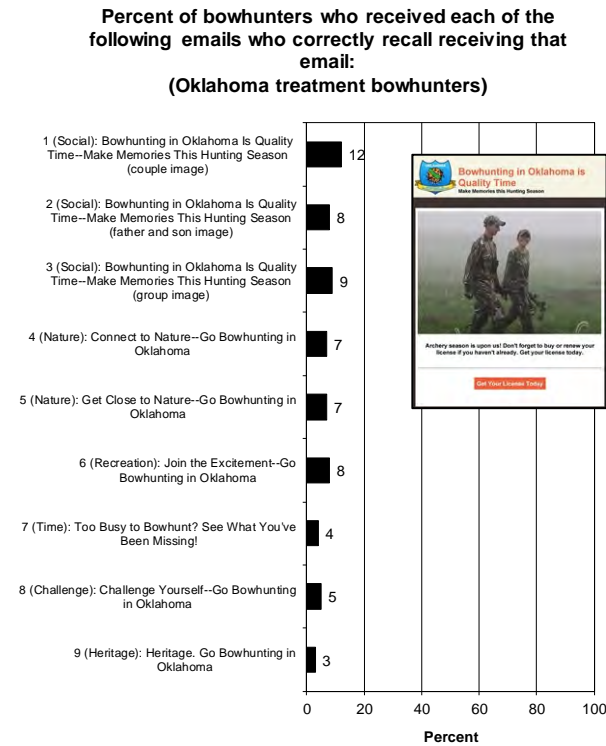


Figure 4.27. Correct Recall, Pennsylvania

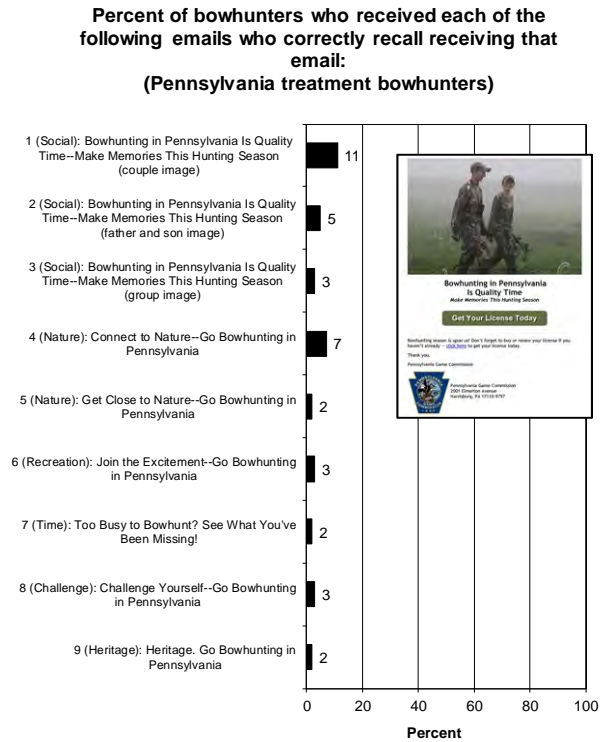
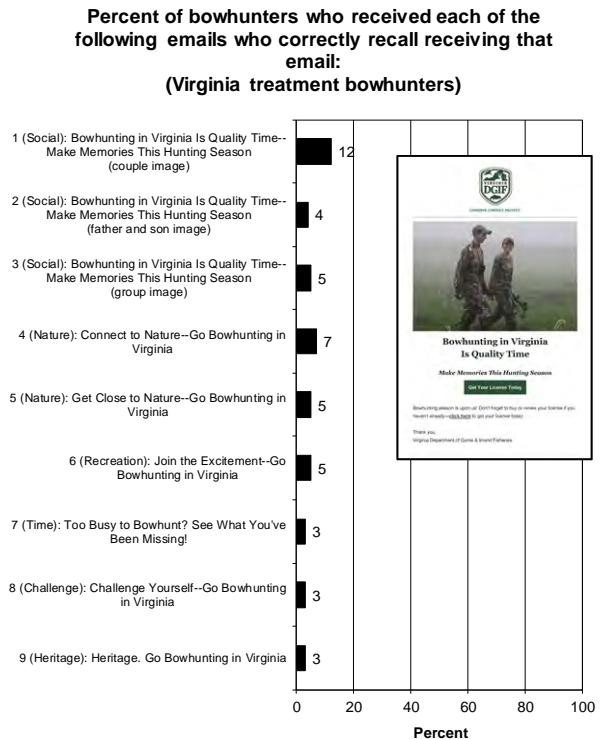


Figure 4.28. Correct Recall, South Dakota



Figure 4.29. Correct Recall, Virginia



RESPONSES TO THE EMAIL MARKETING CAMPAIGN MESSAGE

Regardless of whether they could accurately recall which email message they received, treatment bowhunters who recall receiving a message were asked how they responded upon receiving the email. Nearly half of treatment bowhunters who recall receiving a message in each state indicated that they glanced at the email but didn't really read it, which was by far the most common response. About another 20% in each state say they read the email, while 10% to 12% did not open the email at all. (See Figures 4.30 and 4.31 that follow.)

Recall that about 60% to 80% of all treatment bowhunters recall receiving an email message across the states (refer to previous Figures 4.5 to 4.16). Given that about half of those who recall receiving a message glanced at the email but did not really read it, this means that approximately 30% to 40% of *all* treatment bowhunters who received an email glanced at the email message they received. This also means that about 12% to 16% read the email (i.e., approximately 20% of the 60% to 80% who recall receiving an email).

Treatment bowhunters in New Jersey and Oklahoma who recall receiving an email message are more likely to have read the email than those in other states: New Jersey (34% say they read the email) and Oklahoma (29%).

Figure 4.30. Response to Receiving Email, Western Bowhunters

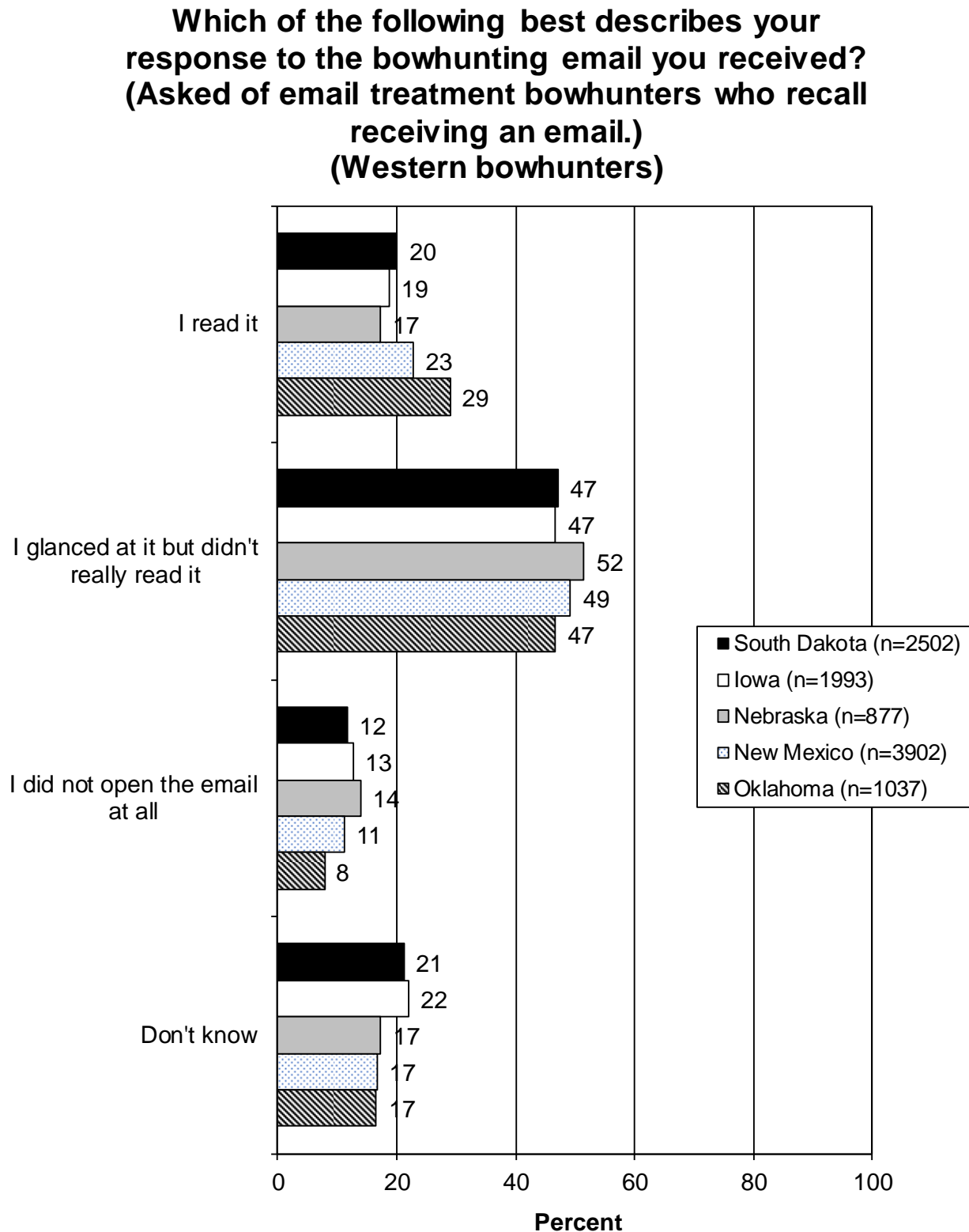
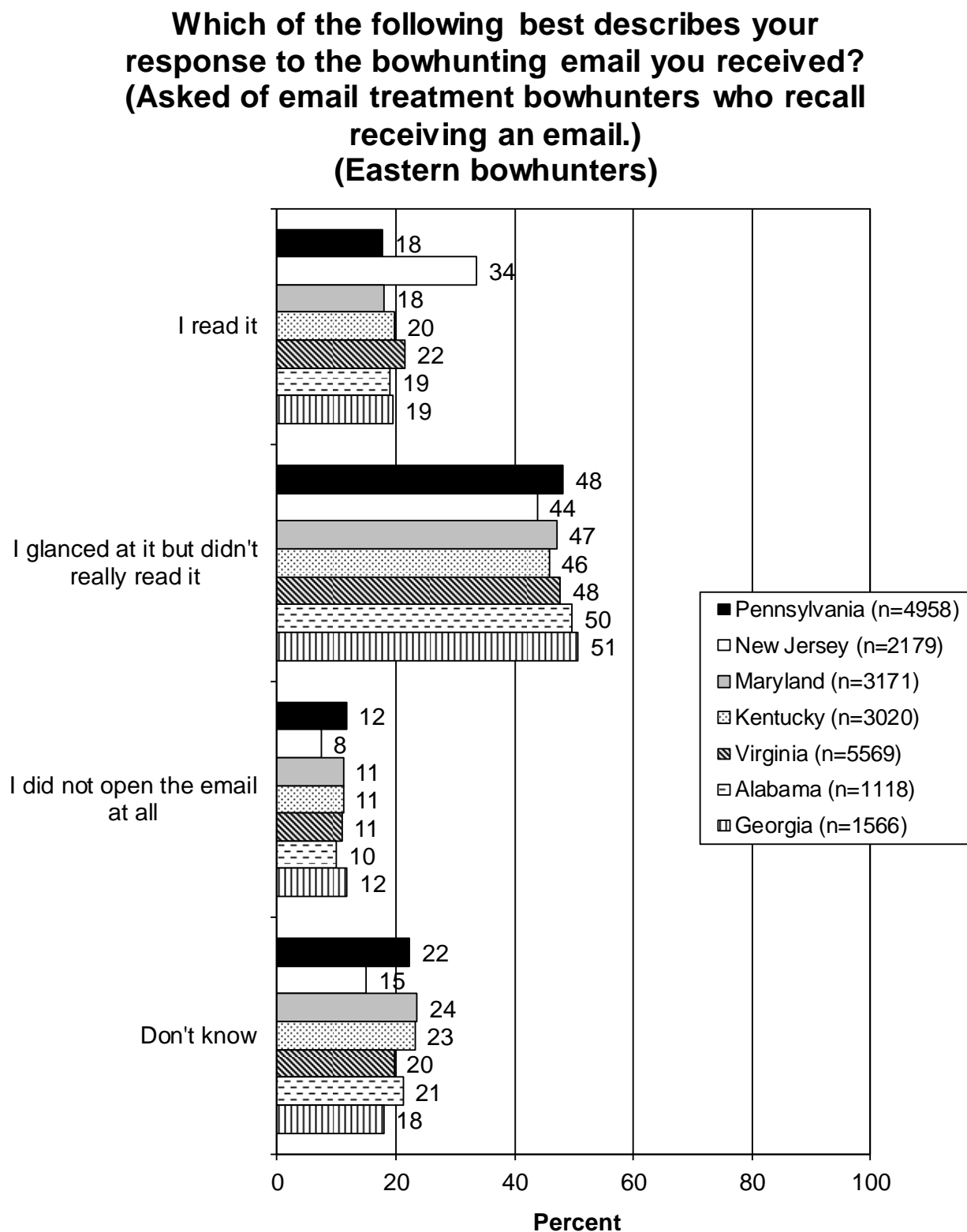


Figure 4.31. Response to Receiving Email, Eastern Bowhunters



Response to the email marketing campaign message was also examined among the age (or generation) groups for this study. The most common response among treatment bowhunters who recall receiving an email is that they glanced at it but didn't really read it. While it is not a sizable difference, it is worth noting that Millennials are more likely than any other age group to have glanced at the message but not really have read it. Among those who read the email, Baby Boomers are more likely to have read the email than any other age group. (Figures 4.32 to 4.34)

Figure 4.32. Response to Receiving Email, Western Bowhunters by Age Group

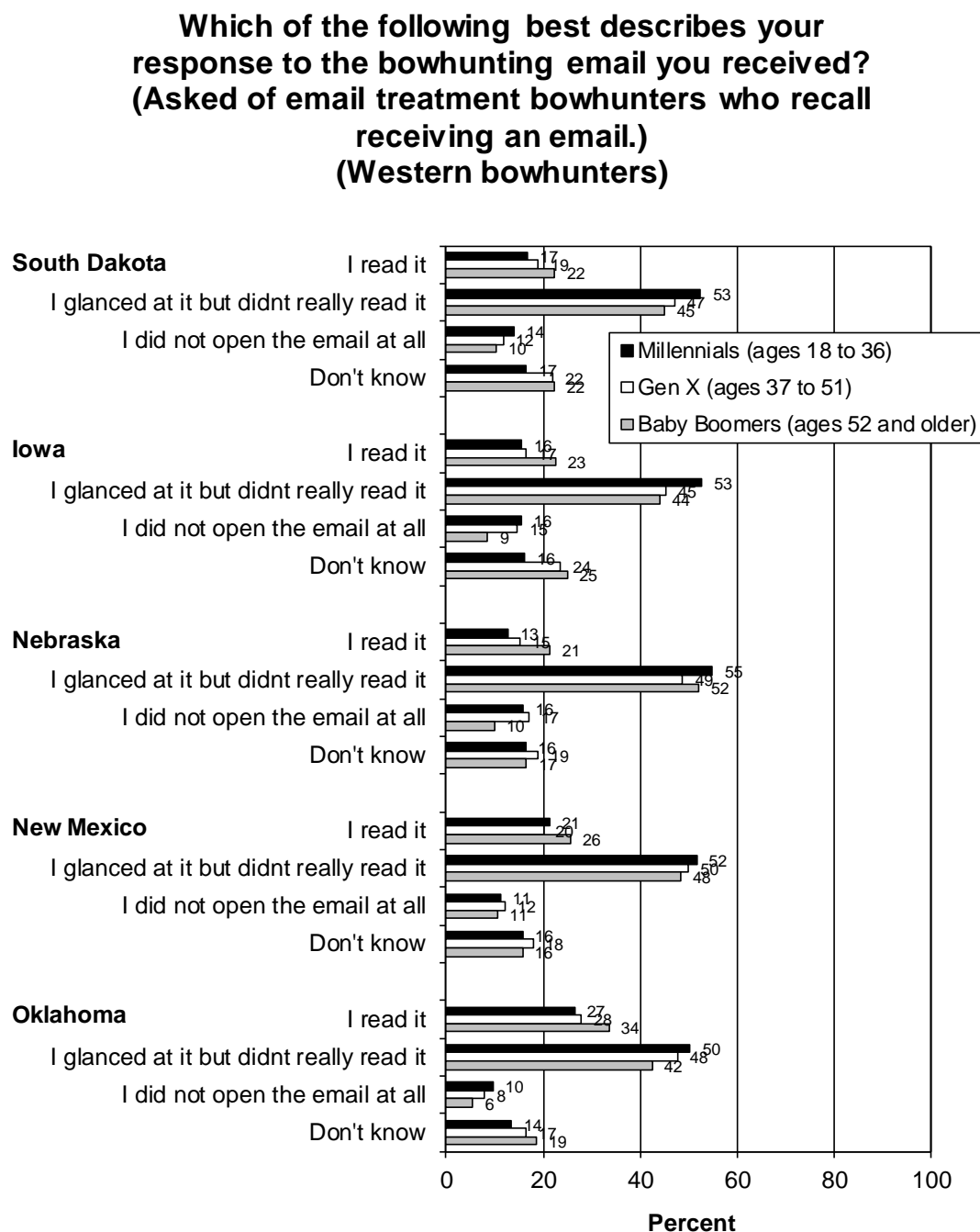


Figure 4.33. Response to Receiving Email, Eastern Bowhunters by Age Group (Part 1)

**Which of the following best describes your
response to the bowhunting email you received?
(Asked of email treatment bowhunters who recall
receiving an email.)
(Eastern bowhunters) (Part 1)**

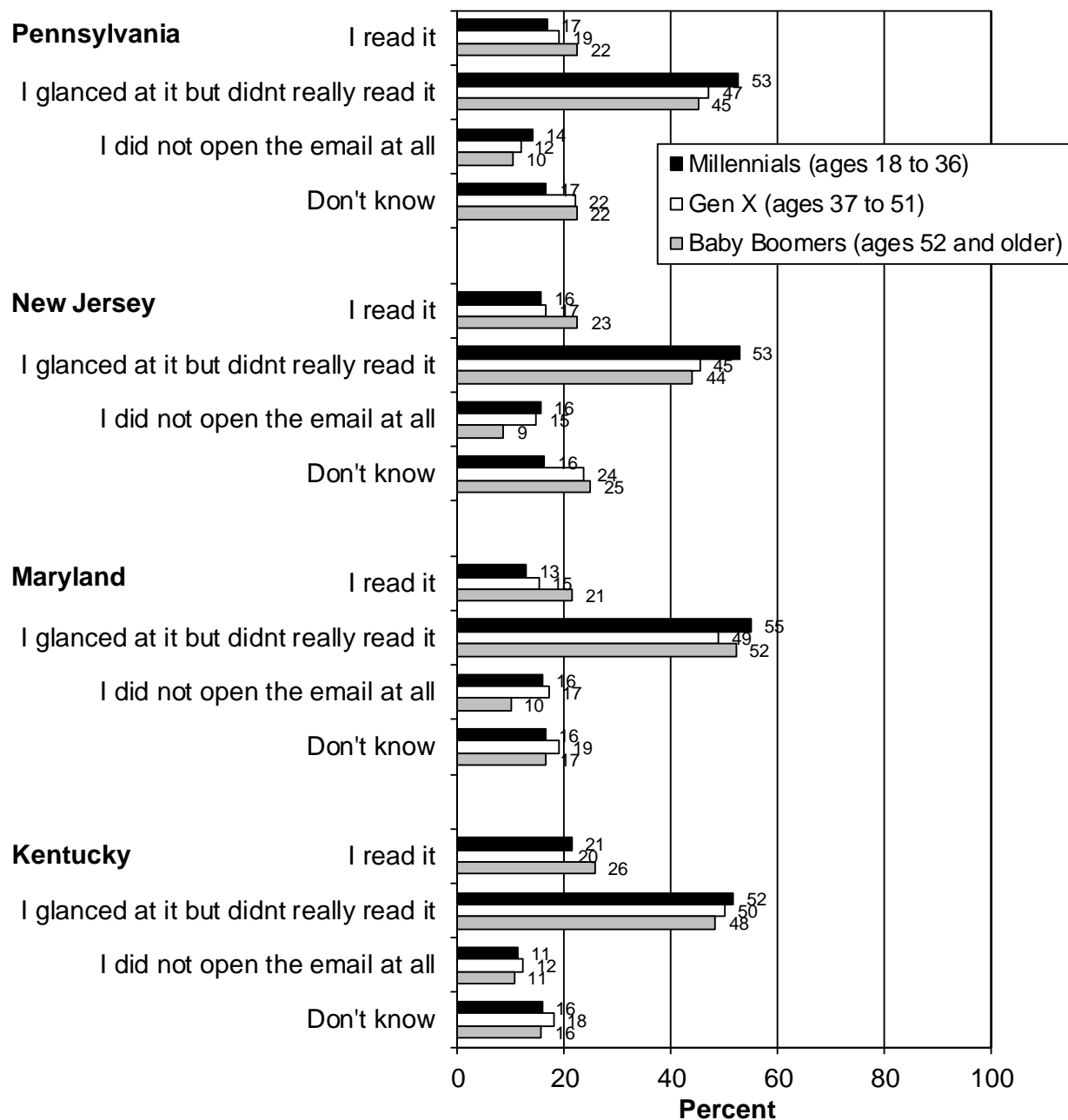
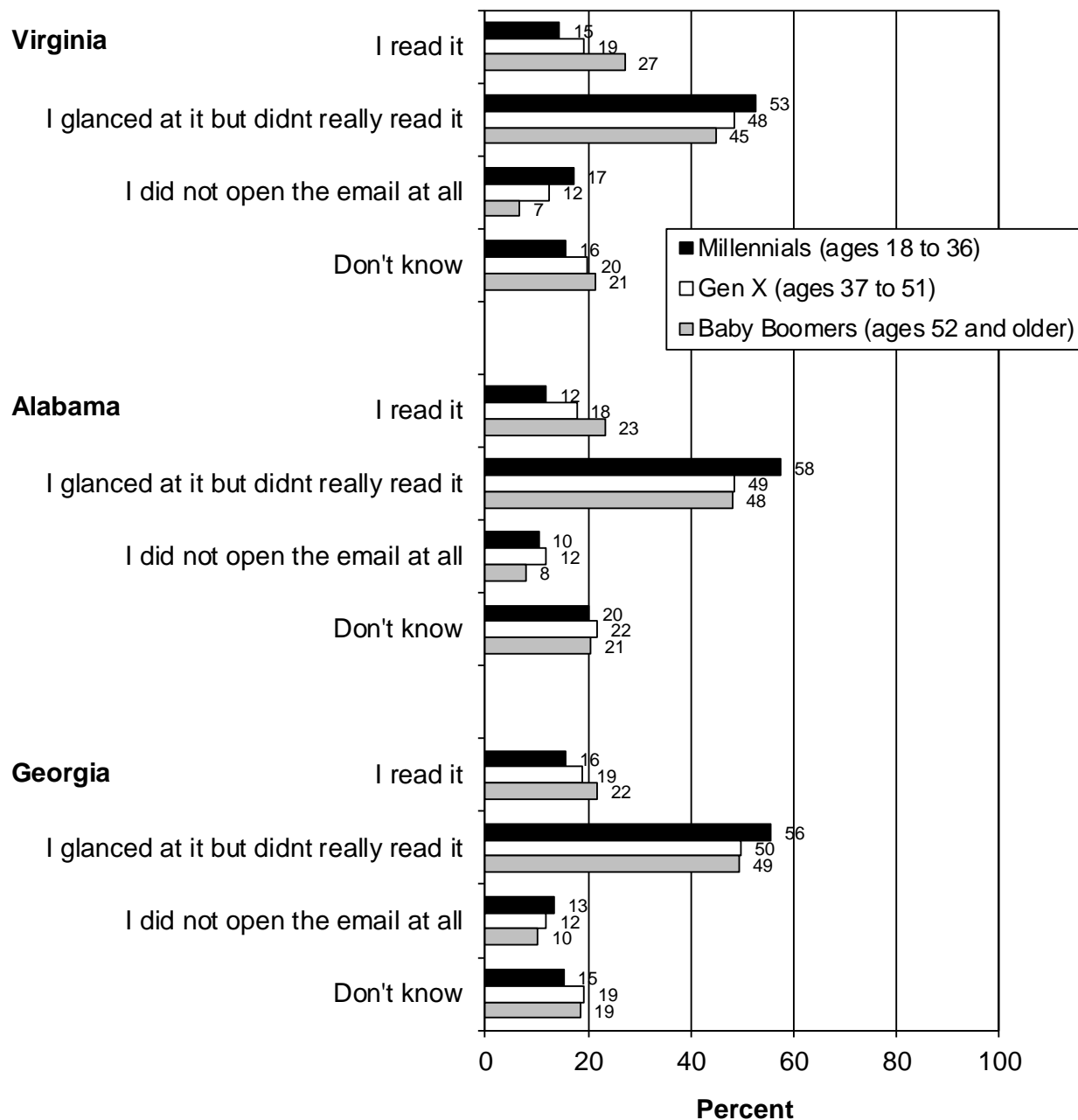


Figure 4.34. Response to Receiving Email, Eastern Bowhunters by Age Group (Part 2)

**Which of the following best describes your
response to the bowhunting email you received?
(Asked of email treatment bowhunters who recall
receiving an email.)
(Eastern bowhunters) (Part 2)**



RATINGS OF THE EMAIL MARKETING CAMPAIGN MESSAGE'S APPEAL AND EFFECTIVENESS

Regardless of whether they could accurately recall which email message they received, treatment bowhunters who recall receiving a message were asked to rate the appeal of the email they received based on what they recalled about the message. They were asked to rate the overall appeal of the email, on a scale of 0 to 10, where 0 is poor and 10 is excellent.

The ratings given for overall appeal of the email are shown for each state (Figures 4.35 and 4.36). In general, both mean and median ratings on the overall appeal of the email are in the 5 to 6 range (on a 0 to 10 scale) for all 12 states.

Figures 4.37 and 4.38 show the mean ratings for overall appeal of the email by state for each age (or generation) group. There is very little difference between age groups in most states. Nonetheless, it is worth noting that, overall, Baby Boomers consistently have a higher mean rating of the overall appeal of the email messages than Gen Xers and Millennials with one exception: Millennials have the highest mean rating in Oklahoma.

Table 4.1 shows the means (average) of the ratings given for overall appeal of the email for each individual email message among *only* treatment bowhunters who correctly recall the specific email they received; Table 4.2 shows the median ratings for the overall appeal of the email among this same group. These results allow us to see the overall appeal ratings by message for those who are rating the correct email.

The mean ratings of overall appeal of the individual email messages are in the 5 to 7 range across the states, and the medians are in the 6 to 8 range. Among the messages most commonly with the top mean ratings for states are the Group 3 (Social), Group 4 (Nature), and Group 9 (Heritage) messages. The message with the most states showing a high median rating of 7 or 8 is Group 3 (Social) Message, followed by Group 1 (Social) Message. (Note, however, this brief summary of mean and median ratings results by message does not necessarily reflect the top messages for each state; results are quite varied by state.)

Figure 4.35. Overall Appeal of Email, Western Bowhunters

Based on what you remember, how would you rate the overall appeal of the email you received, on a scale of 0 to 10, where 0 is poor and 10 is excellent? (Asked of treatment bowhunters who recall receiving an email.)

(Western bowhunters)

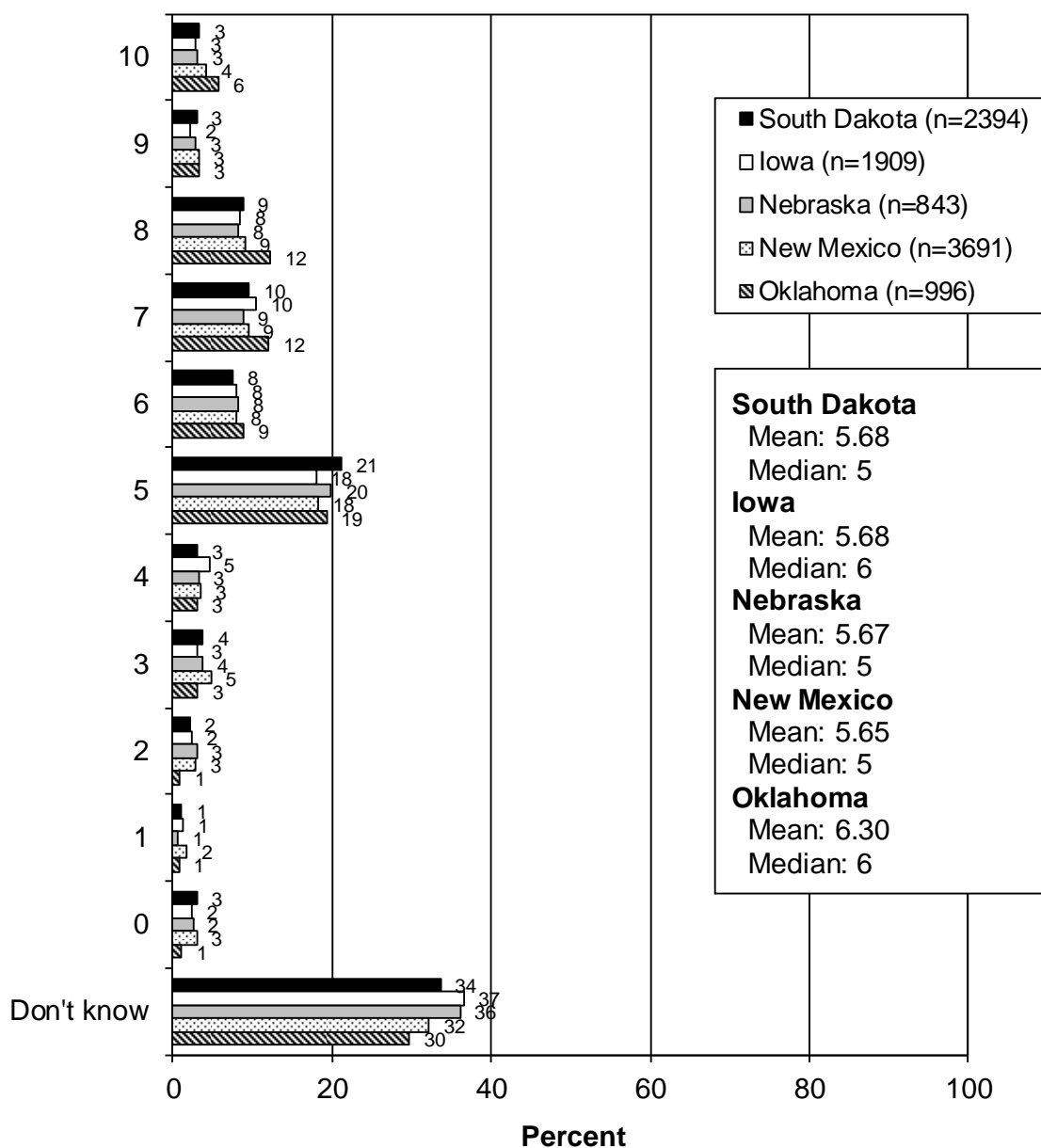


Figure 4.36. Overall Appeal of Email, Eastern Bowhunters

Based on what you remember, how would you rate the overall appeal of the email you received, on a scale of 0 to 10, where 0 is poor and 10 is excellent? (Asked of treatment bowhunters who recall receiving an email.)

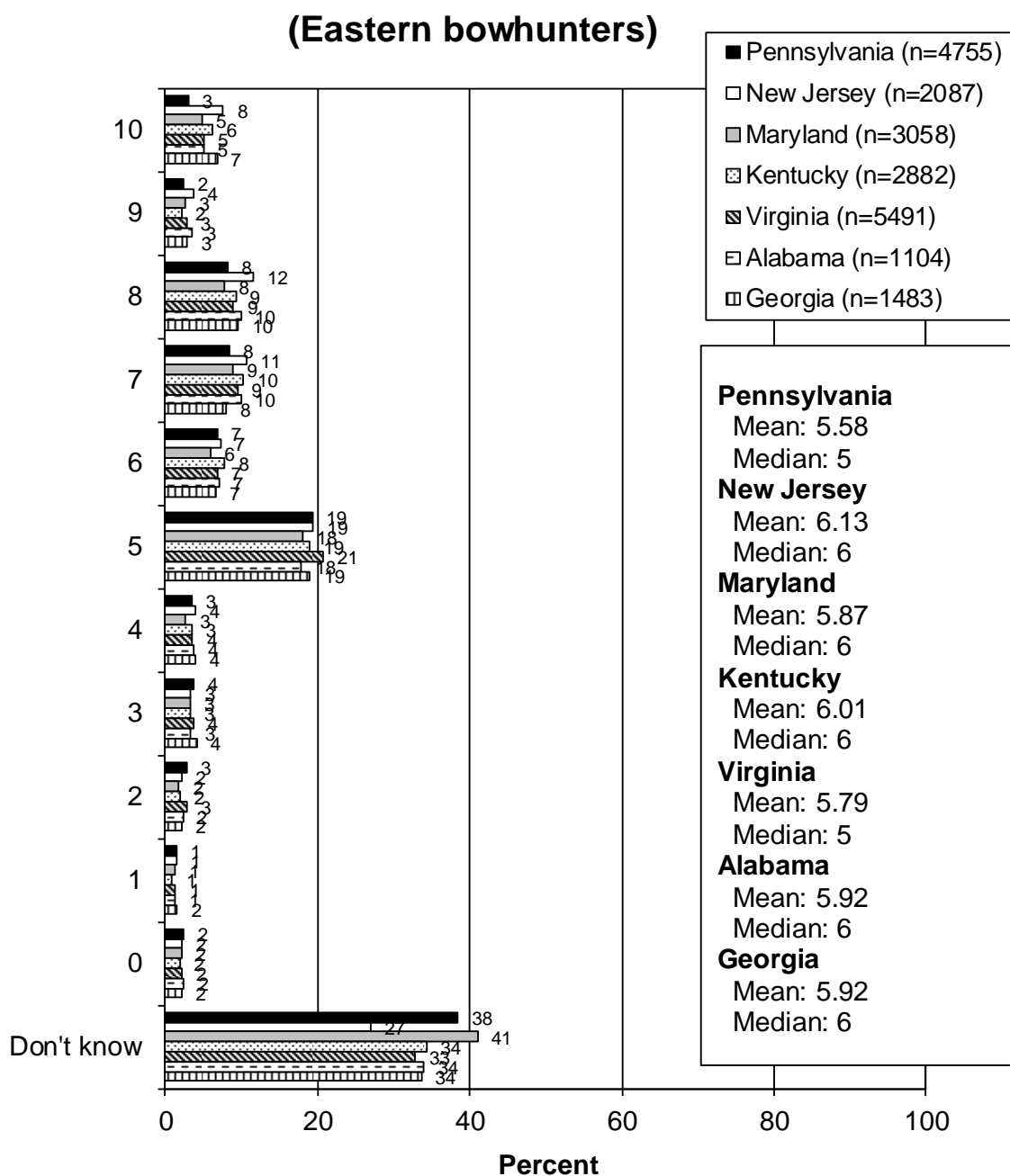


Figure 4.37. Overall Appeal of Email, Western Bowhunters by Age Group

**Mean ratings of the overall appeal of the email received, on a scale of 0 to 10, where 0 is poor and 10 is excellent. (Asked of treatment bowhunters who recall receiving an email.)
(Western bowhunters)**

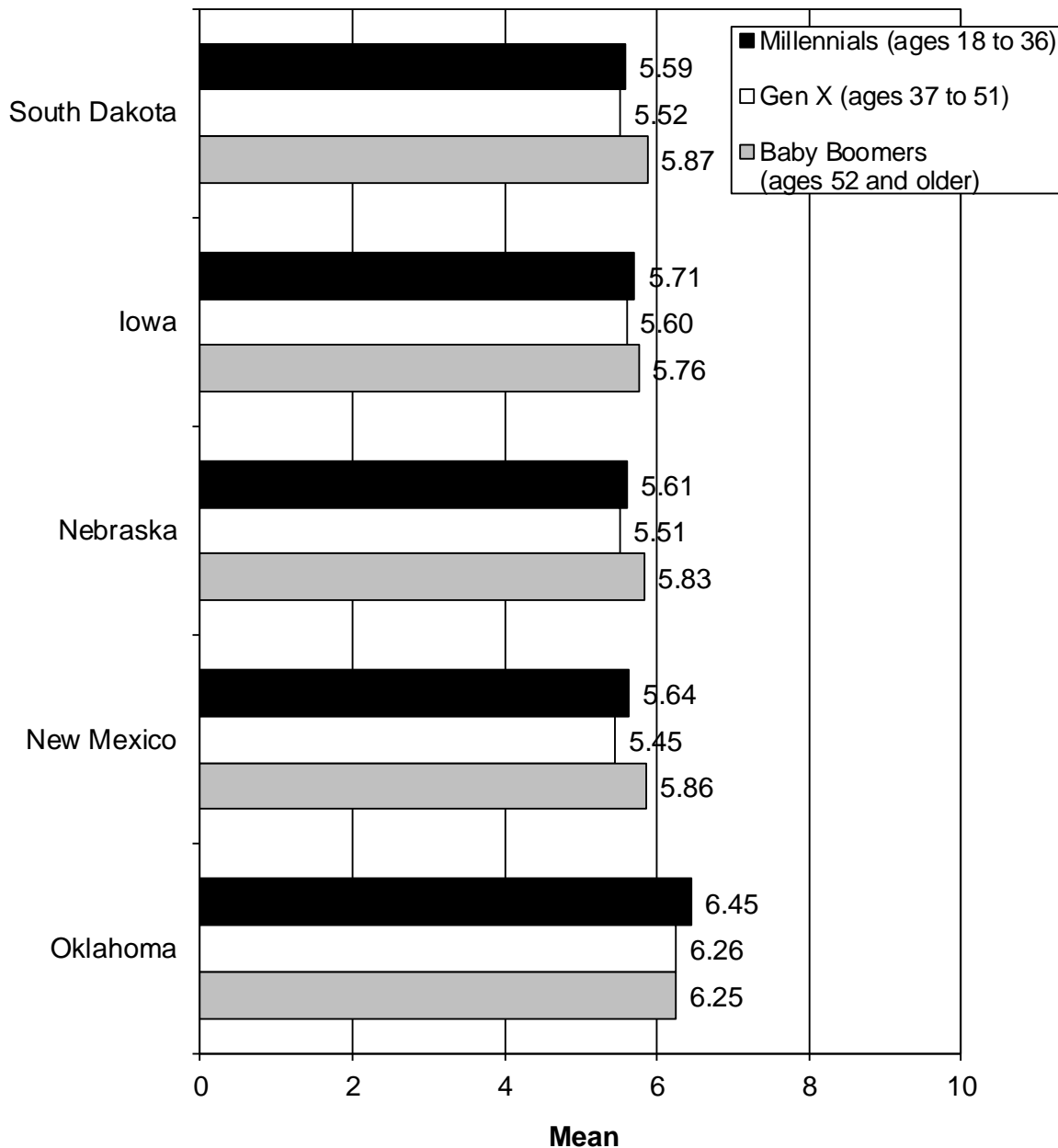


Figure 4.38. Overall Appeal of Email, Eastern Bowhunters by Age Group

**Mean ratings of the overall appeal of the email received, on a scale of 0 to 10, where 0 is poor and 10 is excellent. (Asked of treatment bowhunters who recall receiving an email.)
(Eastern bowhunters)**

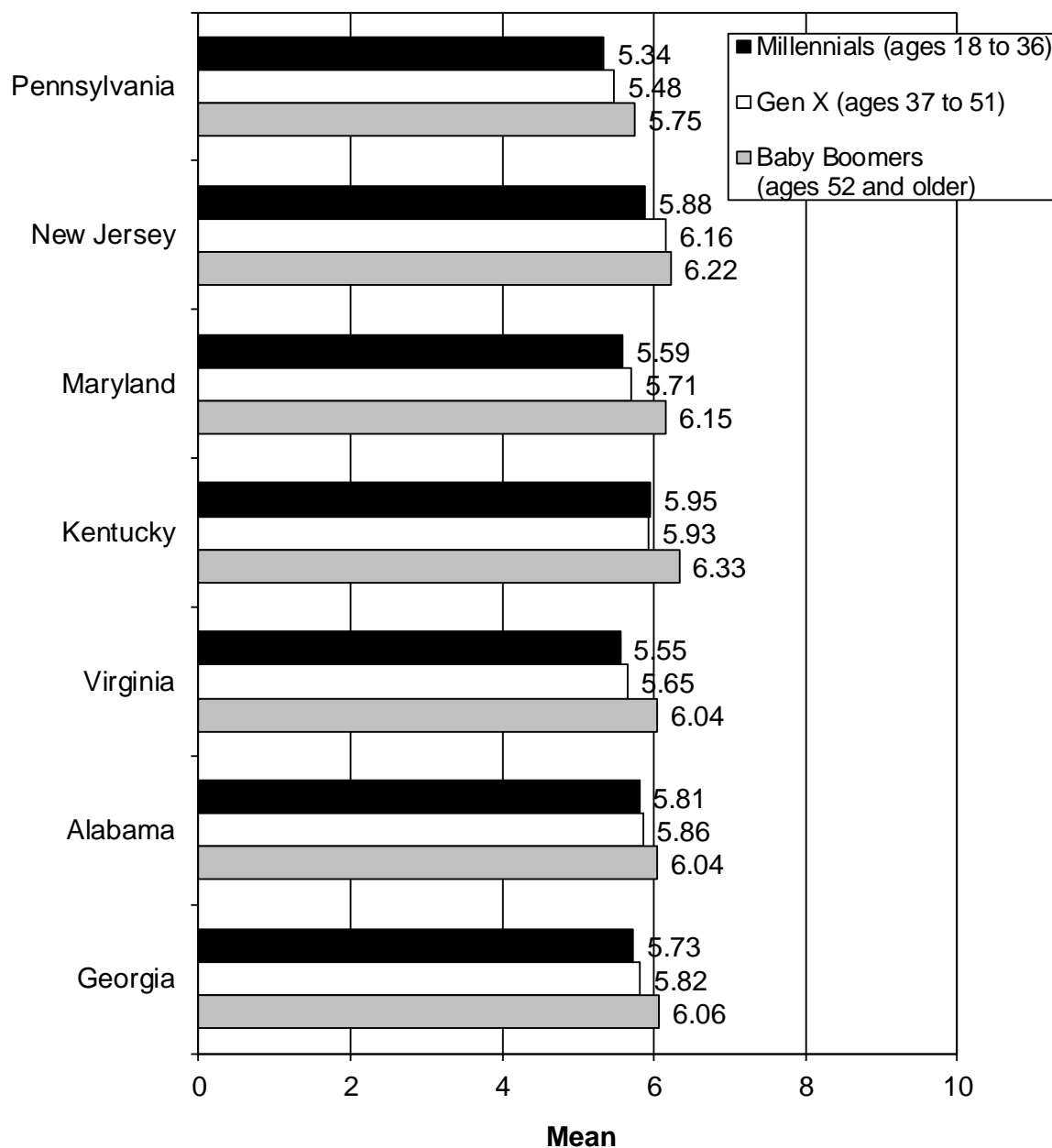


Table 4.1. Mean Ratings of Overall Appeal of Each Email by State Among Treatment Bowhunters Who Recall Receiving an Email and Correctly Identified That Email

Message	Mean Ratings of Overall Appeal of Email Message											
	AL	GA	IA	KY	MD	NE	NJ	NM	OK	PA	SD	VA
1 (Social)	6.67	6.1	6.35	6.74	6.07	6.74	6.78	6.17	7.15	6.22	6.11	6.36
2 (Social)	6.38	6.61	6.17	5.91	6.47	6.45	6.53	5.83	6.16	5.97	6.20	6.40
3 (Social)	6.47	6.44	6.30	6.91	7.15	7.17	6.63	6.30	6.50	5.72	6.24	6.66
4 (Nature)	6.34	6.86	6.51	6.37	6.62	6.20	6.24	5.90 ¹	6.41	5.90	6.34	6.31
								6.19 ²				
5 (Nature)	6.11	6.14	6.23	6.15	6.35	7.20	5.68	6.38 ¹	6.00	5.98	5.97	6.22
								5.40 ²				
6 (Recreation)	6.18	6.08	6.19	6.65	6.35	6.28	6.86	6.09	7.00	5.74	6.21	6.24
7 (Time)	7.22	5.90	6.18	5.85	6.76	5.00	6.12	5.97	6.88	5.56	5.56	6.41
8 (Challenge)	6.19	6.19	5.92	6.59	5.93	6.00	5.67	6.25	7.55	6.19	6.12	5.97
9 (Heritage)	6.42	6.13	6.12	6.65	6.47	5.44	7.04	6.29	7.23	6.32	6.14	5.95

¹New Mexico Fall Turkey Message (image of turkey)²New Mexico Javelina Message (image of javelina)**Table 4.2. Median Ratings of Overall Appeal of Each Email by State Among Treatment Bowhunters Who Recall Receiving an Email and Correctly Identified That Email**

Message	Median Ratings of Overall Appeal of Email Message											
	AL	GA	IA	KY	MD	NE	NJ	NM	OK	PA	SD	VA
1 (Social)	7	6	6.5	7	6	7	7	6	7	6	6	6
2 (Social)	6.5	7	6	6	6	7	7	6	6	6	6	6.5
3 (Social)	6	7	6	7	8	7	7	6	7	5.5	6	7
4 (Nature)	6	7	7	6	7	6	6	6 ¹	6	6	7	6
								6 ²				
5 (Nature)	6	6	6	6	7	7	6	6.5 ¹	6	6	6	6
								5 ²				
6 (Recreation)	6	6	6	7	6	6.5	7	6	8	6	6	6
7 (Time)	7	5	6.5	6	7	5	6	6.5	7	5	5.5	7
8 (Challenge)	6.5	7	7	6	6	5	6	6	7	6	6	7
9 (Heritage)	7	6.5	6	7	6	5	8	6	7	6	6	5

¹New Mexico Fall Turkey Message (image of turkey)²New Mexico Javelina Message (image of javelina)

In follow-up to treatment bowhunters rating the overall appeal of the email message, those who recalled receiving a message were also asked what they found the most and least appealing about the email. (Note again that this was asked regardless of whether they correctly recalled which email message they received.)

When asked in the follow-up question about what appealed *most* to them about the email, bowhunters who recall receiving an email across the states most commonly answered that they liked the look or image of the email and that it encouraged bowhunting and hunting (Figures 4.39 to 4.50). Following the top two answers, many of the 12 states also mentioned that the information or content of the email appealed to them or that they appreciate communication from the state agency. Also among the top three responses in New Jersey and South Dakota specifically is the reminder to hunt or buy a license (Figures 4.45 and 4.49). Finally, Virginia bowhunters liked being reminded of spending time with family and friends (Figure 4.50).

When asked in the follow-up question about what appealed *least* to them about the email, bowhunters who recall receiving an email across the states most commonly responded that they found nothing unappealing about the email: 20% to 30% gave this response. Among the criticisms (from low percentages) however, are that they receive too many junk emails, that the email did not apply to them, and that the email was too long or wordy. It is also worth noting that responses indicating the email's information or content was not effective is among those common responses as well in some states, although still at low percentages. (Figures 4.51 to 4.62)

Note that, on both of these open-ended questions, substantial percentages said that they do not recall receiving the email. These questions were computer coded to be administered only to those who said that they *did* recall receiving the email, which means that those respondents potentially answered the lead-in question incorrectly or had another reason for providing this response, such as not being able to recall any details about the message or not wanting to answer the question. Nonetheless, looking at the other, valid responses provides insight into what bowhunters found to be the most and least appealing aspects of the email they received.

Note that both follow-up questions were open-ended, in which the respondent could type in any response. Responses were placed into response categories during analysis so that they could be quantified.

Figures 4.39 to 4.62 show the results of the questions discussed above for each state.

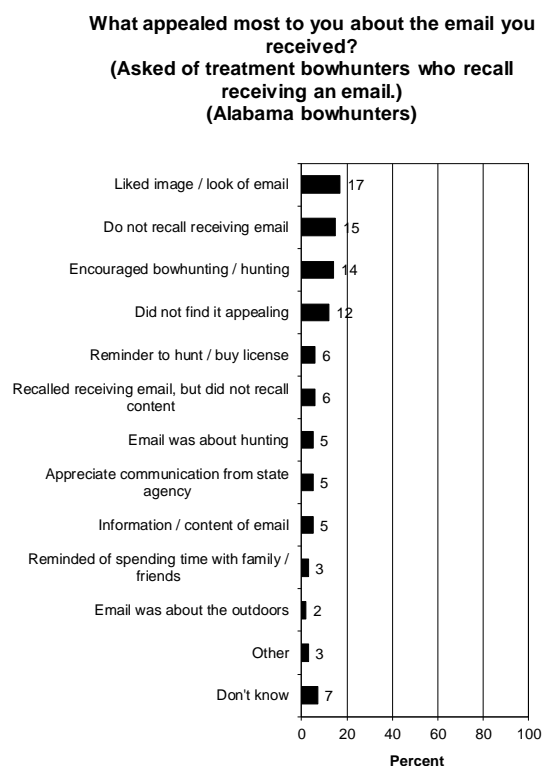
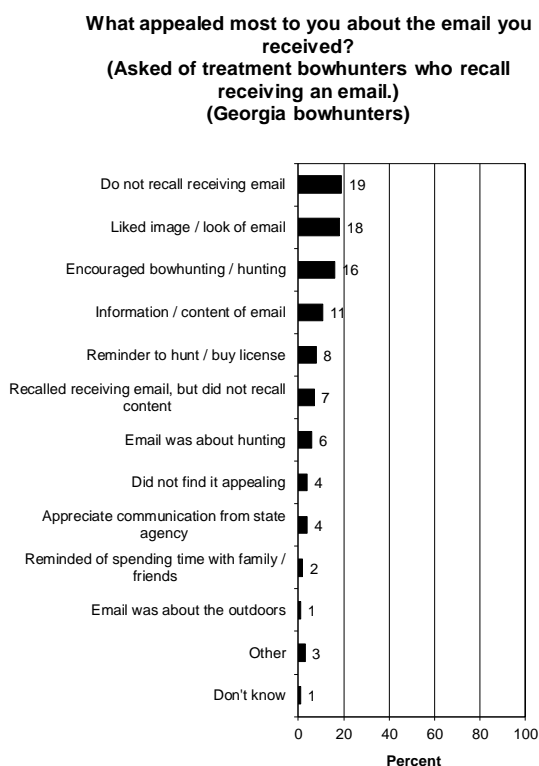
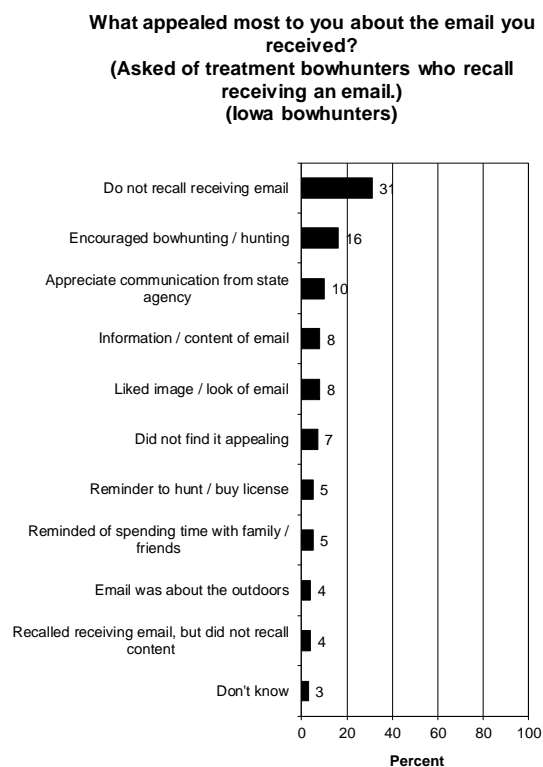
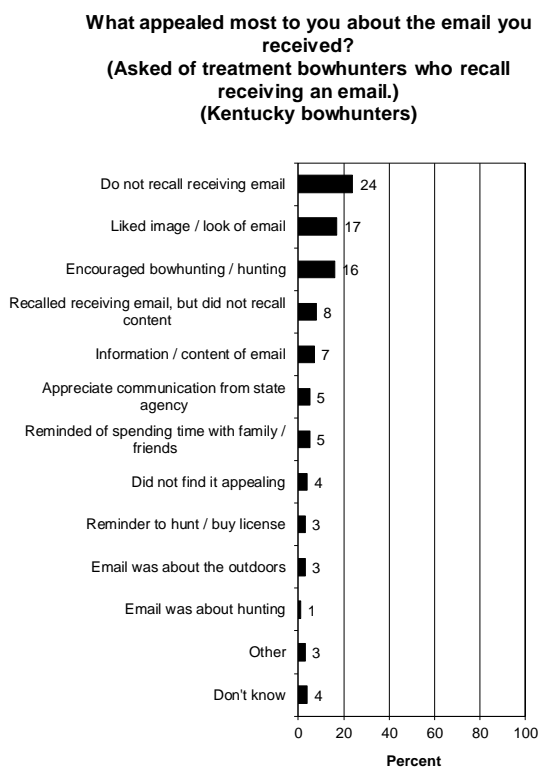
Figure 4.39. Most Appeal, Alabama**Figure 4.40. Most Appeal, Georgia****Figure 4.41. Most Appeal, Iowa****Figure 4.42. Most Appeal, Kentucky**

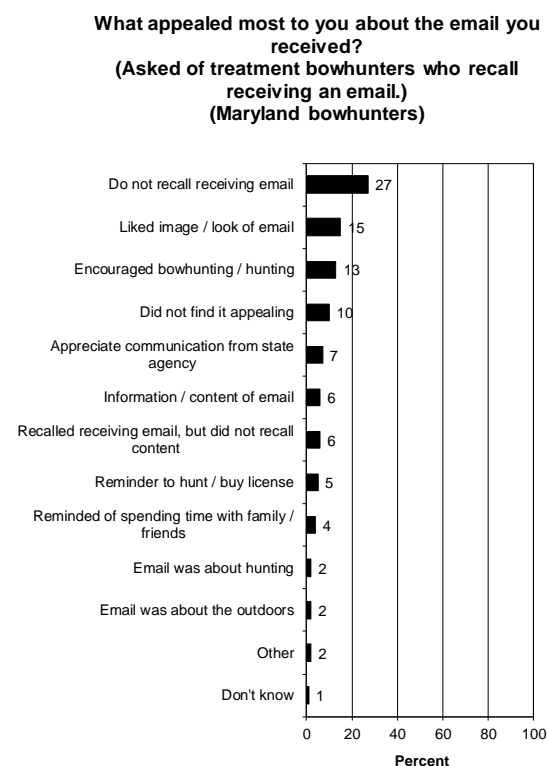
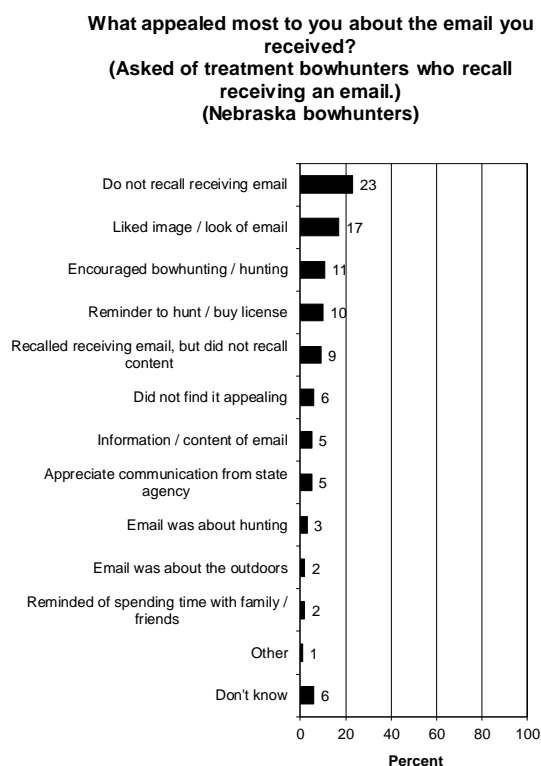
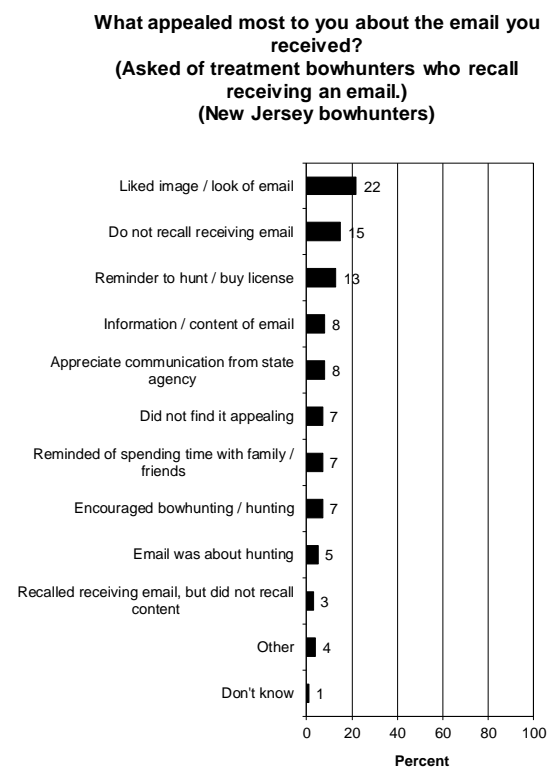
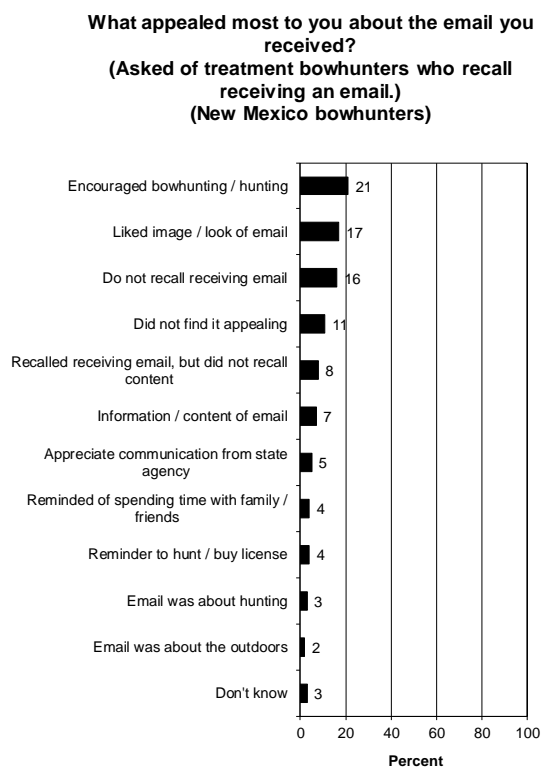
Figure 4.43. Most Appeal, Maryland**Figure 4.44. Most Appeal, Nebraska****Figure 4.45. Most Appeal, New Jersey****Figure 4.46. Most Appeal, New Mexico**

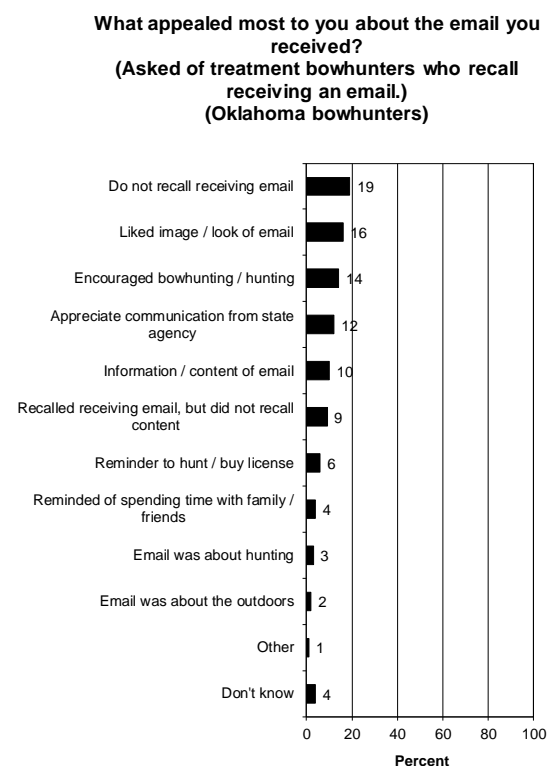
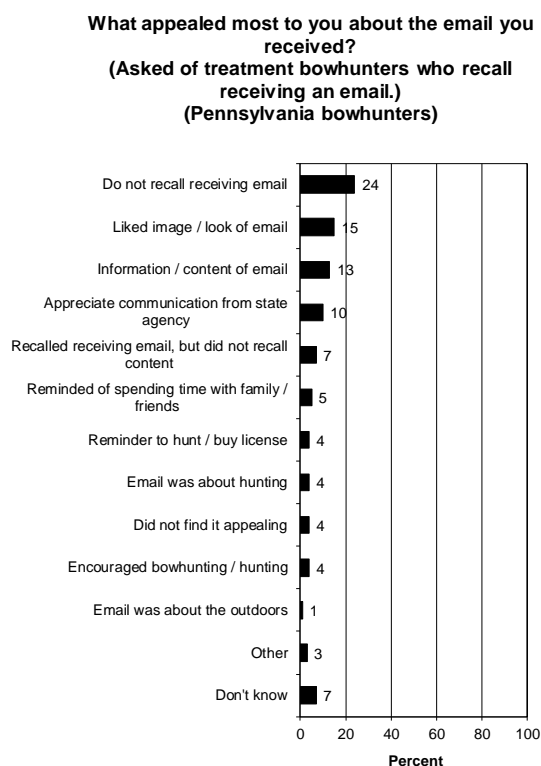
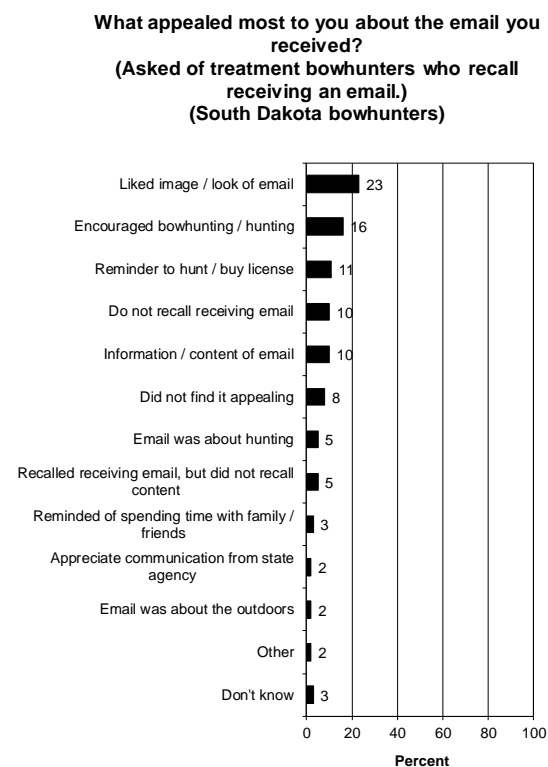
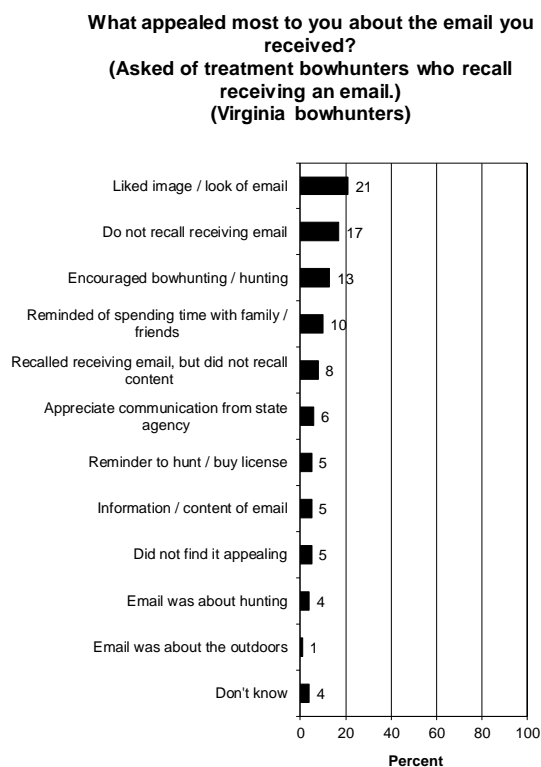
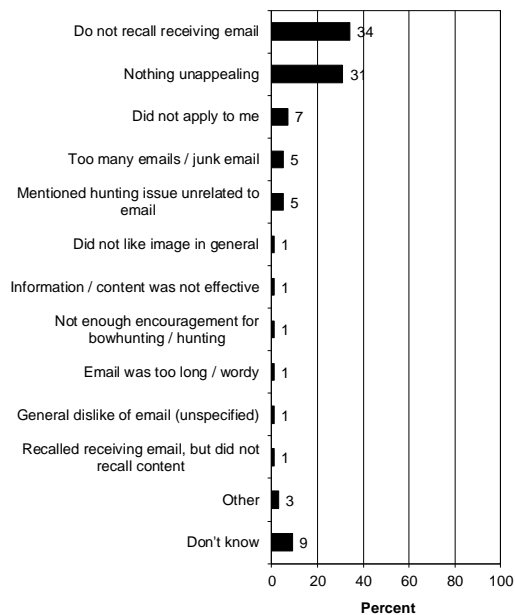
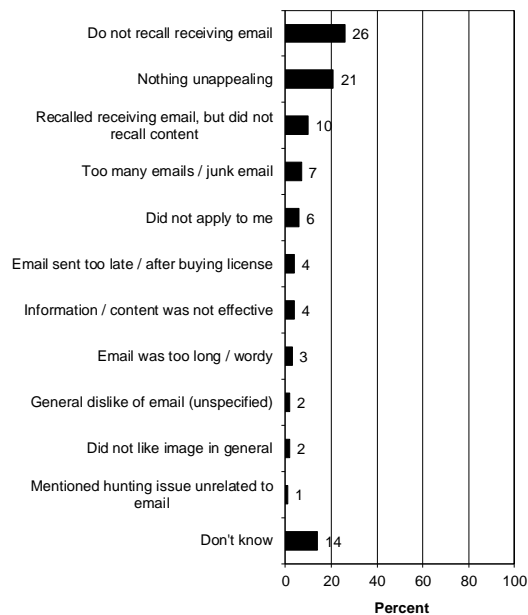
Figure 4.47. Most Appeal, Oklahoma**Figure 4.48. Most Appeal, Pennsylvania****Figure 4.49. Most Appeal, South Dakota****Figure 4.50. Most Appeal, Virginia**

Figure 4.51. Least Appeal, Alabama

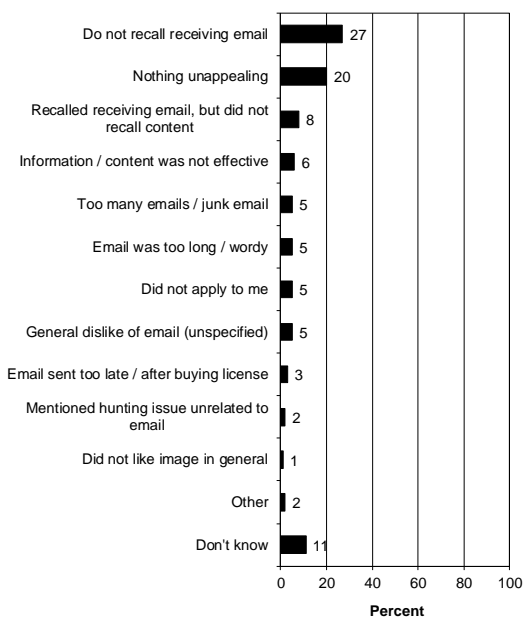
What appealed least to you about the email you received?
(Asked of treatment bowhunters who recall receiving an email.)
(Alabama bowhunters)

**Figure 4.52. Least Appeal, Georgia**

What appealed least to you about the email you received?
(Asked of treatment bowhunters who recall receiving an email.)
(Georgia bowhunters)

**Figure 4.53. Least Appeal, Iowa**

What appealed least to you about the email you received?
(Asked of treatment bowhunters who recall receiving an email.)
(Iowa bowhunters)

**Figure 4.54. Least Appeal, Kentucky**

What appealed least to you about the email you received?
(Asked of treatment bowhunters who recall receiving an email.)
(Kentucky bowhunters)

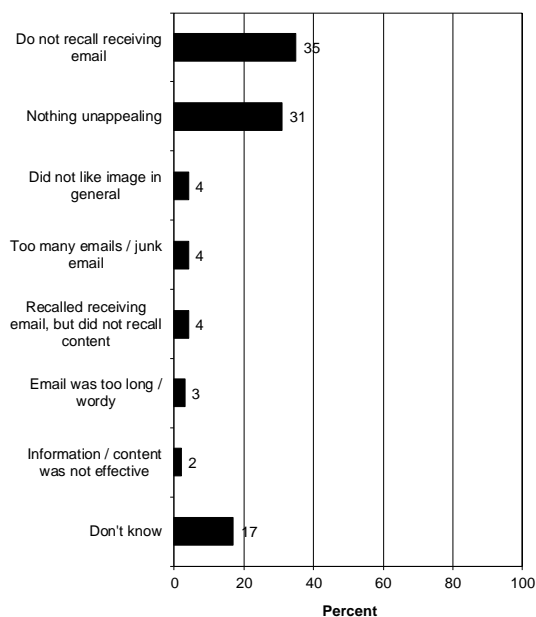


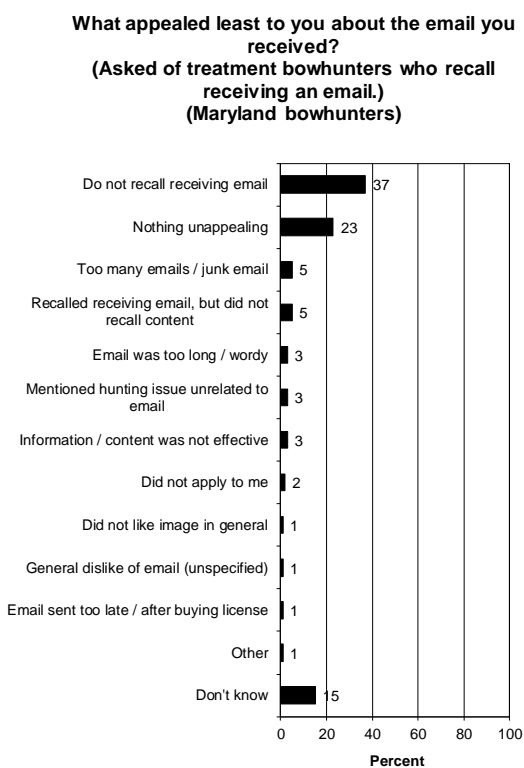
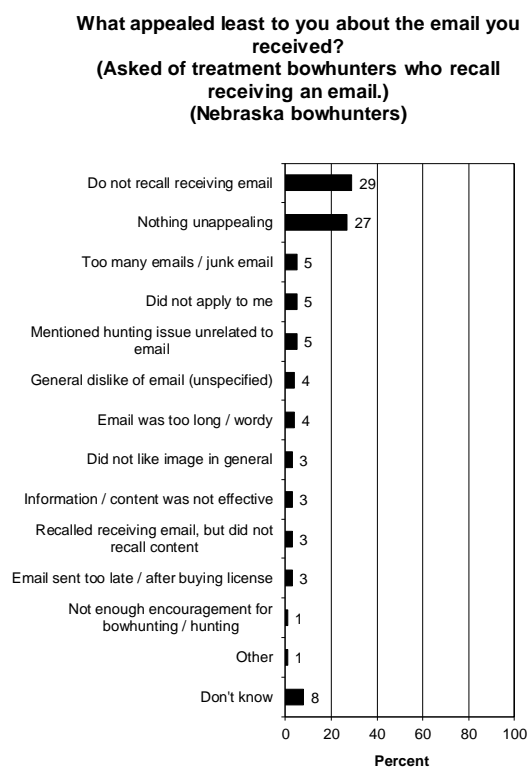
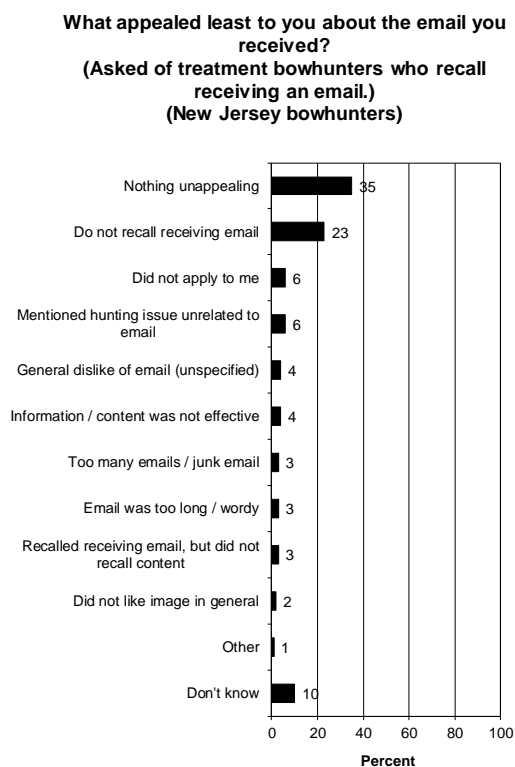
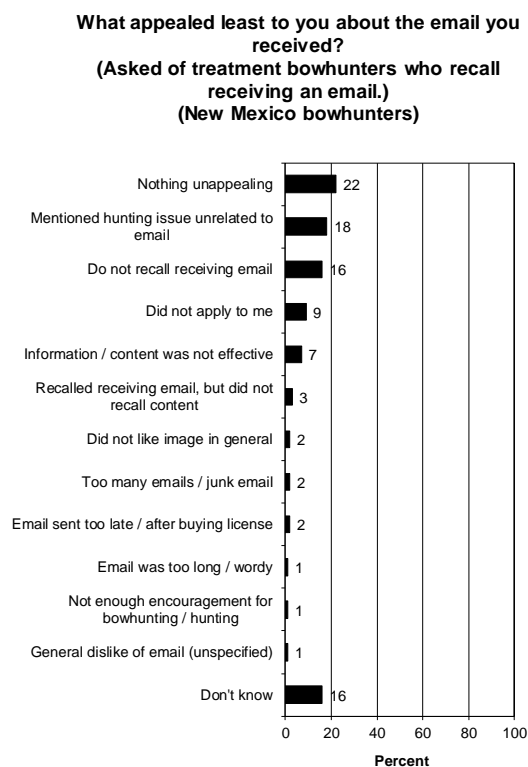
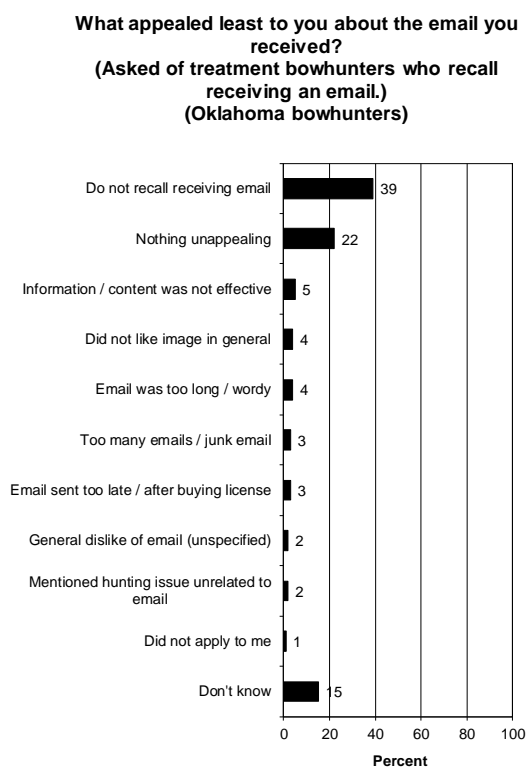
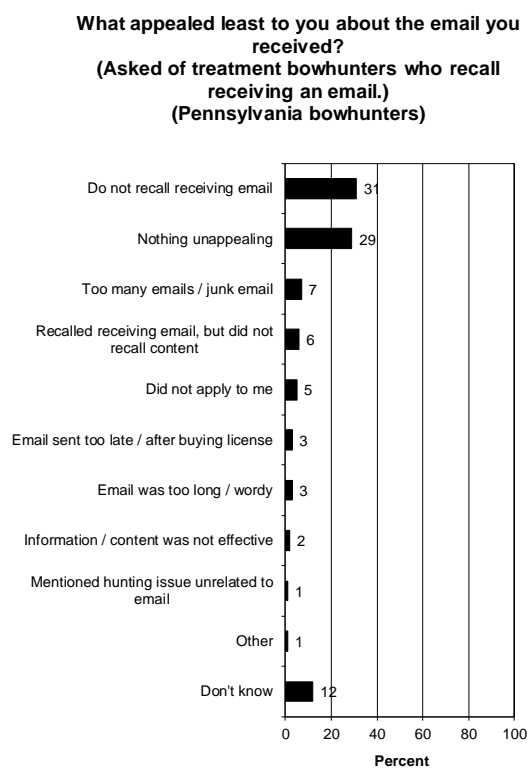
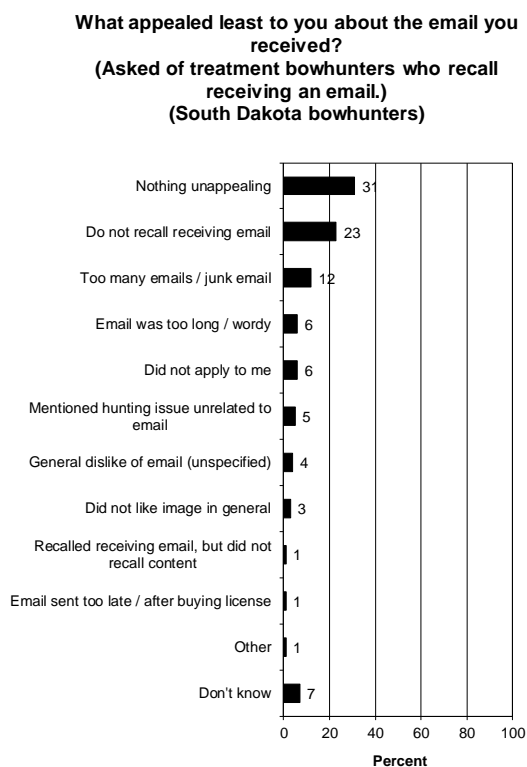
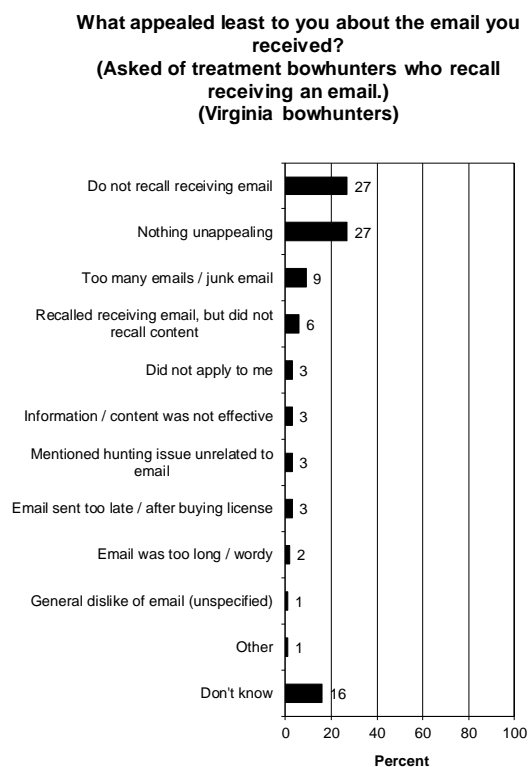
Figure 4.55. Least Appeal, Maryland**Figure 4.56. Least Appeal, Nebraska****Figure 4.57. Least Appeal, New Jersey****Figure 4.58. Least Appeal, New Mexico**

Figure 4.59. Least Appeal, Oklahoma**Figure 4.60. Least Appeal, Pennsylvania****Figure 4.61. Least Appeal, South Dakota****Figure 4.62. Least Appeal, Virginia**

After asking bowhunters who recalled receiving an email message about the overall appeal of the message (results shown in previous Figures 4.35 to 4.38 and Tables 4.1 to 4.2), *all* treatment bowhunters were provided reminders or further information prior to more survey questions. Treatment bowhunters who recall receiving an email message and selected the specific email message they think they received were shown the email they had selected (regardless of whether they had been correct). All other bowhunters (i.e., those who recalled receiving an email message but were not sure which one *and* those who did not recall receiving an email message at all) were shown the email that the state agency sent to them.

After showing all treatment bowhunters which email message they recalled (accurate or not) or which email the agency sent them, they were asked to rate the appeal specifically of the headline, appeal of the image, and the effectiveness of the email at increasing their interest in bowhunting.

Appeal of the Email Message Headline

Among all treatment bowhunters, the ratings given for the appeal of the headline of the email message shown to each treatment bowhunter (as described above) are shown for each state (Figures 4.66 and 4.67). In general, both mean and median ratings on the appeal of the headline are in the 6 to 7 range, on a scale of 0 to 10, where 0 is poor and 10 is excellent.

Tables 4.3 and 4.4 show the means and medians of the ratings given for the appeal of the headline of the email message among *only* treatment bowhunters who identified or were shown the correct email message that they received. These results allow us to see the overall appeal ratings by message for those who are rating the correct email.

The mean ratings of the headlines for the email messages are in the 6 to 8 range, on a scale of 0 to 10. The median ratings are mostly in the 7 to 8 range. The headline most commonly with the top mean rating across the states is for Group 1 (Social) Message, which is *Bowhunting in [State] Is Quality Time—Make Memories This Hunting Season* for most states. Also often among the top three mean ratings are Group 2 (Social) Message headline (also *Bowhunting in [State] Is Quality Time—Make Memories This Hunting Season*) and Group 8 (Challenge) Message headline (*Challenge Yourself—Go Bowhunting in [State]*). (Note, however, that this summary does not necessarily reflect the top headlines for each state; results are quite varied by state.)

Figure 4.63. Message Headlines With Highest Mean (Average) Appeal Ratings

Group 1 and Group 2 Social Message Headline
Bowhunting in [State] is Quality Time—Make Memories This Hunting Season

Group 8 Challenge Message Headline
Challenge Yourself—Go Bowhunting in [State]

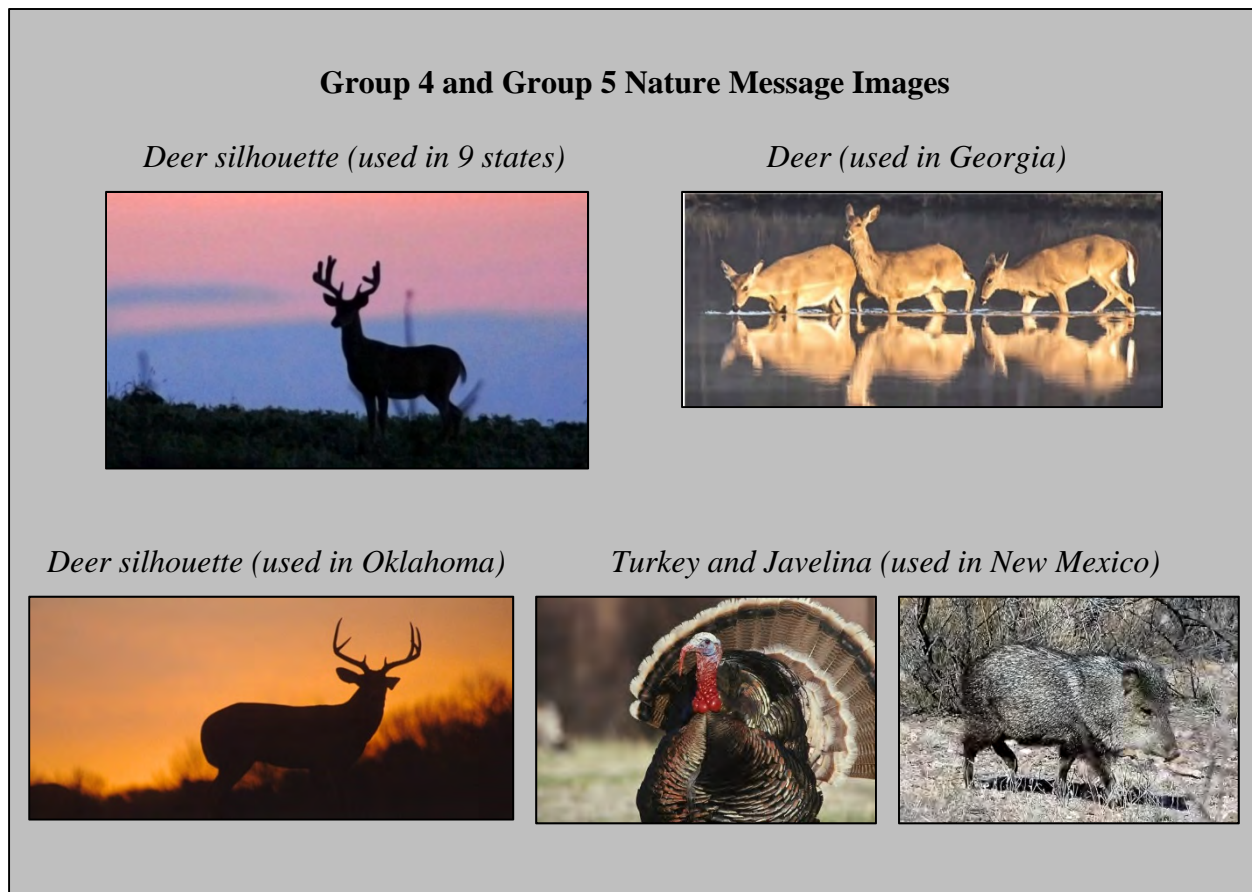
Appeal of the Email Message Image

Among all treatment bowhunters, the ratings given for the appeal of the image used in the email message shown to each treatment bowhunter are shown for each state (Figures 4.68 and 4.69). In general, both mean and median ratings on the appeal of the image are also in the 6 to 7 range, on a scale of 0 to 10, where 0 is poor and 10 is excellent.

Tables 4.5 and 4.6 show the means and medians of the ratings given for the appeal of the image used in the email message among *only* treatment bowhunters who identified or were shown the correct email message that they received. These results allow us to see the overall appeal ratings by message for those who are rating the correct email.

The mean ratings of the images used in the email messages are in the 6 to 8 range, on a scale of 0 to 10. The median ratings are mostly in the 7 to 9 range. The image most commonly with the top mean rating across the states is for both Nature messages (Group 4 and Group 5), which is the image of deer in most states and an image of a turkey or javelina specifically in New Mexico. Also often among the top three mean ratings is the Group 6 (Recreation) Message image, which is the silhouette of a bowhunter with his bow drawn. (Note, however, that this summary does not necessarily reflect the top images for each state; results are quite varied by state.)

Figure 4.64. Message Images With Highest Mean (Average) Appeal Ratings



Effectiveness of the Email Message at Increasing Interest in Bowhunting in State

Among all treatment bowhunters, the ratings given for the effectiveness of the email message at increasing the respondent's interest in bowhunting in the state are shown for each state (Figures 4.70 and 4.71). In general, both mean and median ratings on the effectiveness of the email message are in the 4 to 5 range, on a scale of 0 to 10, where 0 is not at all effective and 10 is extremely effective.

Tables 4.7 and 4.8 show the means and medians of the ratings given for the effectiveness of the email message at increasing the respondent's interest in bowhunting in the state among *only* treatment bowhunters who identified or were shown the correct email message that they received. These results allow us to see the overall appeal ratings by message for those who are rating the correct email.

The mean ratings of the effectiveness the email messages are in the 4 to 6 range, on a scale of 0 to 10. The median ratings are mostly in the 5 to 7 range. The message most commonly with the top mean rating across the states is for Group 3 (Social) Message. Also often among the top three mean ratings are Group 1 (Social) Message and Group 6 (Recreation) Message. (Note, however, that this summary does not necessarily reflect the top rated messages for each state; results are quite varied by state.)

Figures 4.66 to 4.71 and Tables 4.3 to 4.8 show the results of the questions discussed in this section.

Figure 4.65. Messages With Highest Mean (Average) Ratings of Effectiveness

Group 3 Social Message
(Maryland is used as an example.)



Group 1 Social Message
(New Jersey is used as an example.)



Group 6 Recreation Message
(Oklahoma is used as an example.)



Figure 4.66. Appeal of Headline, Western Bowhunters

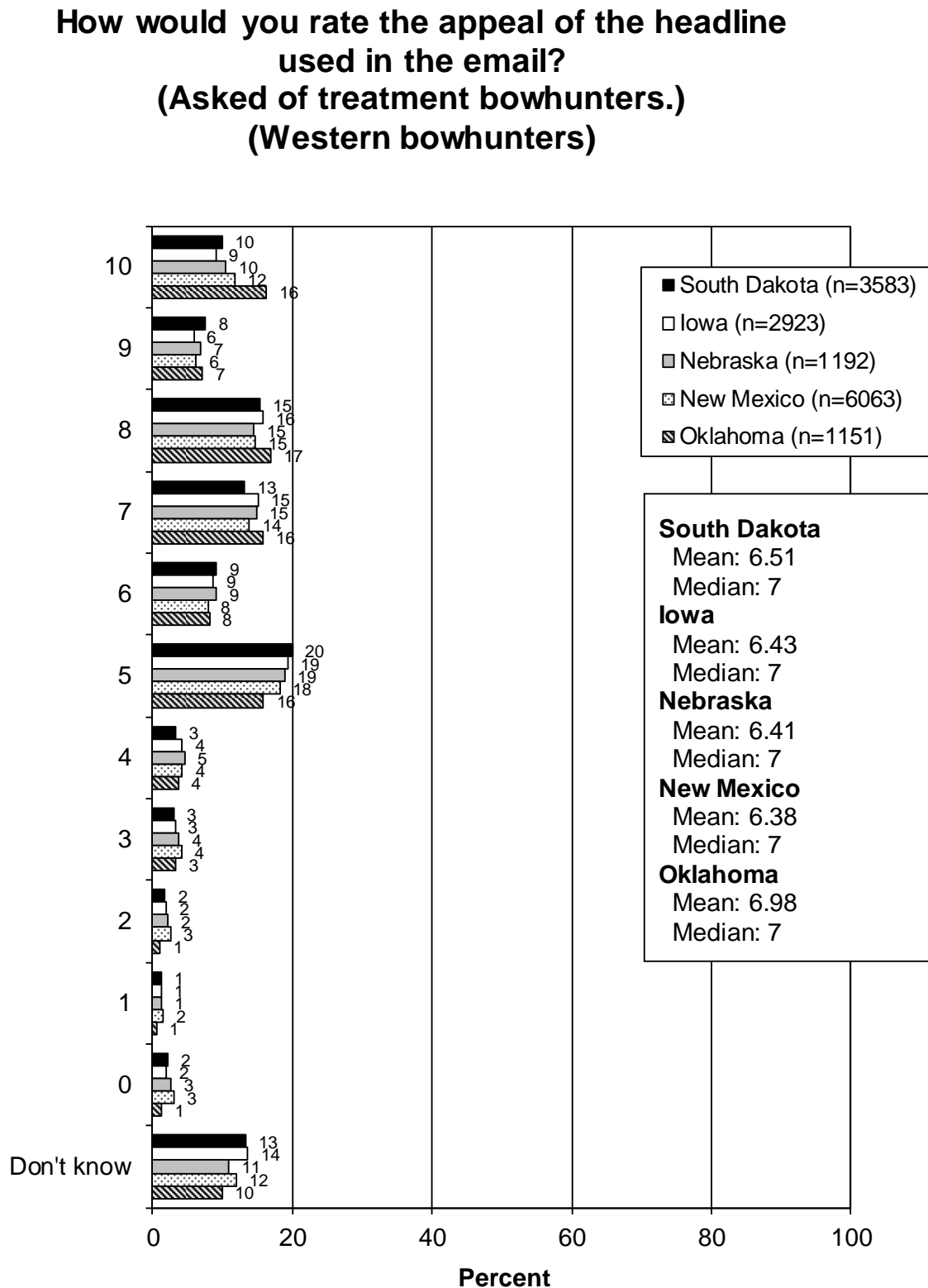


Figure 4.67. Appeal of Headline, Eastern Bowhunters

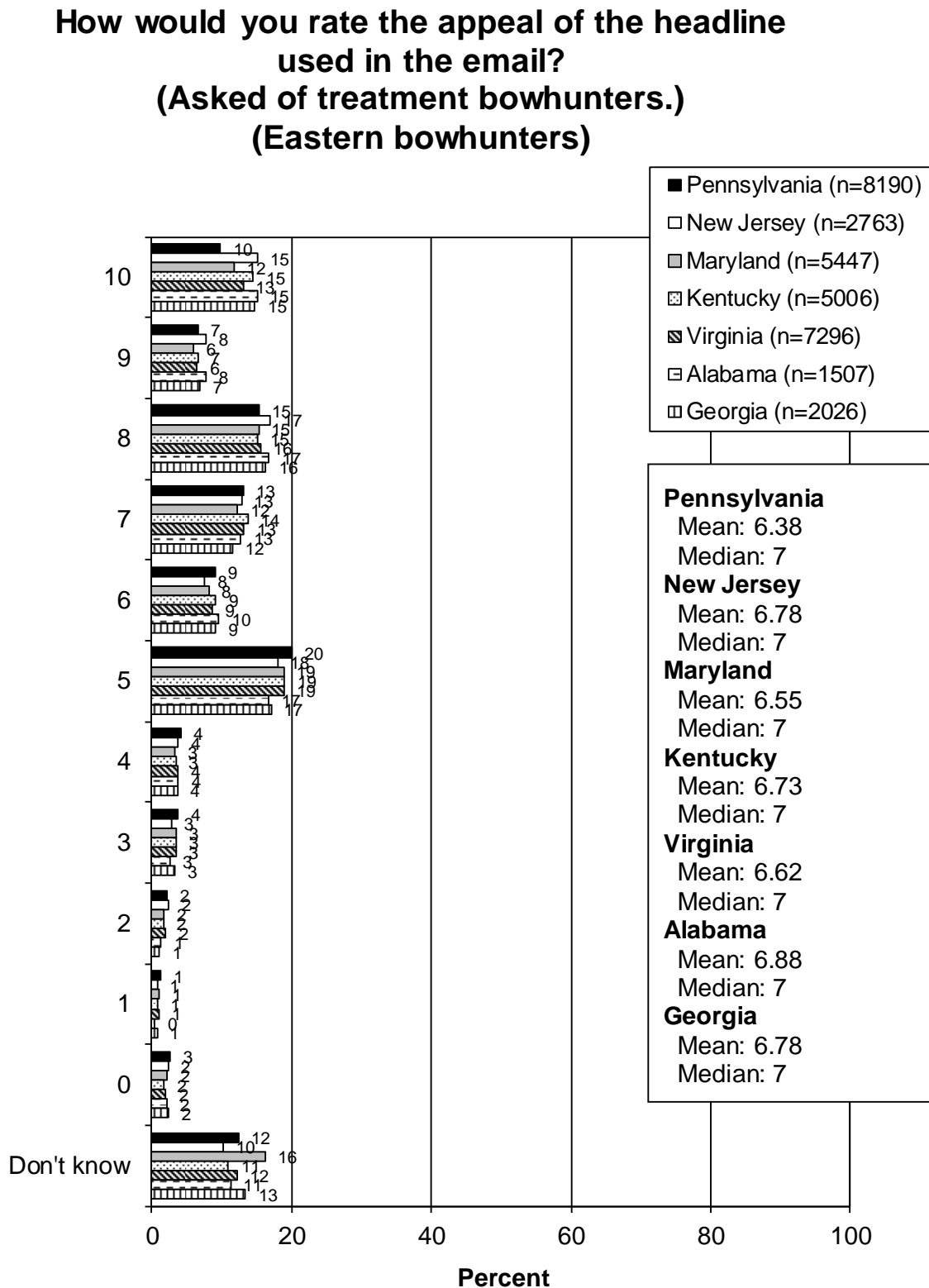


Table 4.3. Mean Ratings of the Appeal of the Headline for Each Email by State Among Only Treatment Bowhunters Answering About the Correct Email Received

Message	Mean Ratings of Overall Appeal of Email Message											
	AL	GA	IA	KY	MD	NE	NJ	NM	OK	PA	SD	VA
1 (Social)	7.24	7.30	7.56	7.78	7.57	7.52	7.68	7.55	8.09	7.53	7.14	7.56
2 (Social)	7.36	7.58	7.79	7.32	8.04	7.44	7.37	6.79	7.31	7.20	7.00	7.32
3 (Social)	6.87	7.33	7.64	7.61	8.24	7.33	7.08	7.53	8.15	6.80	6.94	7.37
4 (Nature)	7.54	8.12	7.50	7.51	7.55	6.47	7.36	6.98 ¹	7.30	7.29	6.83	7.30
								7.12 ²				
5 (Nature)	7.06	7.54	7.64	7.47	7.79	9.00	6.70	7.00 ¹	7.07	7.23	7.36	7.36
								6.36 ²				
6 (Recreation)	7.48	7.41	7.03	7.25	7.03	8.07	7.33	7.21	7.36	7.43	6.75	7.36
7 (Time)	8.38	6.72	7.47	7.24	7.55	6.38	6.62	6.59	8.67	5.87	6.25	6.89
8 (Challenge)	6.73	7.00	7.17	7.73	6.82	6.40	6.00	7.11	8.11	7.78	7.00	7.48
9 (Heritage)	6.36	6.36	6.36	6.37	6.36	6.35	6.37	7.30	6.36	6.37	6.36	6.38

¹New Mexico Fall Turkey Message (image of turkey)²New Mexico Javelina Message (image of javelina)**Table 4.4. Median Ratings of the Appeal of the Headline for Each Email by State Among Only Treatment Bowhunters Answering About the Correct Email Received**

Message	Median Ratings of Overall Appeal of Email Message											
	AL	GA	IA	KY	MD	NE	NJ	NM	OK	PA	SD	VA
1 (Social)	8	7	8	8	8	8	8	8	8	8	8	8
2 (Social)	7	8	8	8	8	8	7	7	8	7	7	8
3 (Social)	7	7	8	7.5	8	8	8	8	8	8	7	8
4 (Nature)	8	9	8	8	8	6	8	7 ¹	7.5	7	7	7
								7 ²				
5 (Nature)	7	8	8	8	8	10	7	8 ¹	8	7	7	8
								7 ²				
6 (Recreation)	8	7	7	7.5	7	8	7	8	8	8	7	7
7 (Time)	8	7	8	8	8	7	7	7	9	6	6.5	7
8 (Challenge)	7	7	6.5	8	7	7	6.5	7	9	8	7	8
9 (Heritage)	7	7	7	7	7	7	7	7	7	7	7	7

¹New Mexico Fall Turkey Message (image of turkey)²New Mexico Javelina Message (image of javelina)

Figure 4.68. Appeal of Image, Western Bowhunters

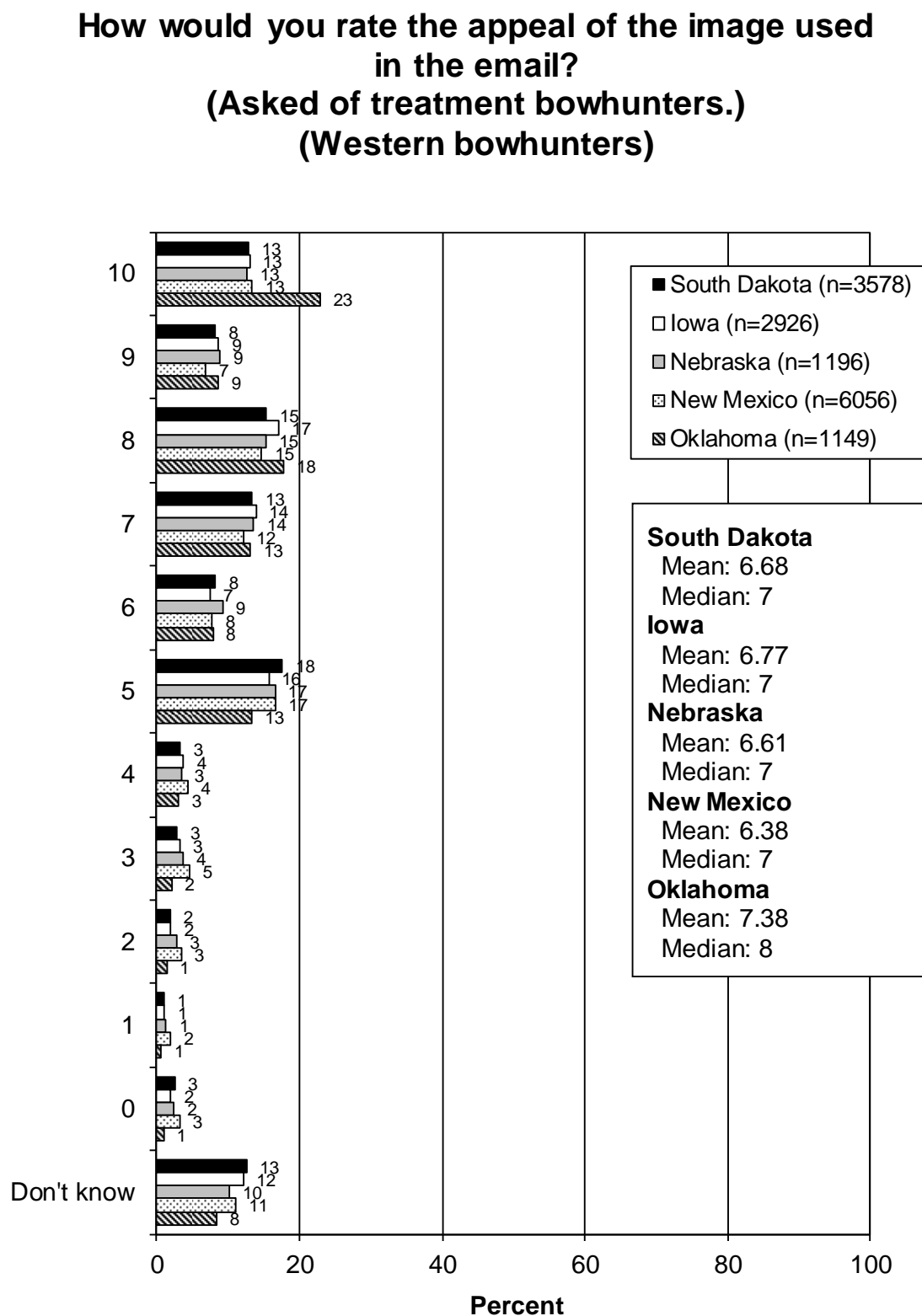


Figure 4.69. Appeal of Image, Eastern Bowhunters

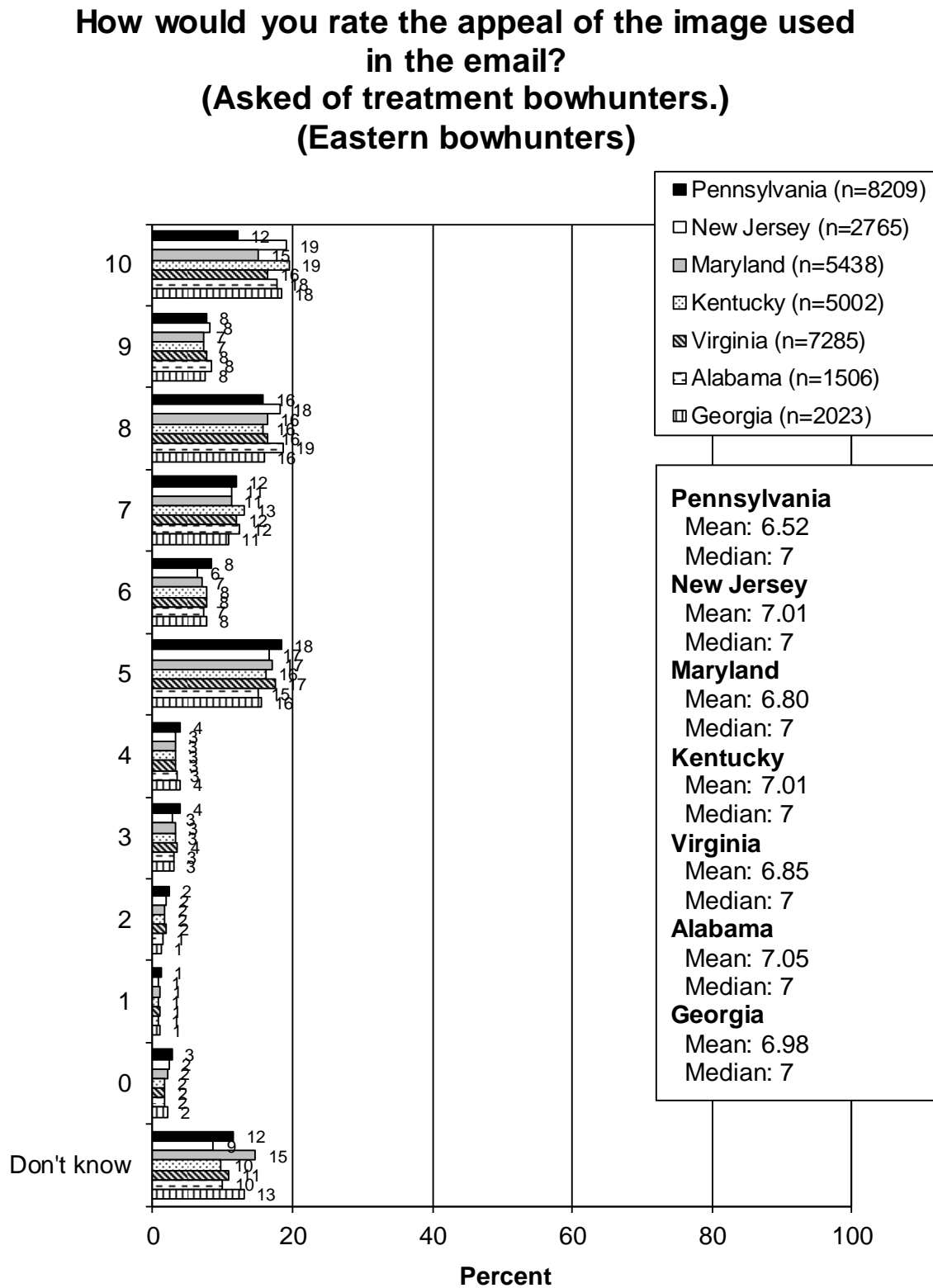


Table 4.5. Mean Ratings of the Appeal of the Image for Each Email by State Among Only Treatment Bowhunters Answering About the Correct Email Received

Message	Mean Ratings of Overall Appeal of Email Message											
	AL	GA	IA	KY	MD	NE	NJ	NM	OK	PA	SD	VA
1 (Social)	7.85	7.05	7.81	8.02	7.67	7.52	8.03	7.63	8.06	7.93	7.48	7.71
2 (Social)	7.41	7.93	7.77	7.78	7.68	7.89	8.00	6.92	7.36	7.29	6.91	7.43
3 (Social)	7.50	7.18	7.91	7.44	8.39	8.33	7.42	7.68	7.43	6.64	7.11	7.74
4 (Nature)	8.23	8.94	8.51	8.16	8.20	7.59	7.82	7.09 ¹	8.44	8.07	7.78	7.95
								6.63 ²				
5 (Nature)	8.25	7.08	7.64	7.94	8.33	9.25	7.36	7.44 ¹	8.34	8.02	7.77	8.17
								6.57 ²				
6 (Recreation)	7.93	7.38	7.98	7.68	7.49	8.64	8.05	7.81	8.27	7.89	7.60	7.92
7 (Time)	8.00	7.00	7.00	6.29	7.20	6.87	6.15	6.29	8.67	6.07	6.50	6.86
8 (Challenge)	7.09	6.50	8.00	7.67	7.00	7.00	5.77	5.58	8.89	7.71	8.14	6.15
9 (Heritage)	6.57	6.57	6.57	6.58	6.58	6.57	6.58	7.62	6.57	6.57	6.57	6.58

¹New Mexico Fall Turkey Message (image of turkey)²New Mexico Javelina Message (image of javelina)**Table 4.6. Median Ratings of the Appeal of the Image for Each Email by State Among Only Treatment Bowhunters Answering About the Correct Email Received**

Message	Median Ratings of Overall Appeal of Email Message											
	AL	GA	IA	KY	MD	NE	NJ	NM	OK	PA	SD	VA
1 (Social)	8	7	8	8	8	8	8	8	8	8	8	8
2 (Social)	8	8	8	8.5	8	8	8	7	8	7	7	7.5
3 (Social)	8	7	8	7.5	8	8	8	8	7.5	8	7	8
4 (Nature)	8	10	9	9	8	8	8	7 ¹	9	8	8	8
								7 ²				
5 (Nature)	8.5	7	8	8	8	10	8	8 ¹	9	9	8	8.5
								7 ²				
6 (Recreation)	8	8	8	8	8	9	8	8	9	8	8	8
7 (Time)	8	7	7	7	7.5	7	6	6.5	10	7	7	6.5
8 (Challenge)	7	7	8.5	8	7	7	6	6	10	8	8	6
9 (Heritage)	7	7	7	7	7	7	7	8	7	7	7	7

¹New Mexico Fall Turkey Message (image of turkey)²New Mexico Javelina Message (image of javelina)

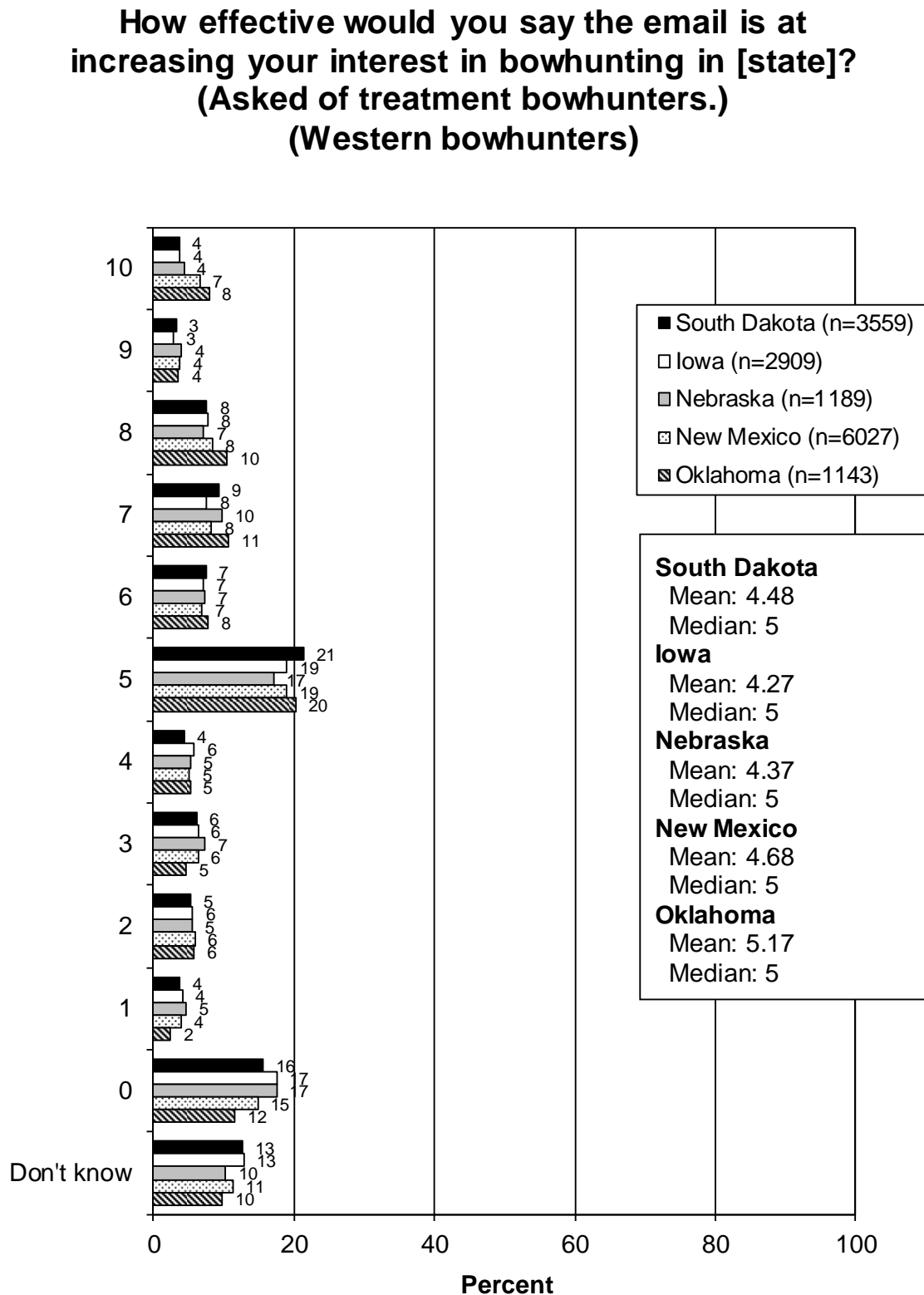
Figure 4.70. Effectiveness of Email, Western Bowhunters

Figure 4.71. Effectiveness of Email, Eastern Bowhunters

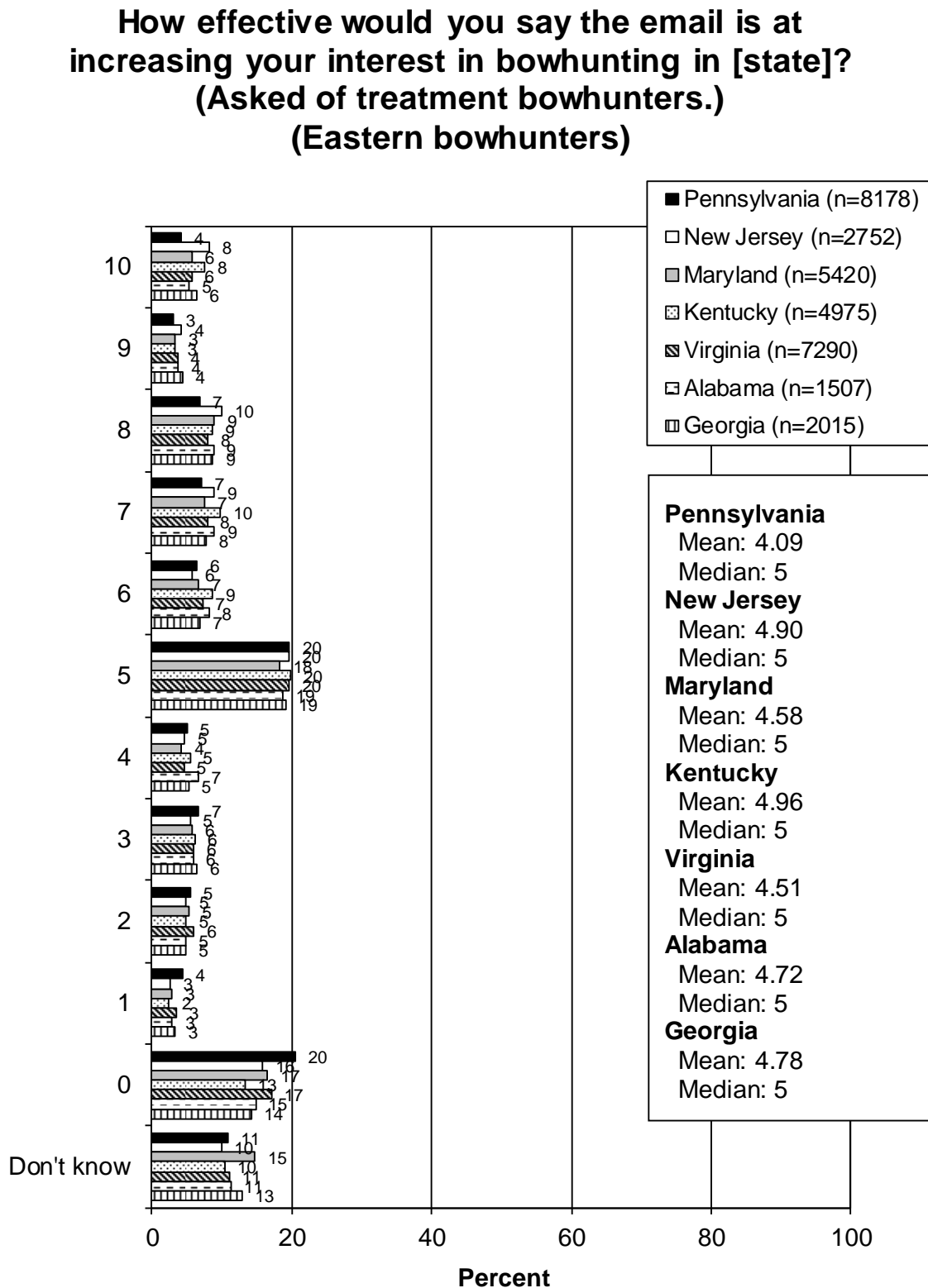


Table 4.7. Mean Ratings of the Effectiveness of Each Email for Increasing Interest in Bowhunting by State Among Only Treatment Bowhunters Answering About the Correct Email Received

Message	Mean Ratings of Overall Appeal of Email Message											
	AL	GA	IA	KY	MD	NE	NJ	NM	OK	PA	SD	VA
1 (Social)	5.82	6.09	5.45	6.42	6.31	5.50	6.17	6.02	6.48	5.50	5.29	5.82
2 (Social)	5.45	6.23	5.11	5.68	6.48	6.61	5.63	5.08	5.72	5.36	5.27	5.27
3 (Social)	6.38	5.89	6.45	5.68	7.18	5.33	4.74	5.90	6.43	4.87	5.69	6.02
4 (Nature)	5.36	5.33	5.52	5.84	6.09	5.81	5.40	5.73 ¹	6.06	5.32	5.91	5.54
								5.44 ²				
5 (Nature)	5.31	5.54	5.85	6.55	6.63	5.13	4.81	5.59 ¹	6.14	5.50	5.48	5.62
								4.28 ²				
6 (Recreation)	5.92	5.35	6.26	6.38	5.78	6.71	6.10	5.58	6.81	5.81	5.27	5.72
7 (Time)	6.75	5.12	6.07	5.41	4.90	4.31	5.54	5.03	7.67	3.73	5.29	5.36
8 (Challenge)	6.27	4.44	6.00	6.33	5.75	3.20	3.73	5.67	6.71	6.18	5.57	4.74
9 (Heritage)	4.27	4.28	4.27	4.29	4.28	4.27	4.28	5.91	4.27	4.28	4.28	4.30

¹New Mexico Fall Turkey Message (image of turkey)²New Mexico Javelina Message (image of javelina)**Table 4.8. Median Ratings of the Effectiveness of Each Email for Increasing Interest in Bowhunting by State Among Only Treatment Bowhunters Answering About the Correct Email Received**

Message	Median Ratings of Overall Appeal of Email Message											
	AL	GA	IA	KY	MD	NE	NJ	NM	OK	PA	SD	VA
1 (Social)	6	7	7	7	7	5	7	6	6	6	5	6
2 (Social)	5	6	5	5.5	7	7	5	5	5	6	5	5
3 (Social)	7	5.5	7	5	8	8	5	5.5	7	6	6.5	6
4 (Nature)	6	5	6	6	6	5.5	5.5	6 ¹	6	5	6	6
								5 ²				
5 (Nature)	5	6	6.5	7	7	5.5	5	5 ¹	7	5	6	6
								5 ²				
6 (Recreation)	7	5	6	7	5	7	7	6	7	6	6	6
7 (Time)	6.5	5	7	5	5	5	7	5	8	5	5	6
8 (Challenge)	6	5	6	6	5.5	3	4	6	8	7	5	5
9 (Heritage)	5	5	5	5	5	5	5	6	5	5	5	5

¹New Mexico Fall Turkey Message (image of turkey)²New Mexico Javelina Message (image of javelina)

ACTIONS PROMPTED BY THE EMAIL MARKETING CAMPAIGN MESSAGE

Regardless of whether they could accurately recall which email message they received, treatment bowhunters who recall receiving a message were asked about their license purchasing behavior following the email. Overall, 34% to 44% of treatment bowhunters who recall receiving an email stated that they purchased a state hunting or bowhunting license after receiving the email (Figures 4.72 and 4.73), regardless of whether or not they feel the email influenced their decision to do so. (Note that the question asked about a hunting or bowhunting license because some states in the study do not have a license specifically for bowhunting.)

However, treatment bowhunters who recall receiving a message and say they then purchased a license indicated that the email had little to no influence on their decision to purchase a license. When asked to rate how much the email influenced their decision to purchase the license, the majority of treatment bowhunters who recall receiving a message and purchased a license gave a rating of 0, on a scale of 0 to 10, where 0 is no influence at all and 10 is a great deal of influence. The means and medians of the ratings are in the 0 to 2 range. (Figures 4.74 and 4.75)

Furthermore, the vast majority of treatment bowhunters who recall receiving a message and purchased a license stated that they were *very likely* to purchase the license if they had not received the email at all: 91% to 96% gave this response (Figures 4.76 and 4.77).

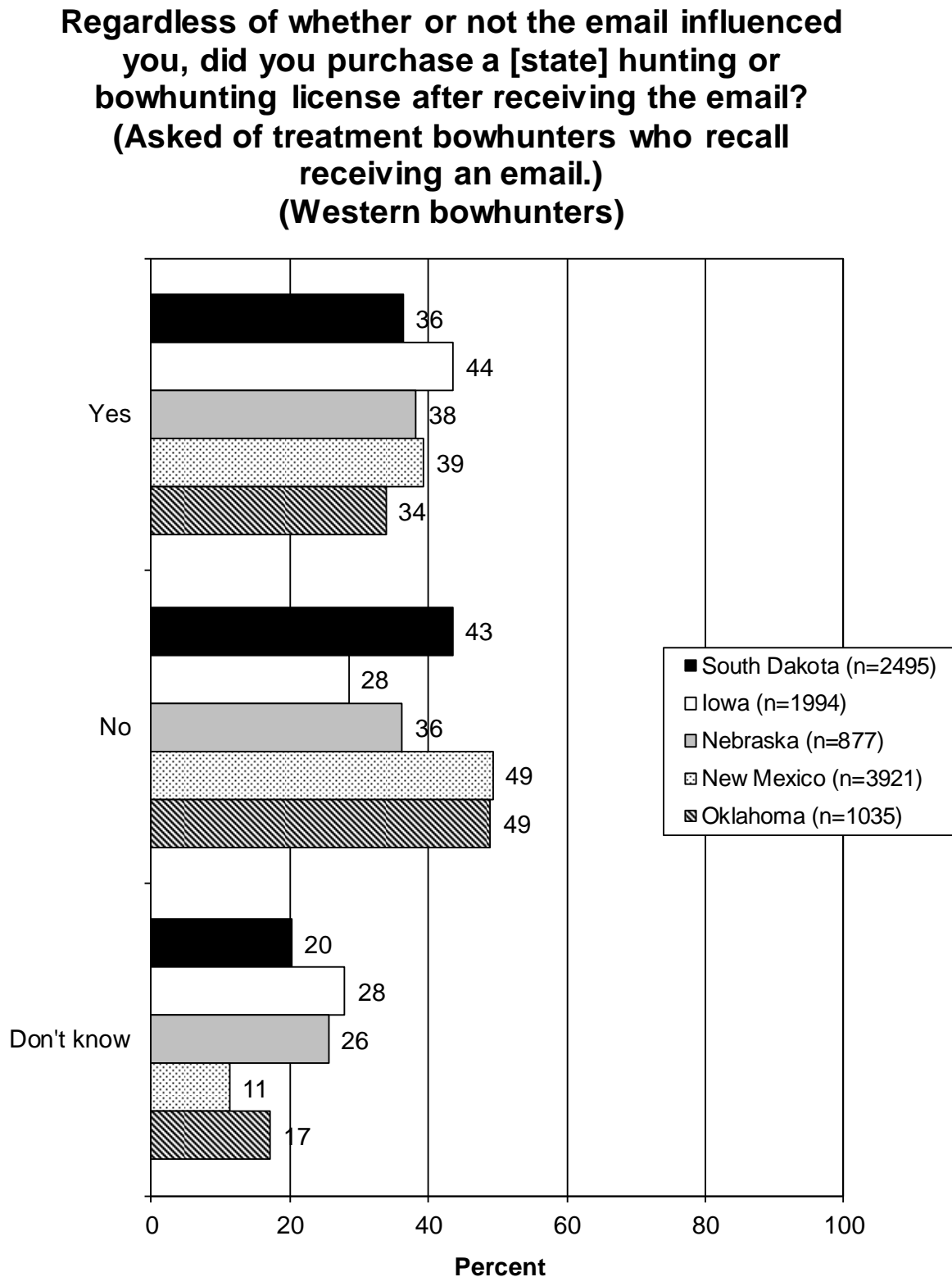
Figure 4.72. Percent Who Purchased License, Western Bowhunters

Figure 4.73. Percent Who Purchased License, Eastern Bowhunters

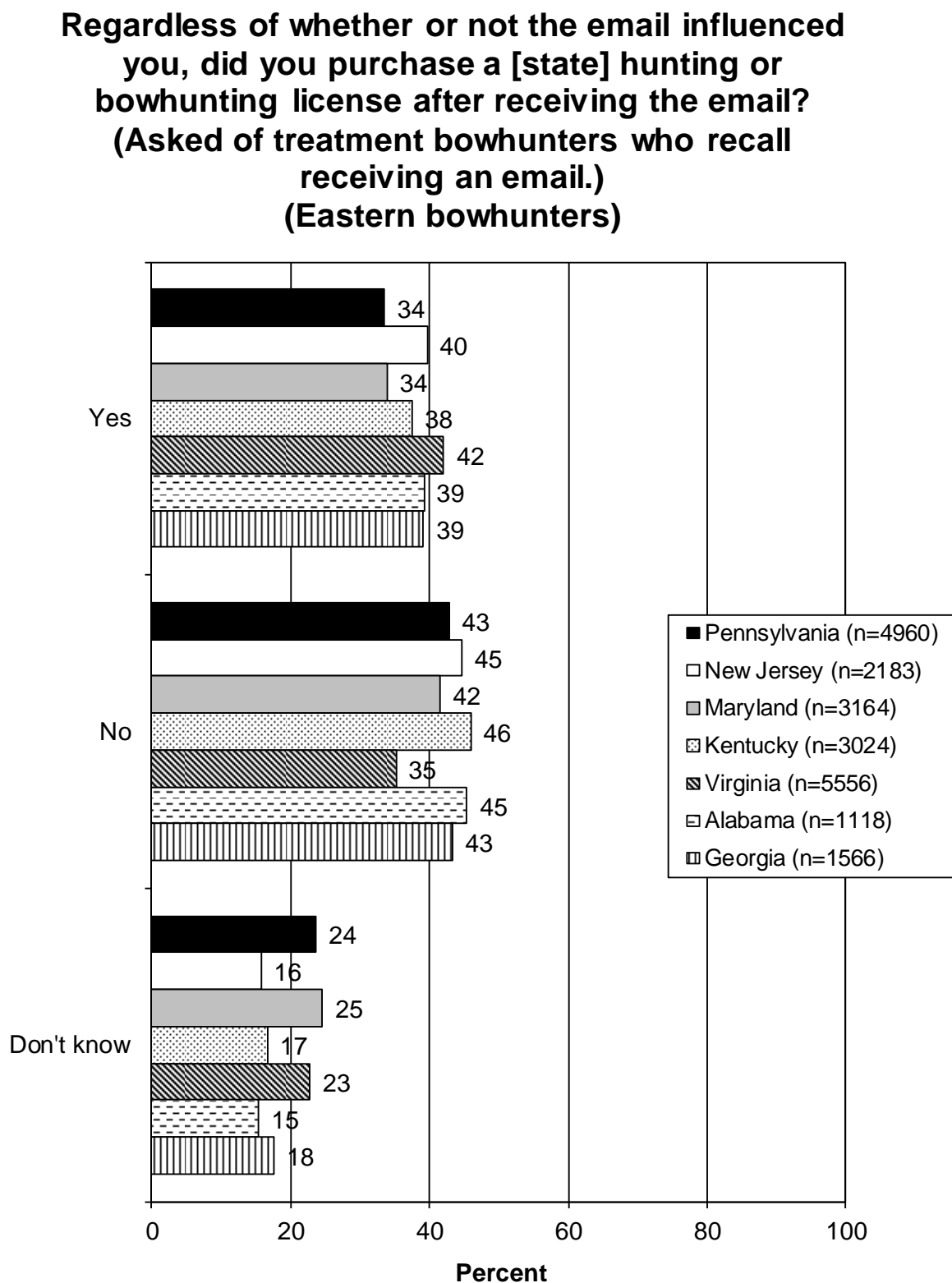


Figure 4.74. Email Campaign's Influence, Western Bowhunters

How much would you say the email you received influenced your decision to purchase the license, on a scale of 0 to 10, where 0 is no influence at all and 10 is a great deal of influence?
(Asked of treatment bowhunters who purchased a license after receiving an email.)

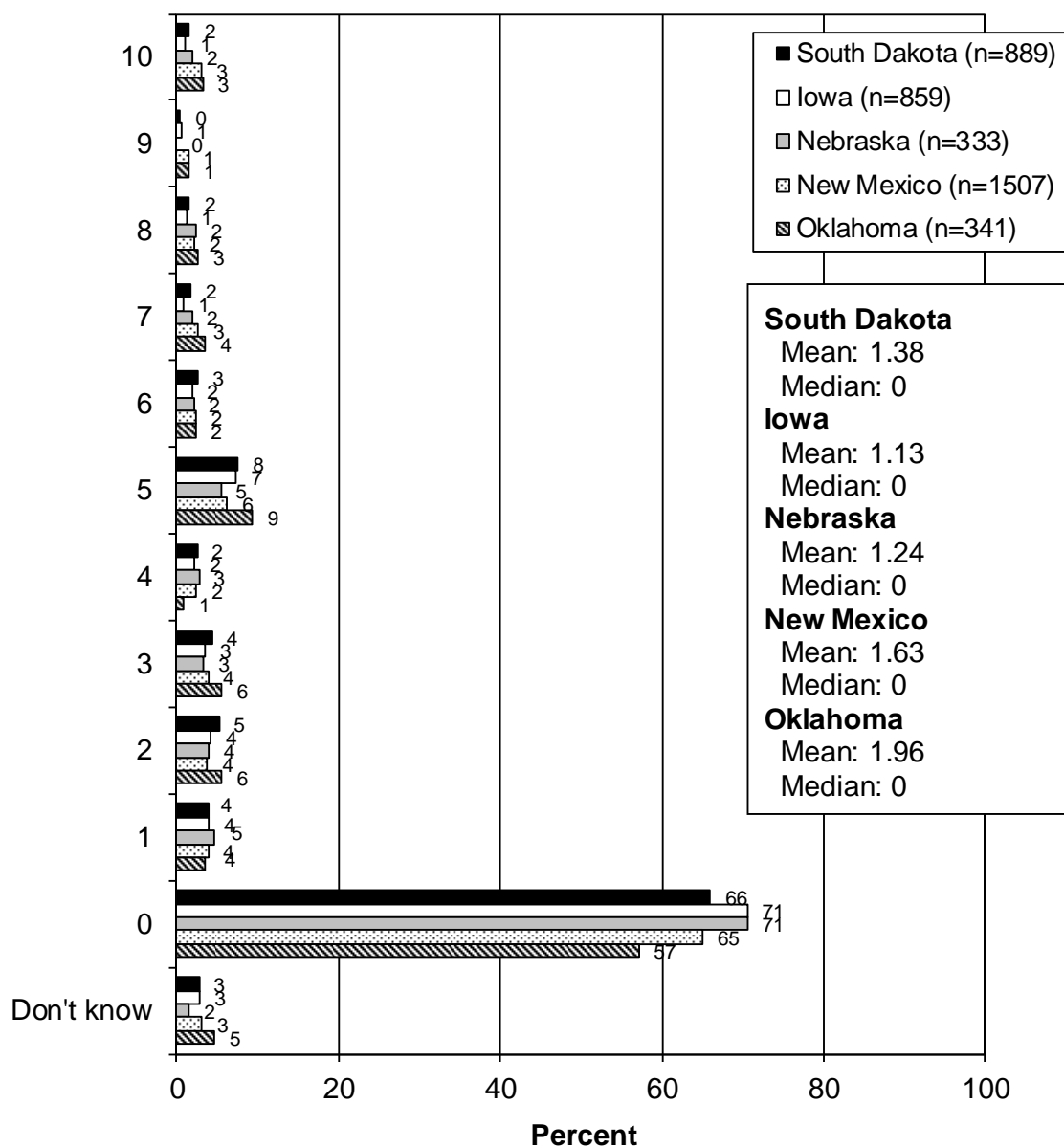


Figure 4.75. Email Campaign's Influence, Eastern Bowhunters

How much would you say the email you received influenced your decision to purchase the license, on a scale of 0 to 10, where 0 is no influence at all and 10 is a great deal of influence?
(Asked of treatment bowhunters who purchased a license after receiving an email.)
(Eastern bowhunters)

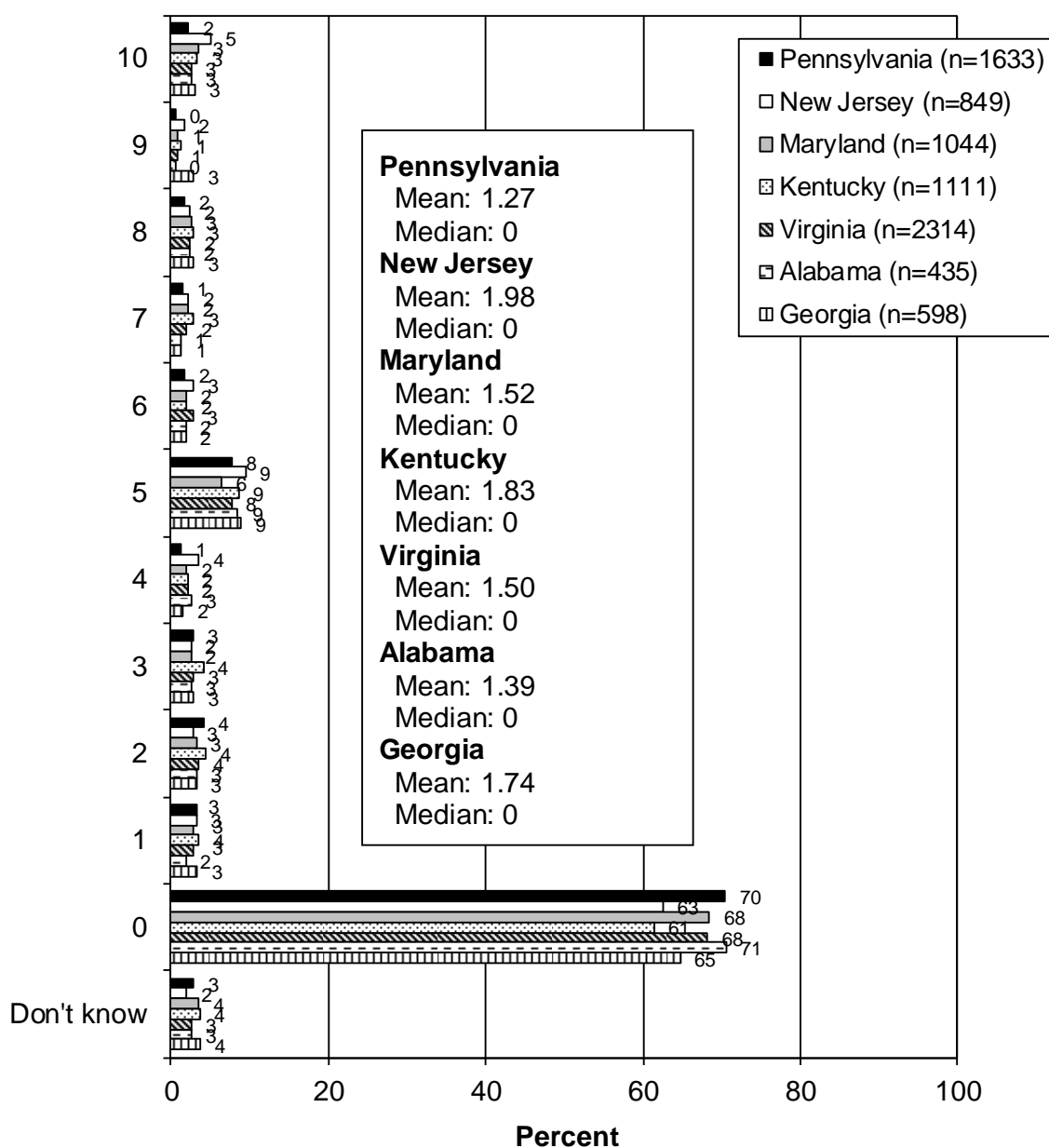


Figure 4.76. Likelihood to Purchase License, Western Bowhunters

**How likely would you say you were to purchase the license if you had not received the email at all?
(Asked of treatment bowhunters who purchased a license after receiving an email.)
(Western bowhunters)**

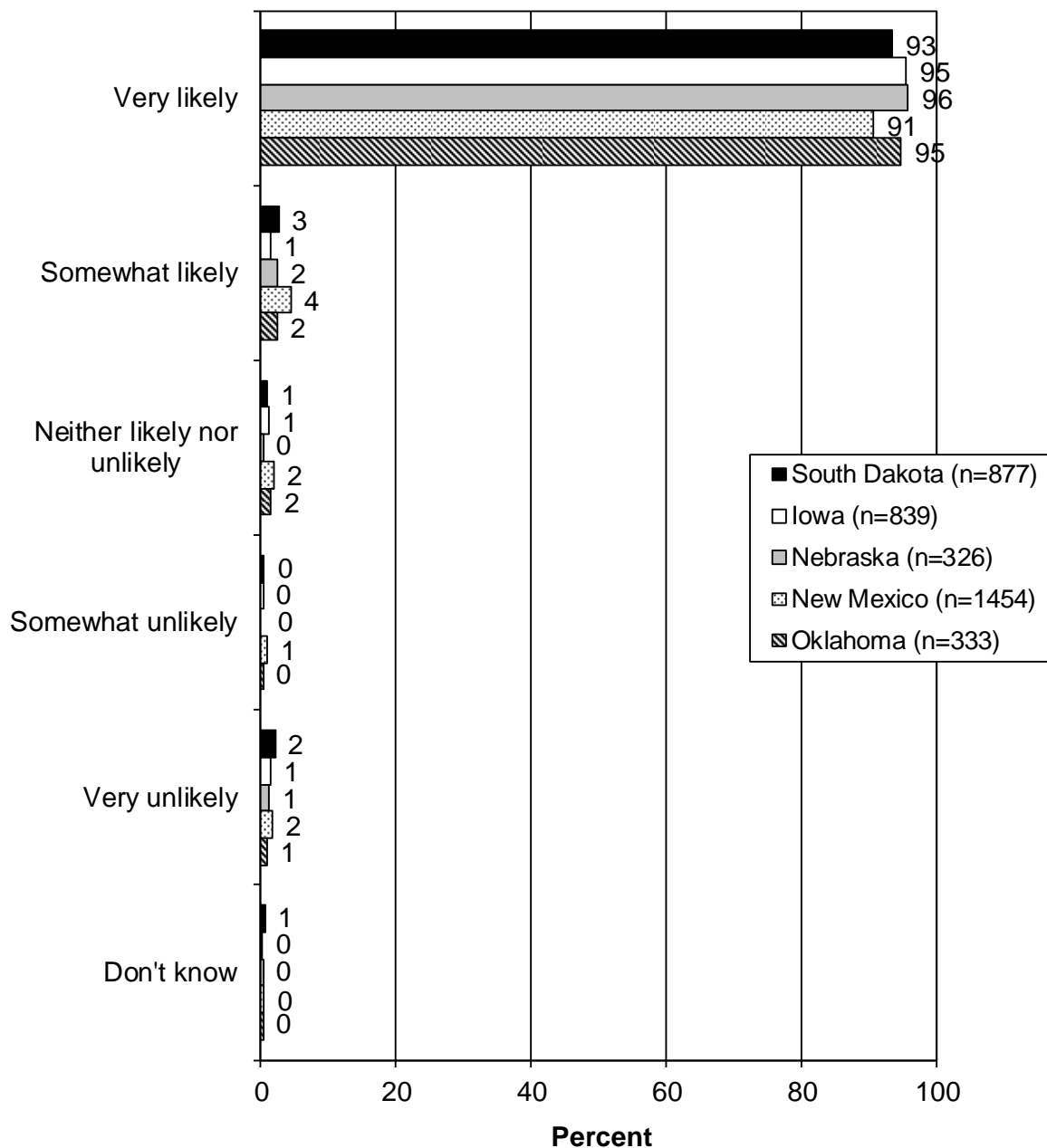
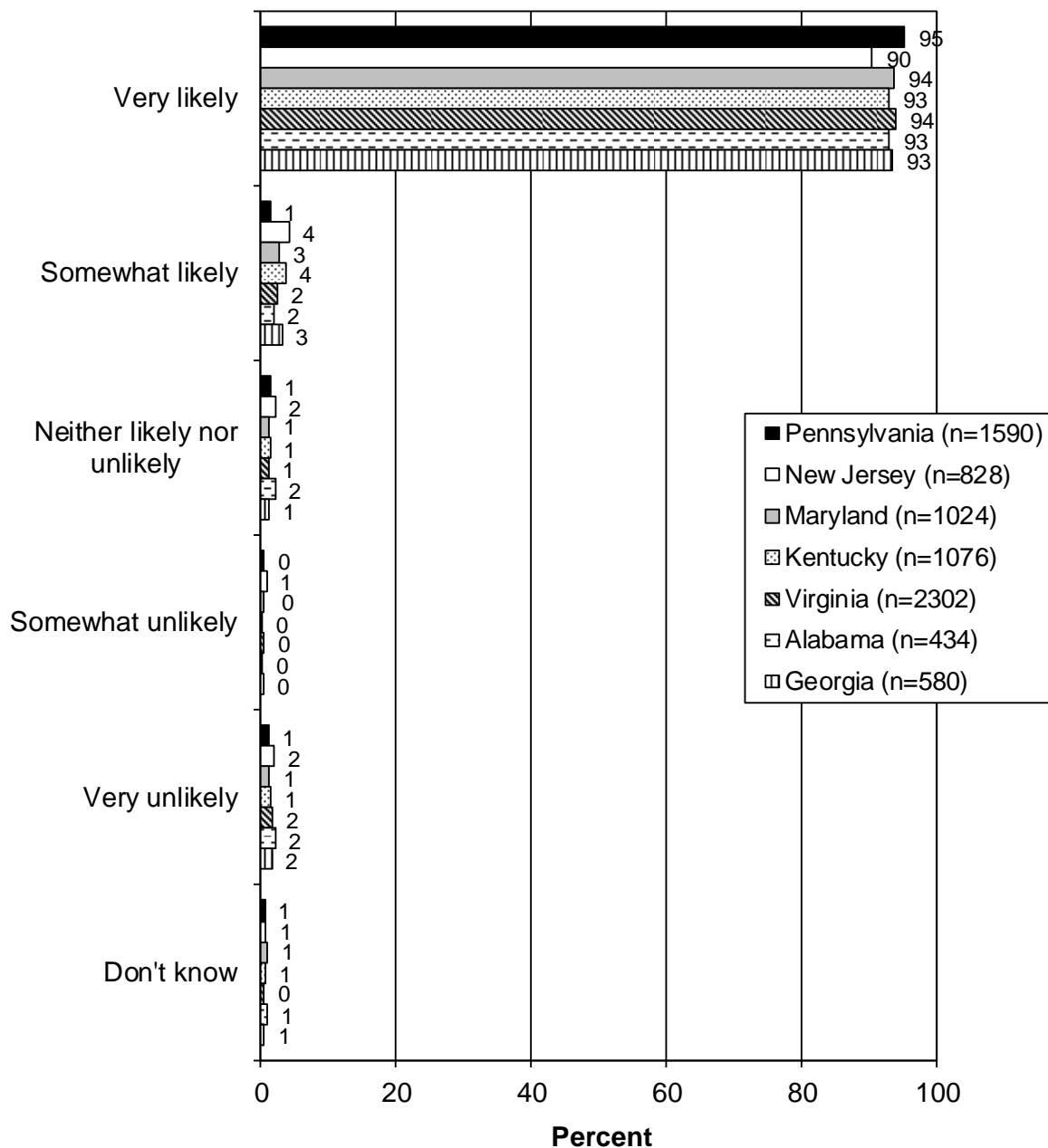


Figure 4.77. Likelihood to Purchase License, Eastern Bowhunters

**How likely would you say you were to purchase the license if you had not received the email at all?
(Asked of treatment bowhunters who purchased a license after receiving an email.)
(Eastern bowhunters)**



OPINIONS ON THE POTENTIAL EFFECTIVENESS OF EMAIL MARKETING CAMPAIGN MESSAGES

After evaluating treatment bowhunters' response to the email message they received, *all* bowhunters in the survey—treatment and control groups—were shown the nine different email messages sent out in their state and asked to select which email they think would be *most* effective, as well as which email would be *least* effective, at persuading them to buy a hunting license to bowhunt.

Message 1 (Social) with the image of the young couple bowhunting and Message 6 (Recreation) with the bowhunter silhouette image are consistently among the top two messages selected as most effective across all the states (with the exception being Georgia where neither message was the single top message but both messages are still among the top three). Most commonly, both of these messages have 15% to 20% of all bowhunters selecting each one (Figures 4.80 to 4.103). Message 1 (Social) did especially well in New Jersey where 23% selected it as most effective (Figure 4.92). Message 6 (Recreation) did especially well in New Mexico where 31% selected it as most effective (Figure 4.94). Message 5 (Nature) is also among the top three messages for half the states.


Figure 4.78. Messages Selected as Most Effective




Message 7 (Time) is the top message selected as least effective for nearly all the states (again, the exception being Georgia, where it was the second top message). Most commonly, the Message 7 (Time) has 20% to 30% of all bowhunters selecting it as least effective (Figures 4.80 to 4.103). Message 8 (Challenge) and Message 3 (Social) each had 7 to 8 of the 12 states for which it was among the top three messages selected as least effective.

Figure 4.79. Messages Selected as Least Effective

Message 7 Time
(Oklahoma is used as an example.)



Message 8 Challenge
(Alabama is used as an example.)



Message 3 Social
(Virginia is used as an example.)


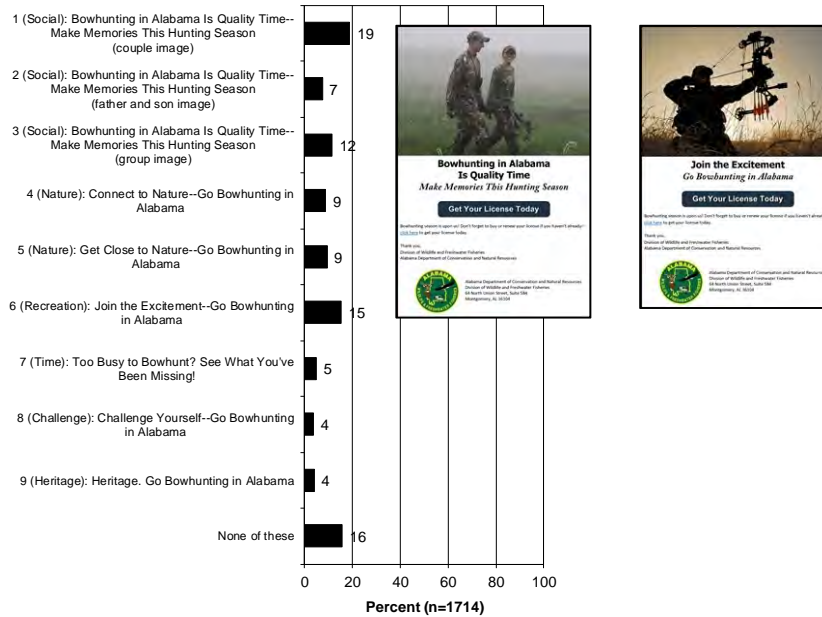


Figure 4.80. Most Effective Email Message, Alabama

In your opinion, which one of the following email messages do you think would be most effective at persuading you to buy a hunting license to bowhunt?
(Alabama bowhunters)

**Figure 4.81. Least Effective Email Message, Alabama**

In your opinion, which one of the following email messages do you think would be least effective at persuading you to buy a hunting license to bowhunt?
(Alabama bowhunters)

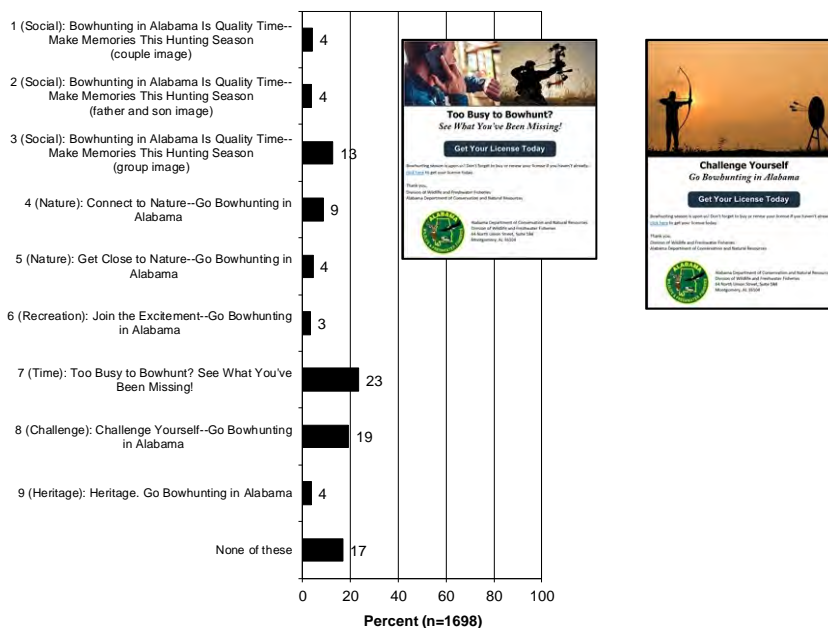
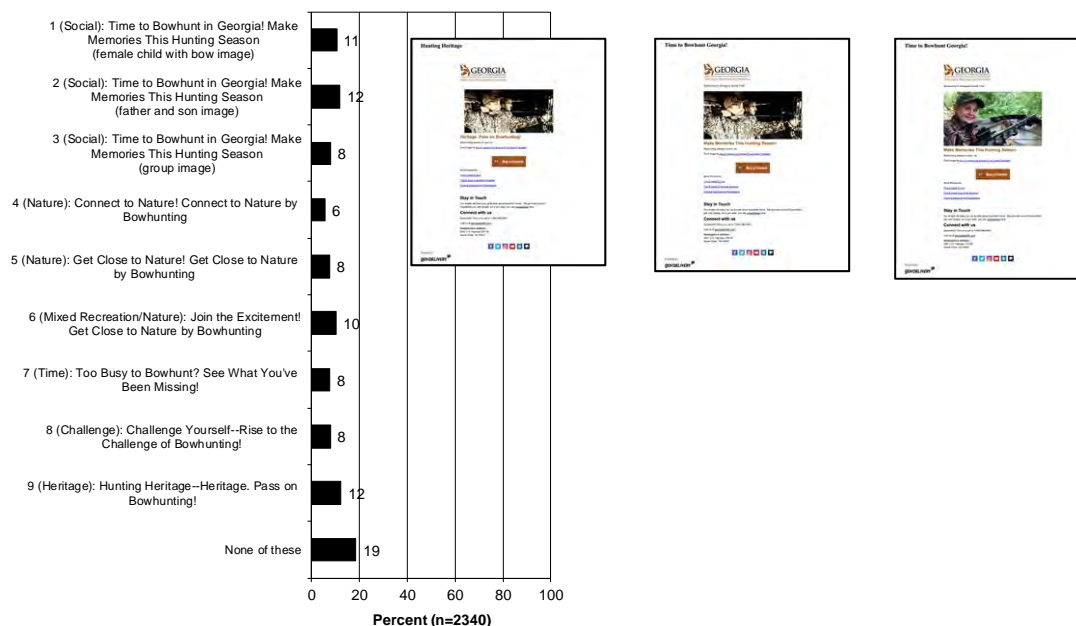


Figure 4.82. Most Effective Email Message, Georgia

In your opinion, which one of the following email messages do you think would be most effective at persuading you to buy a hunting license to bowhunt?
(Georgia bowhunters)

**Figure 4.83. Least Effective Email Message, Georgia**

In your opinion, which one of the following email messages do you think would be least effective at persuading you to buy a hunting license to bowhunt?
(Georgia bowhunters)

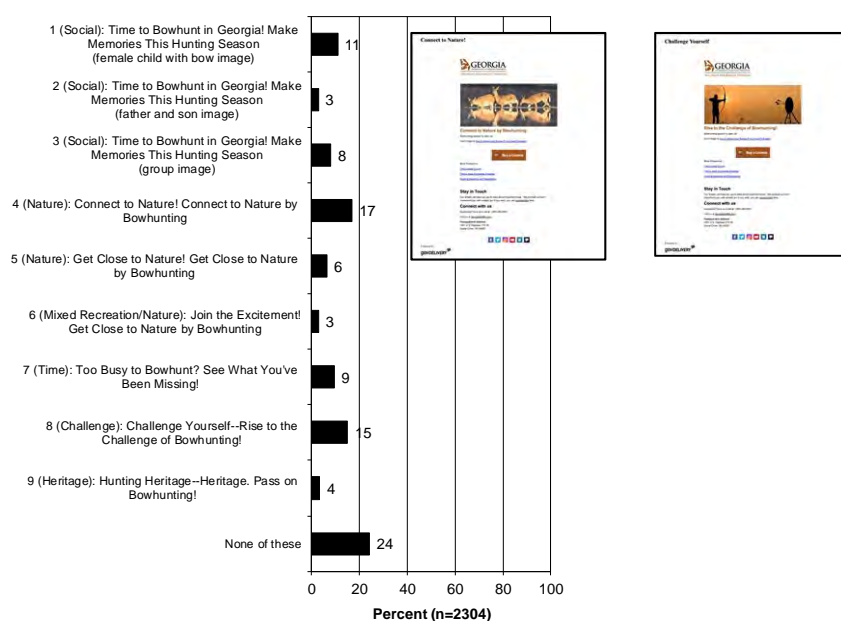
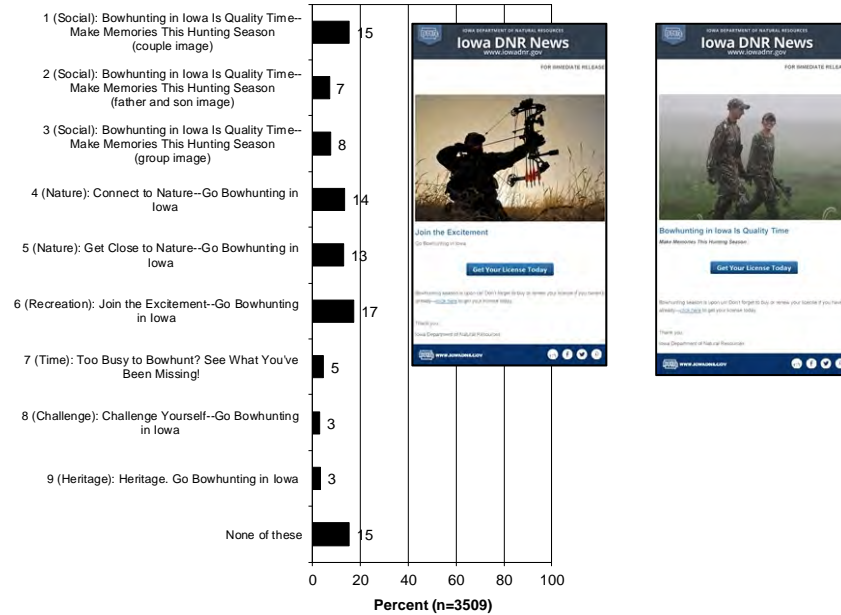


Figure 4.84. Most Effective Email Message, Iowa

In your opinion, which one of the following email messages do you think would be most effective at persuading you to buy a hunting license to bowhunt?
(Iowa bowhunters)

**Figure 4.85. Least Effective Email Message, Iowa**

In your opinion, which one of the following email messages do you think would be least effective at persuading you to buy a hunting license to bowhunt?
(Iowa bowhunters)

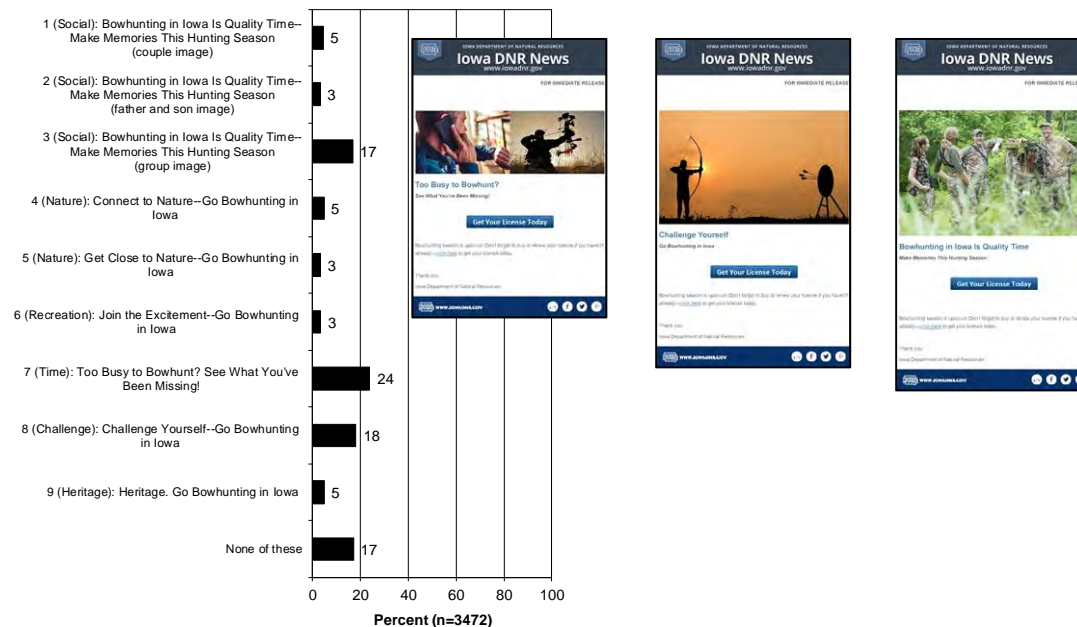
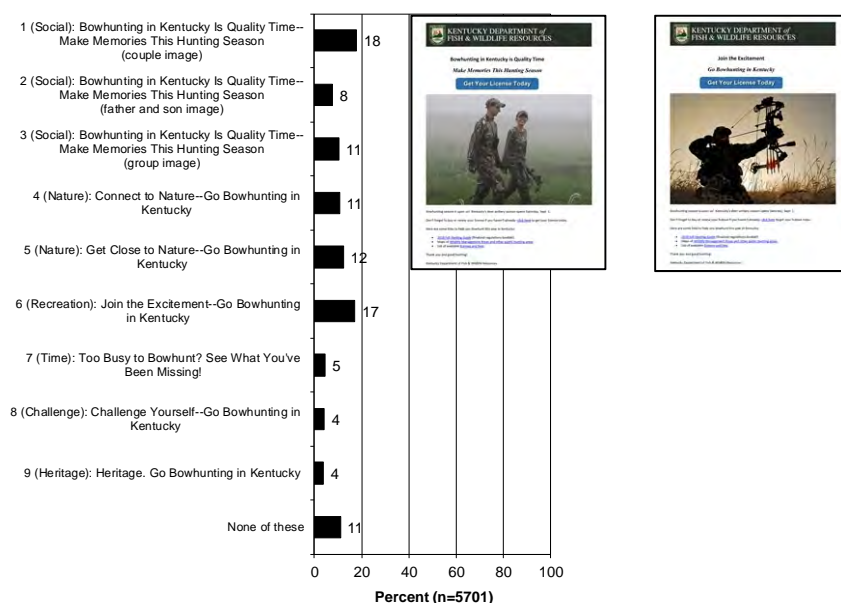


Figure 4.86. Most Effective Email Message, Kentucky

In your opinion, which one of the following email messages do you think would be most effective at persuading you to buy a hunting license to bowhunt?
(Kentucky bowhunters)

**Figure 4.87. Least Effective Email Message, Kentucky**

In your opinion, which one of the following email messages do you think would be least effective at persuading you to buy a hunting license to bowhunt?
(Kentucky bowhunters)

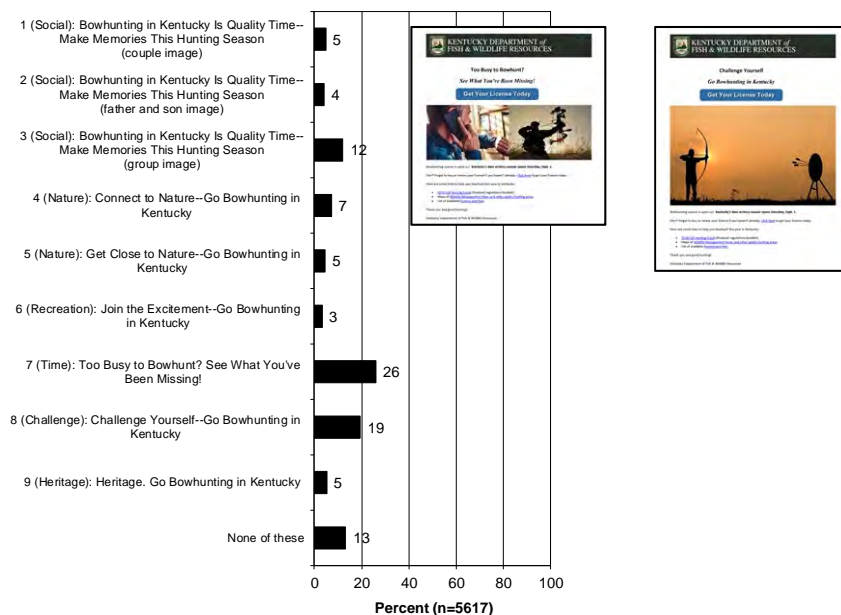
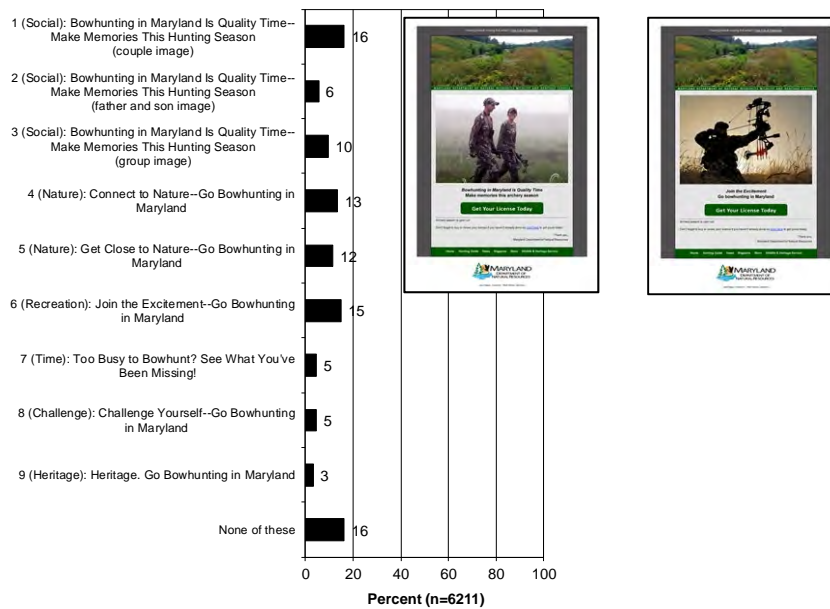


Figure 4.88. Most Effective Email Message, Maryland

In your opinion, which one of the following email messages do you think would be most effective at persuading you to buy a hunting license to bowhunt?
(Maryland bowhunters)

**Figure 4.89. Least Effective Email Message, Maryland**

In your opinion, which one of the following email messages do you think would be least effective at persuading you to buy a hunting license to bowhunt?
(Maryland bowhunters)

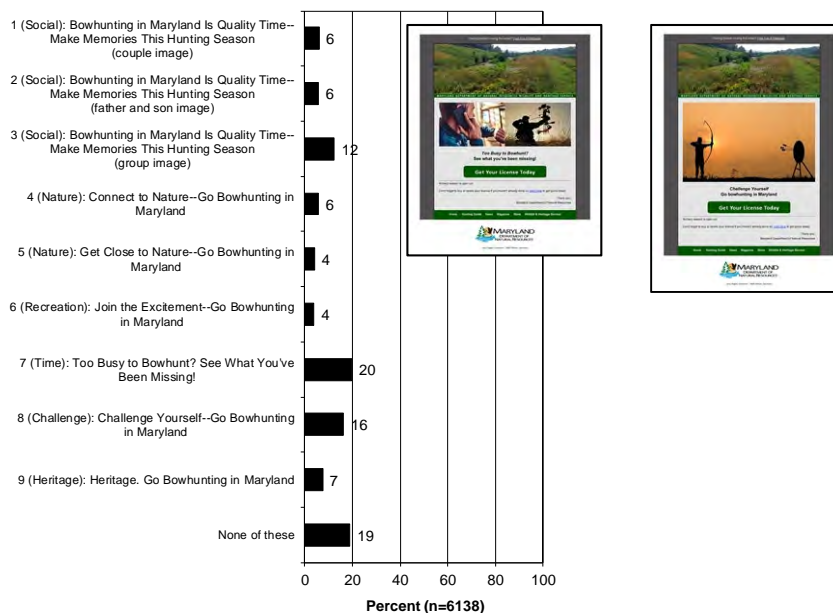
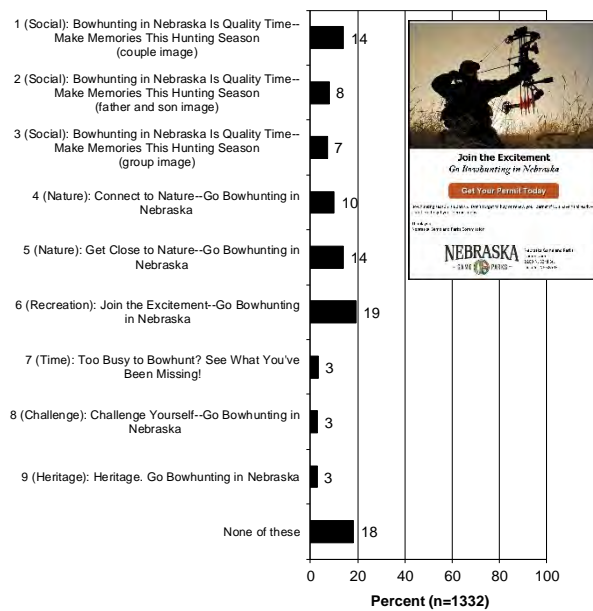


Figure 4.90. Most Effective Email Message, Nebraska

In your opinion, which one of the following email messages do you think would be most effective at persuading you to buy a hunting license to bowhunt?
(Nebraska bowhunters)

**Figure 4.91. Least Effective Email Message, Nebraska**

In your opinion, which one of the following email messages do you think would be least effective at persuading you to buy a hunting license to bowhunt?
(Nebraska bowhunters)

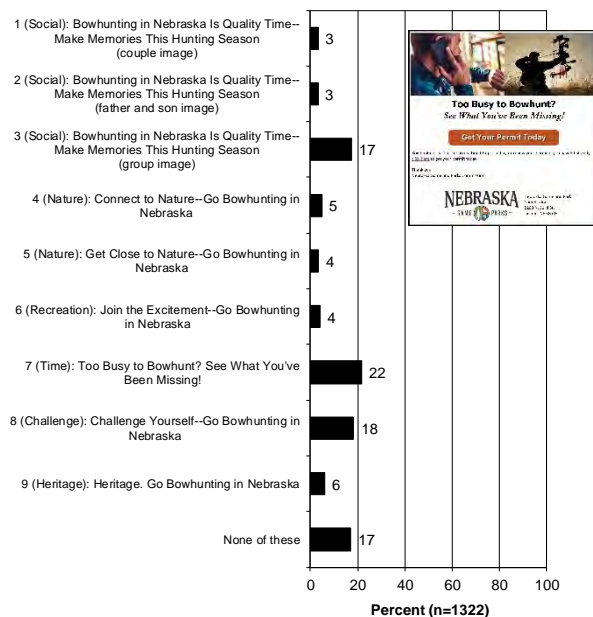
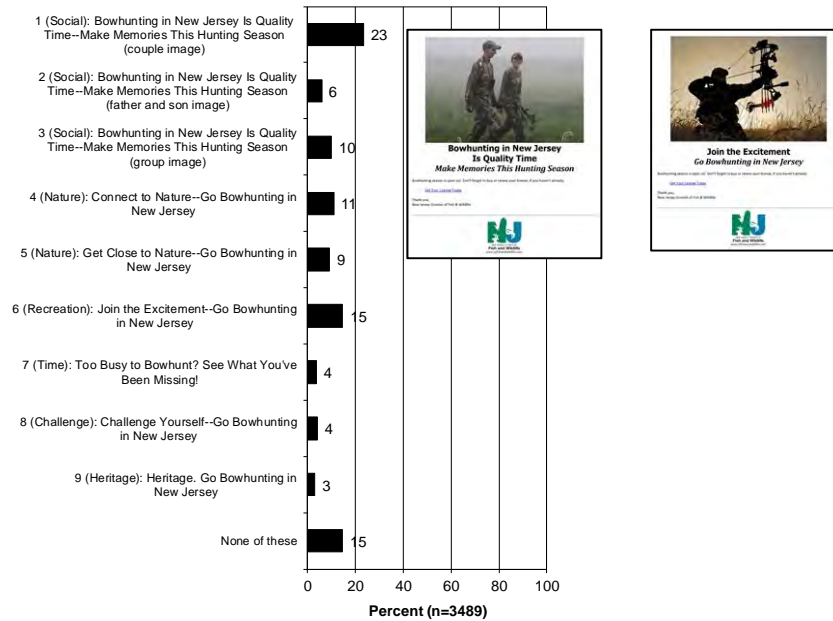


Figure 4.92. Most Effective Email Message, New Jersey

In your opinion, which one of the following email messages do you think would be most effective at persuading you to buy a hunting license to bowhunt?
(New Jersey bowhunters)

**Figure 4.93. Least Effective Email Message, New Jersey**

In your opinion, which one of the following email messages do you think would be least effective at persuading you to buy a hunting license to bowhunt?
(New Jersey bowhunters)

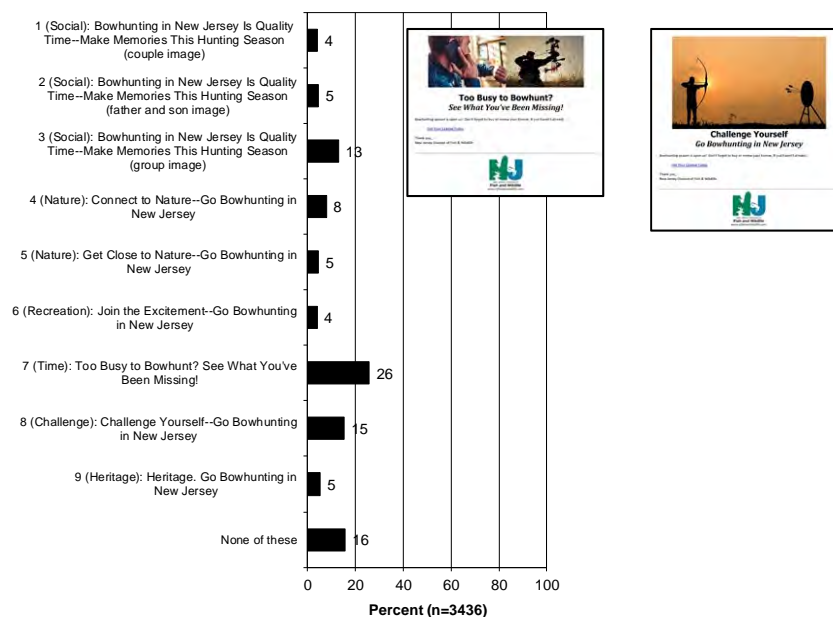
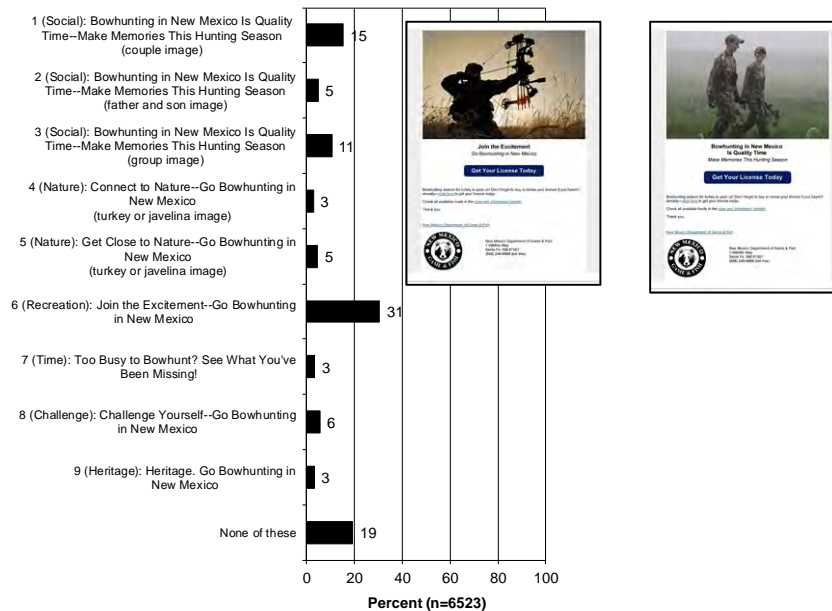


Figure 4.94. Most Effective Email Message, New Mexico

In your opinion, which one of the following email messages do you think would be most effective at persuading you to buy a hunting license to bowhunt?
(New Mexico bowhunters)

**Figure 4.95. Least Effective Email Message, New Mexico**

In your opinion, which one of the following email messages do you think would be least effective at persuading you to buy a hunting license to bowhunt?
(New Mexico bowhunters)

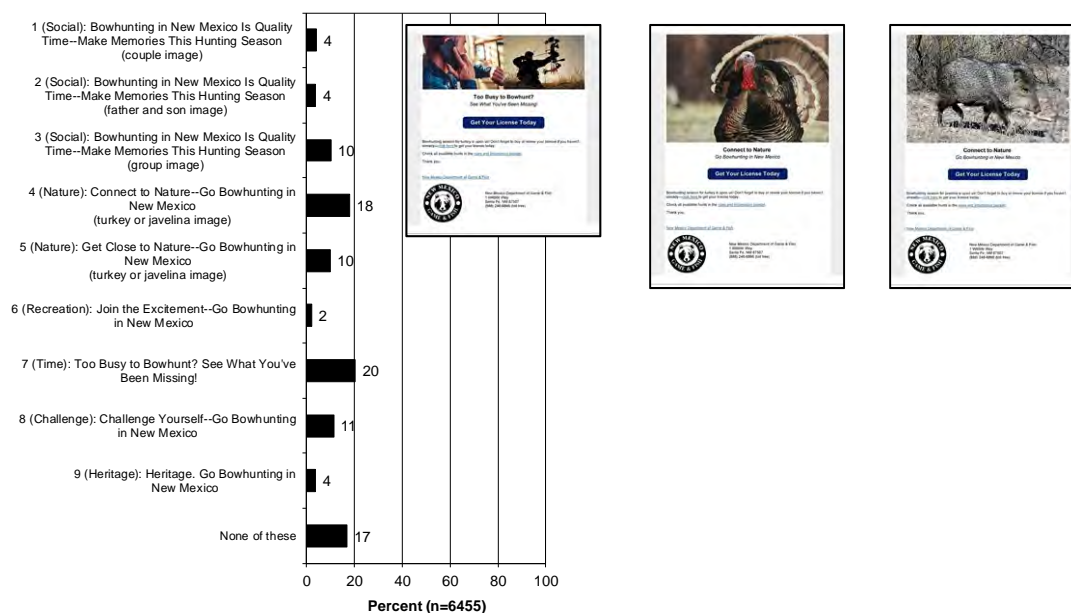
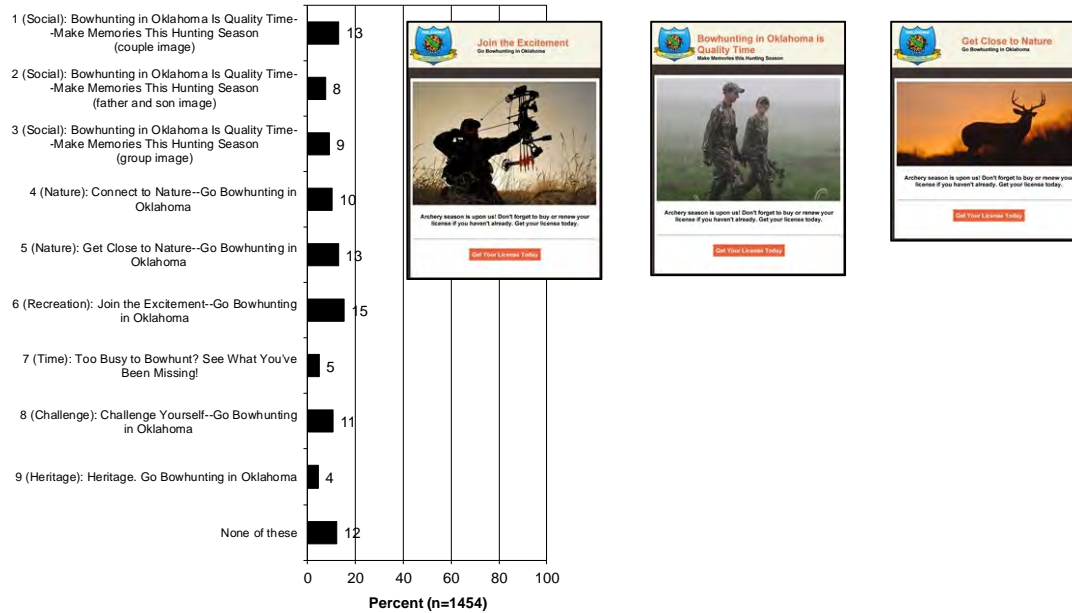


Figure 4.96. Most Effective Email Message, Oklahoma

In your opinion, which one of the following email messages do you think would be most effective at persuading you to buy a hunting license to bowhunt?
(Oklahoma bowhunters)

**Figure 4.97. Least Effective Email Message, Oklahoma**

In your opinion, which one of the following email messages do you think would be least effective at persuading you to buy a hunting license to bowhunt?
(Oklahoma bowhunters)

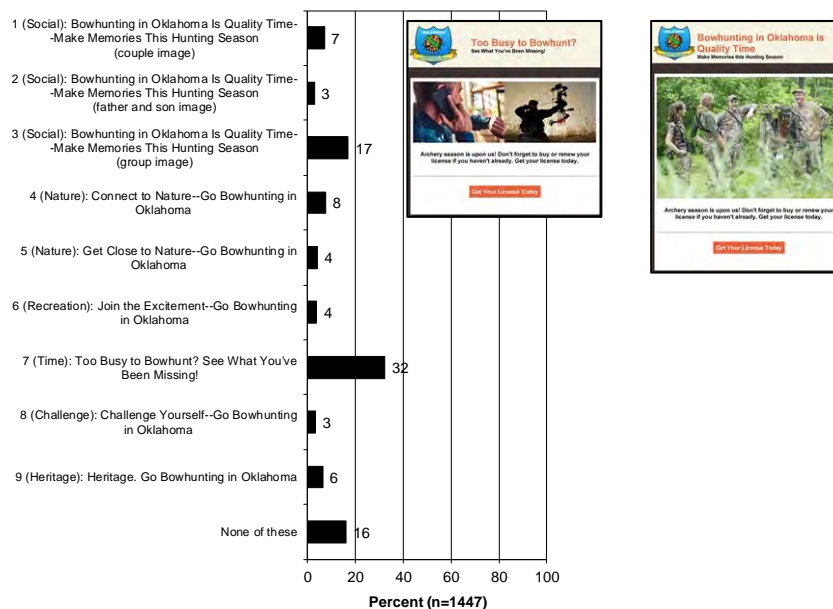
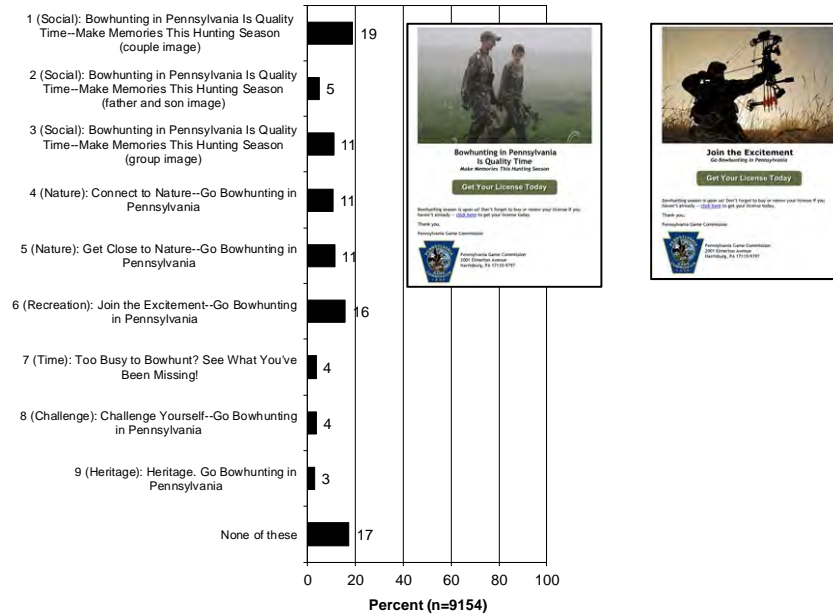


Figure 4.98. Most Effective Email Message, Pennsylvania

**In your opinion, which one of the following email messages do you think would be most effective at persuading you to buy a hunting license to bowhunt?
(Pennsylvania bowhunters)**

**Figure 4.99. Least Effective Email Message, Pennsylvania**

**In your opinion, which one of the following email messages do you think would be least effective at persuading you to buy a hunting license to bowhunt?
(Pennsylvania bowhunters)**

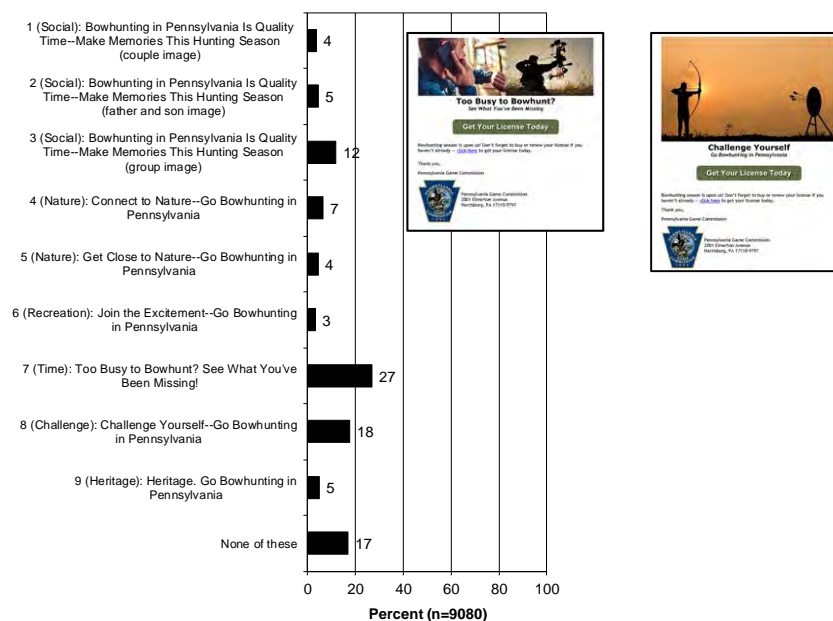
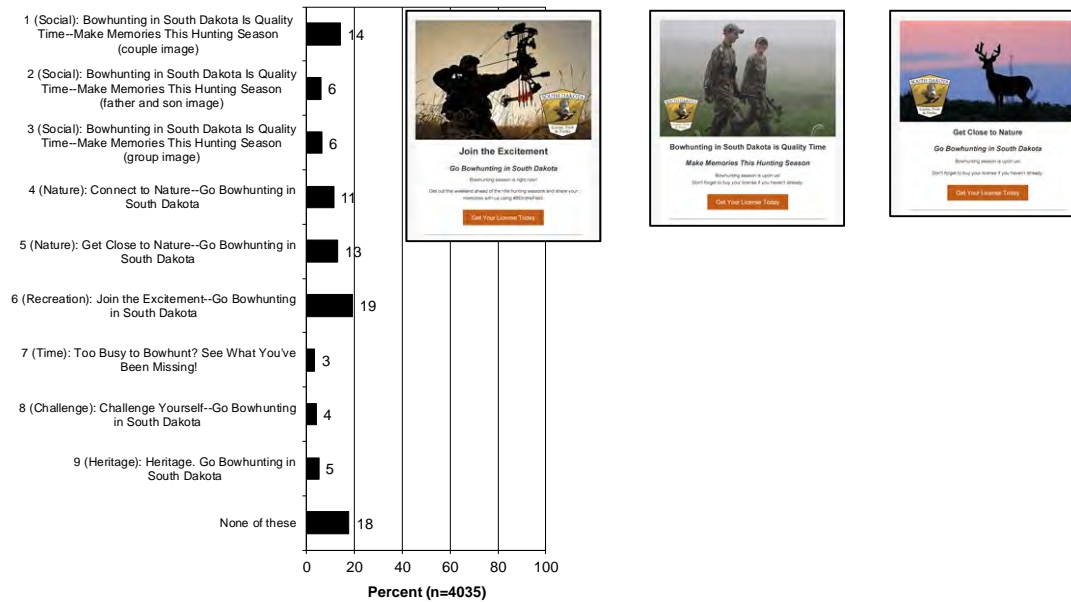


Figure 4.100. Most Effective Email Message, South Dakota

In your opinion, which one of the following email messages do you think would be most effective at persuading you to buy a hunting license to bowhunt?
(South Dakota bowhunters)

**Figure 4.101. Least Effective Email Message, South Dakota**

In your opinion, which one of the following email messages do you think would be least effective at persuading you to buy a hunting license to bowhunt?
(South Dakota bowhunters)

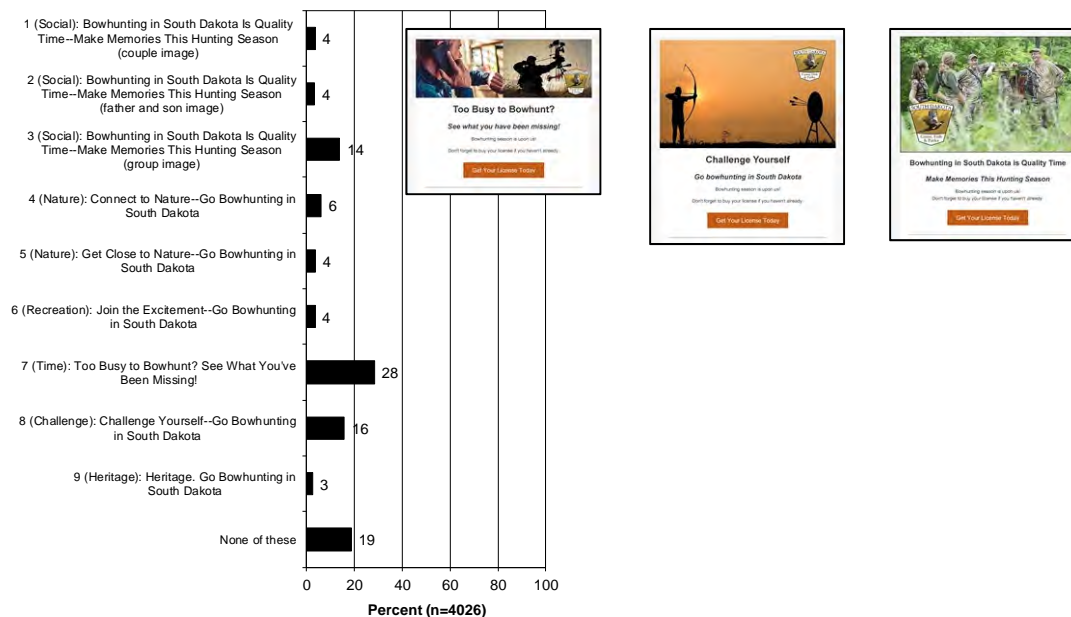
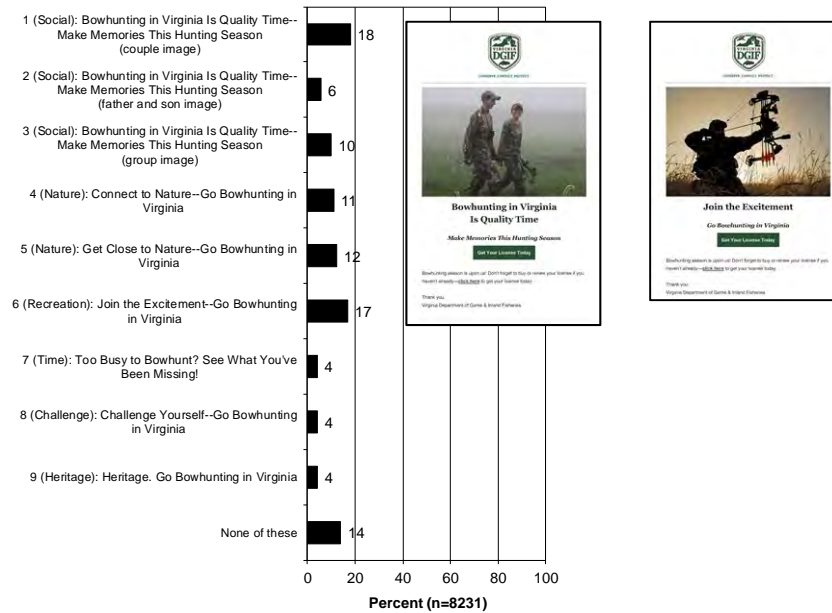
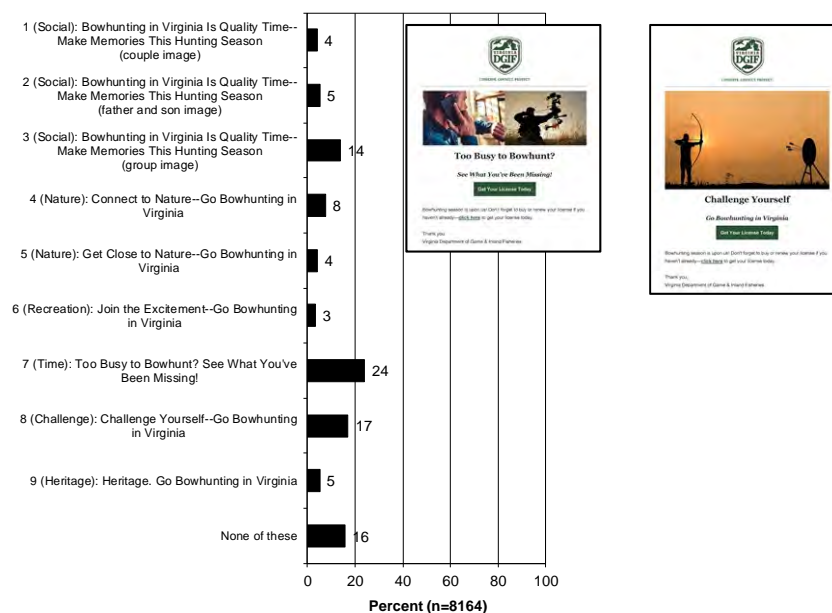


Figure 4.102. Most Effective Email Message, Virginia

In your opinion, which one of the following email messages do you think would be most effective at persuading you to buy a hunting license to bowhunt?
(Virginia bowhunters)

**Figure 4.103. Least Effective Email Message, Virginia**

In your opinion, which one of the following email messages do you think would be least effective at persuading you to buy a hunting license to bowhunt?
(Virginia bowhunters)



Opinions on email message effectiveness among all bowhunters in the survey (treatment and control groups) were also examined for the age (or generation) groups (Figures 4.105 to 4.128). Most predominantly, Millennials are more likely than the other age group across the states to select Message 6 (Recreation) as the most effective. Baby Boomers are more likely than the other age groups across the states to answer *None of these* for both the most effective and least effective messages.

Figure 4.104. Message Most Commonly Selected as Most Effective Among Millennials

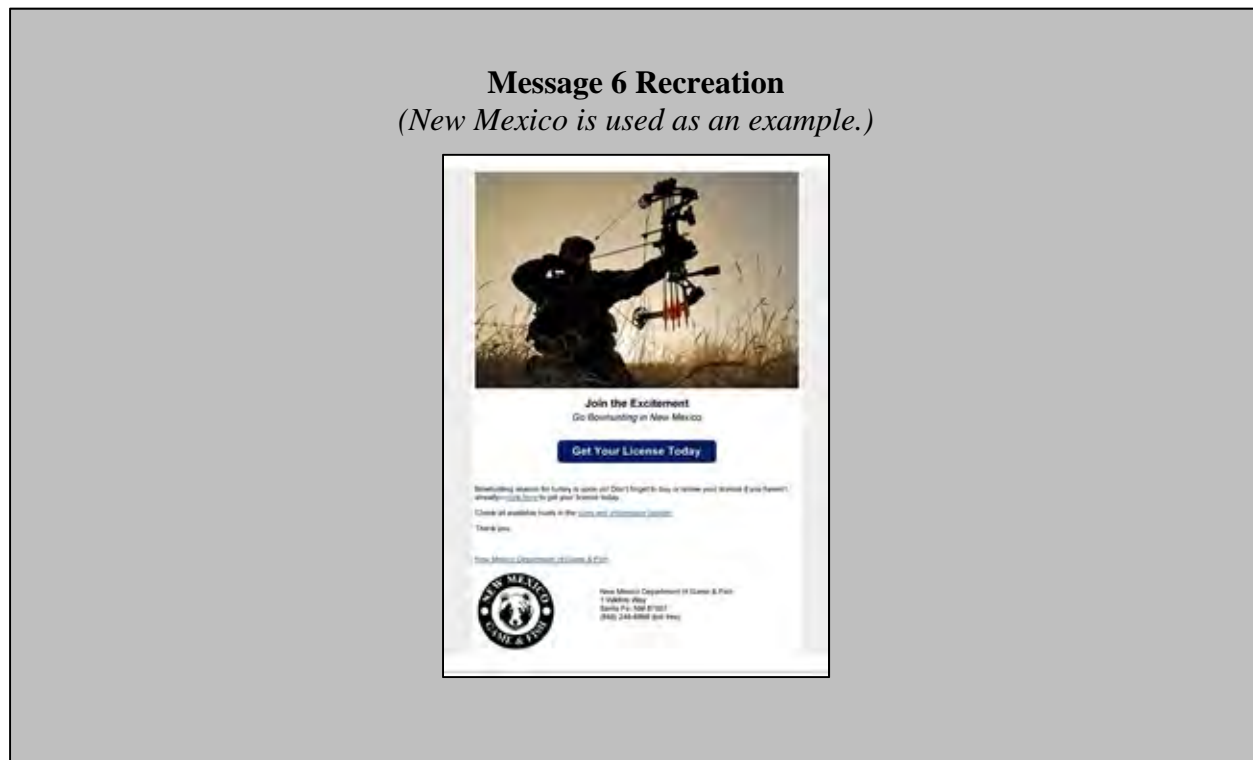


Figure 4.105. Most Effective Email Message, Alabama by Age Group

In your opinion, which one of the following email messages do you think would be most effective at persuading you to buy a hunting license to bowhunt?
(Alabama bowhunters)

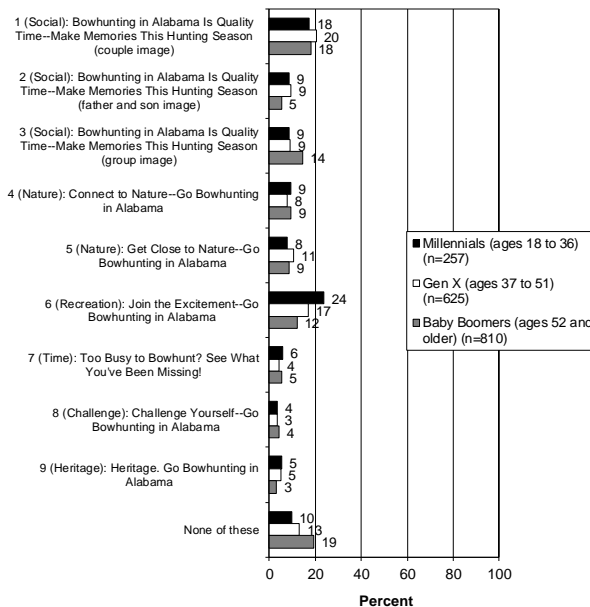


Figure 4.106. Least Effective Email Message, Alabama by Age Group

In your opinion, which one of the following email messages do you think would be least effective at persuading you to buy a hunting license to bowhunt?
(Alabama bowhunters)

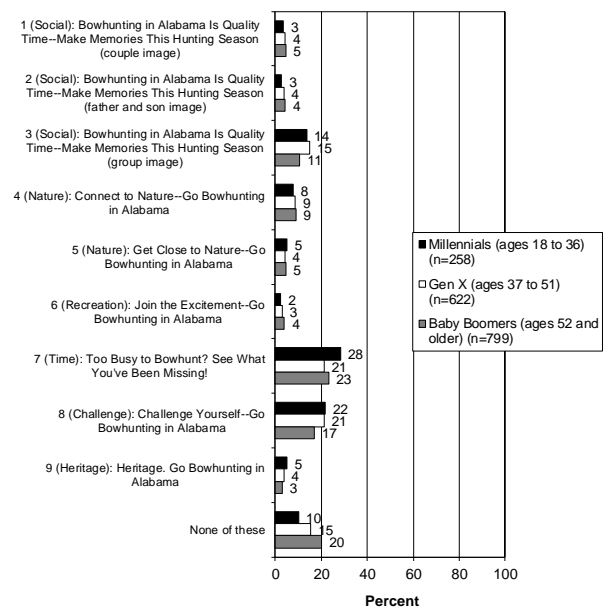


Figure 4.107. Most Effective Email Message, Georgia by Age Group

In your opinion, which one of the following email messages do you think would be most effective at persuading you to buy a hunting license to bowhunt?
(Georgia bowhunters)

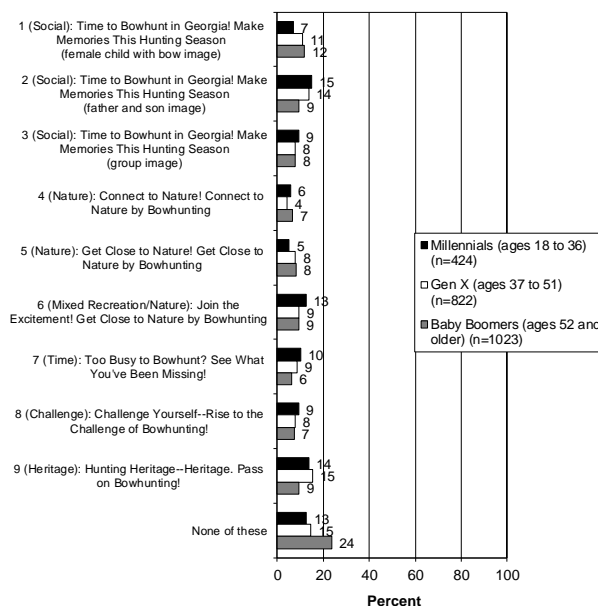


Figure 4.108. Least Effective Email Message, Georgia by Age Group

In your opinion, which one of the following email messages do you think would be least effective at persuading you to buy a hunting license to bowhunt?
(Georgia bowhunters)

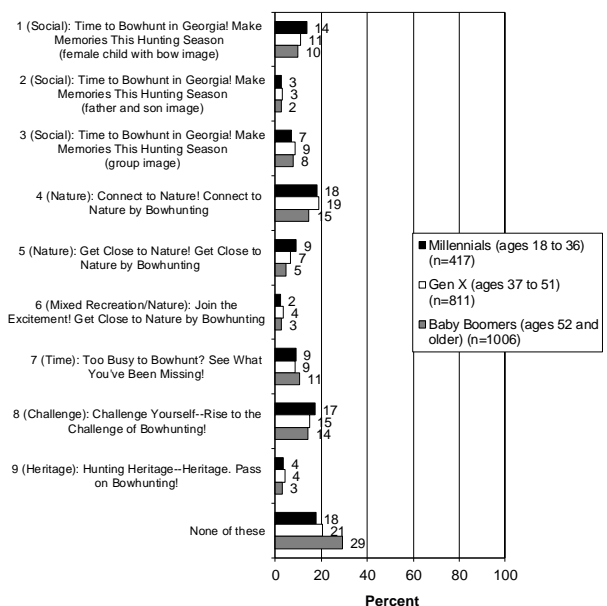


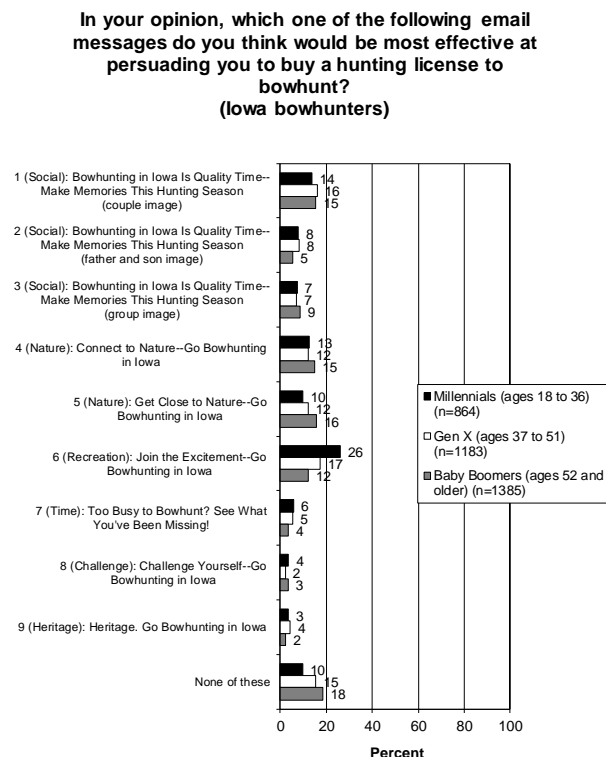
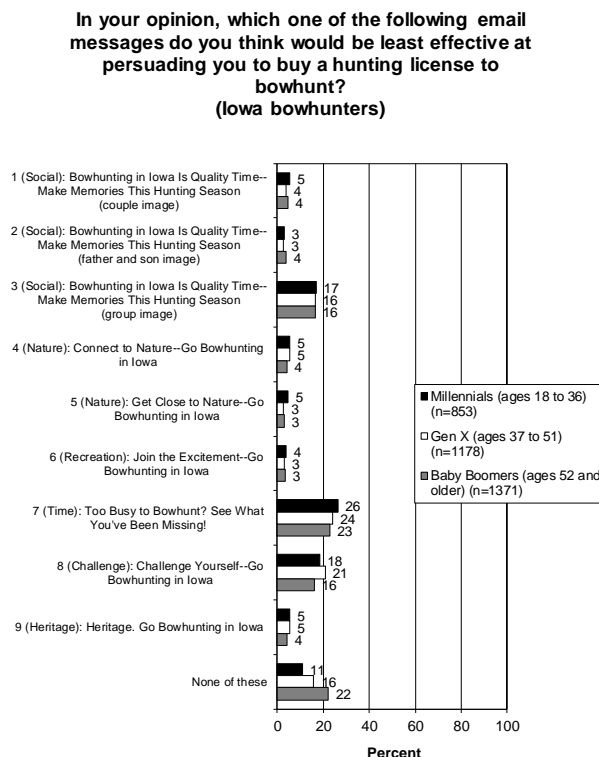
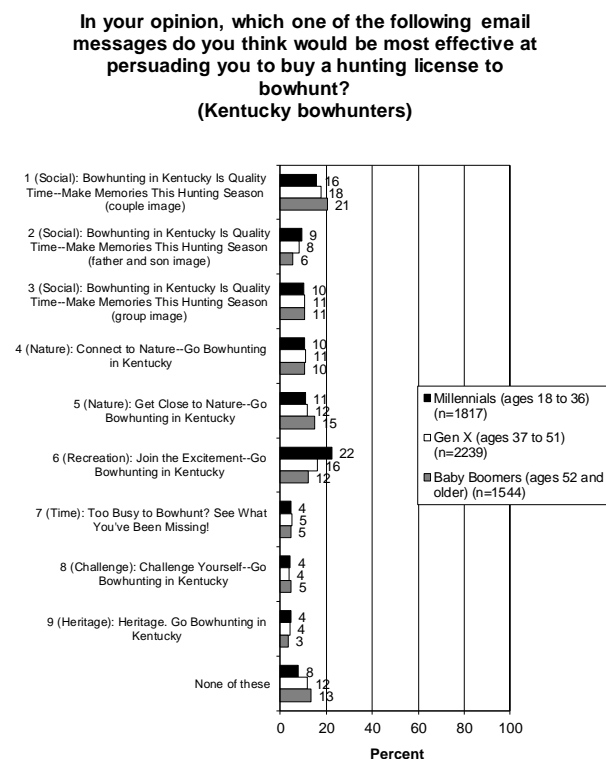
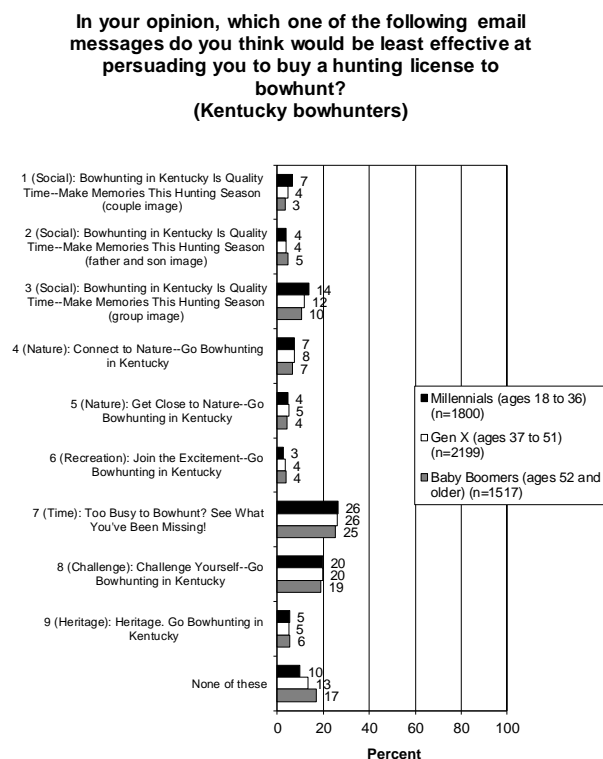
Figure 4.109. Most Effective Email Message, Iowa by Age Group**Figure 4.110. Least Effective Email Message, Iowa by Age Group****Figure 4.111. Most Effective Email Message, Kentucky by Age Group****Figure 4.112. Least Effective Email Message, Kentucky by Age Group**

Figure 4.113. Most Effective Email Message, Maryland by Age Group

In your opinion, which one of the following email messages do you think would be most effective at persuading you to buy a hunting license to bowhunt?
(Maryland bowhunters)

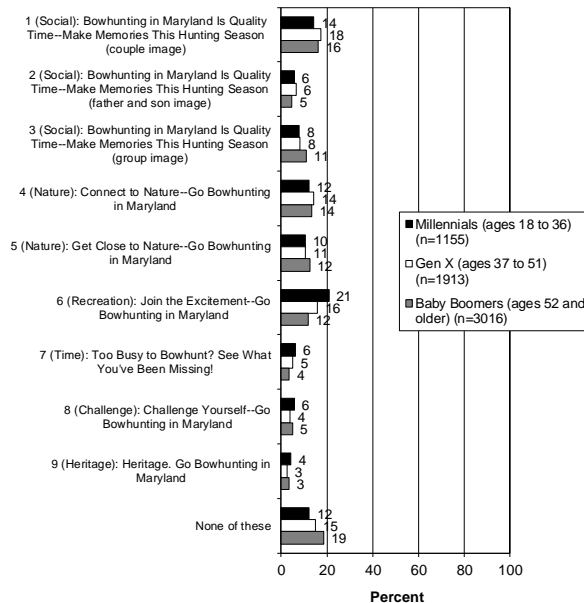


Figure 4.114. Least Effective Email Message, Maryland by Age Group

In your opinion, which one of the following email messages do you think would be least effective at persuading you to buy a hunting license to bowhunt?
(Maryland bowhunters)

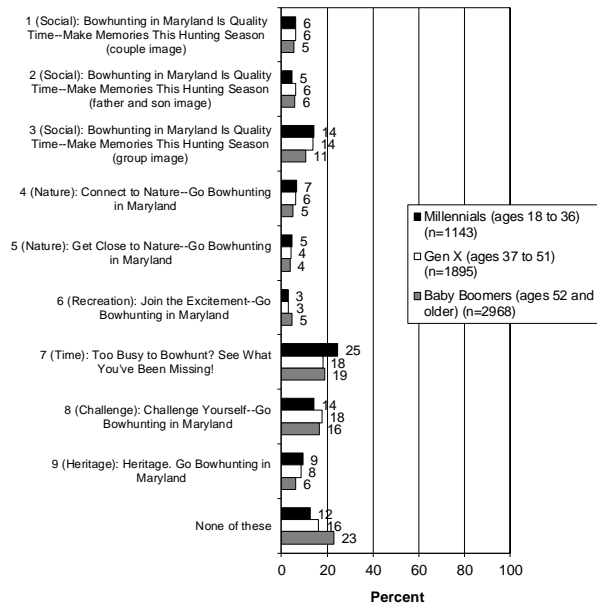


Figure 4.115. Most Effective Email Message, Nebraska by Age Group

In your opinion, which one of the following email messages do you think would be most effective at persuading you to buy a hunting license to bowhunt?
(Nebraska bowhunters)

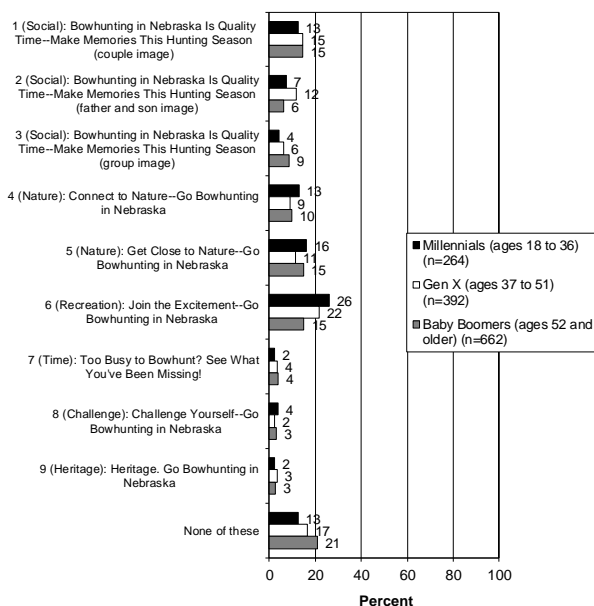


Figure 4.116. Least Effective Email Message, Nebraska by Age Group

In your opinion, which one of the following email messages do you think would be least effective at persuading you to buy a hunting license to bowhunt?
(Nebraska bowhunters)

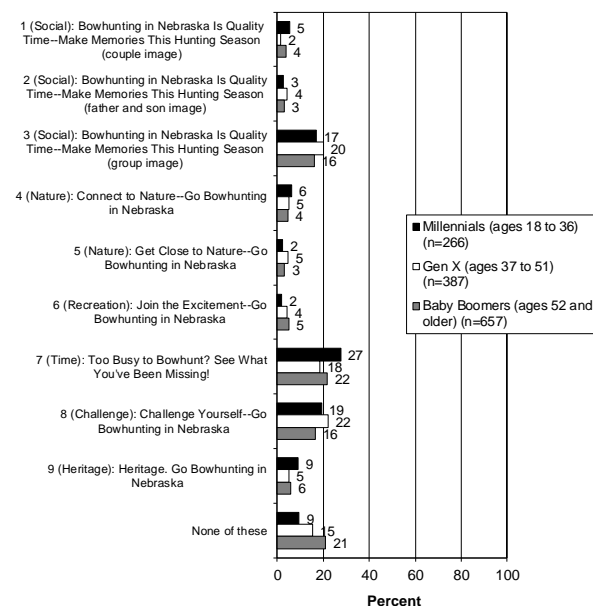


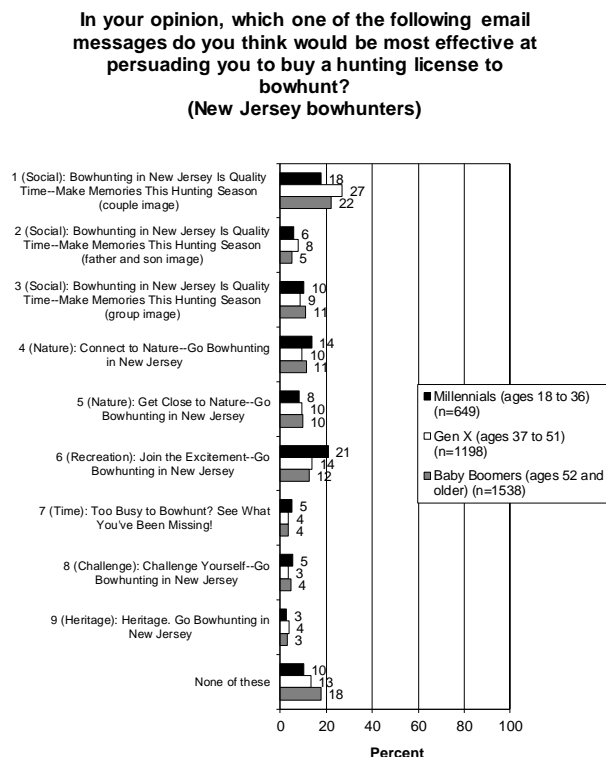
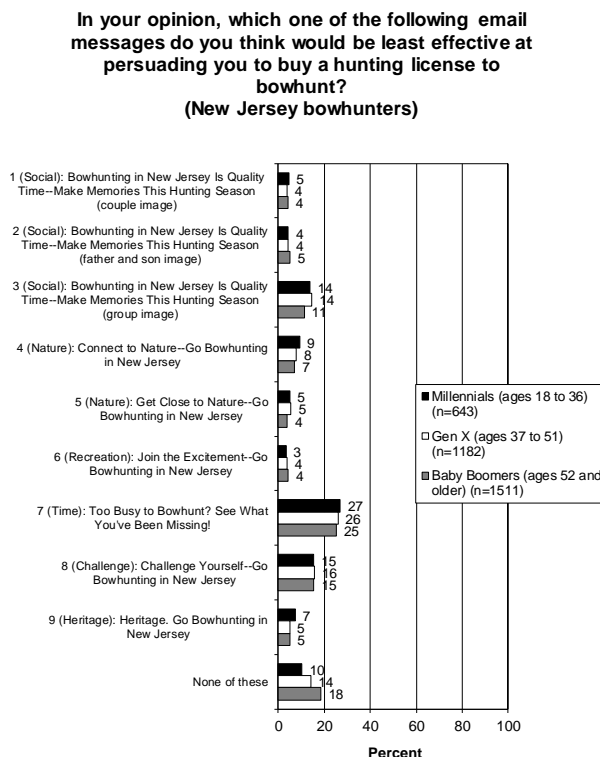
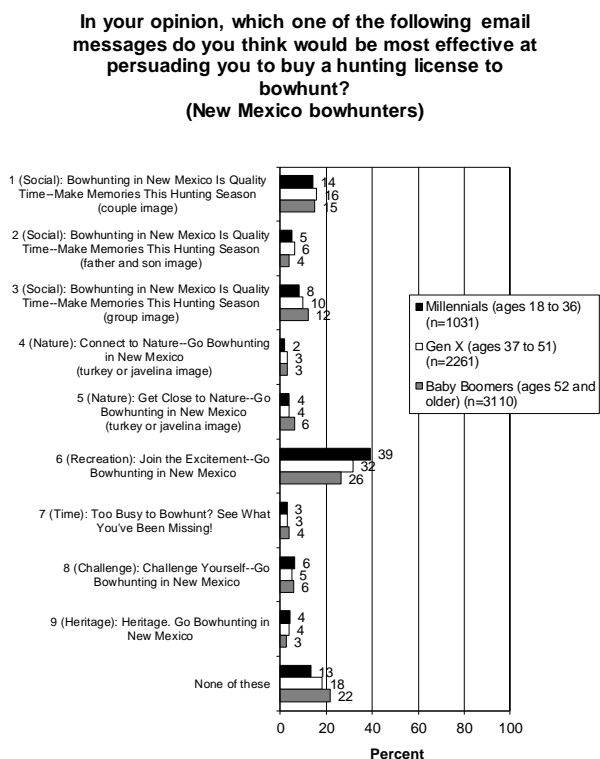
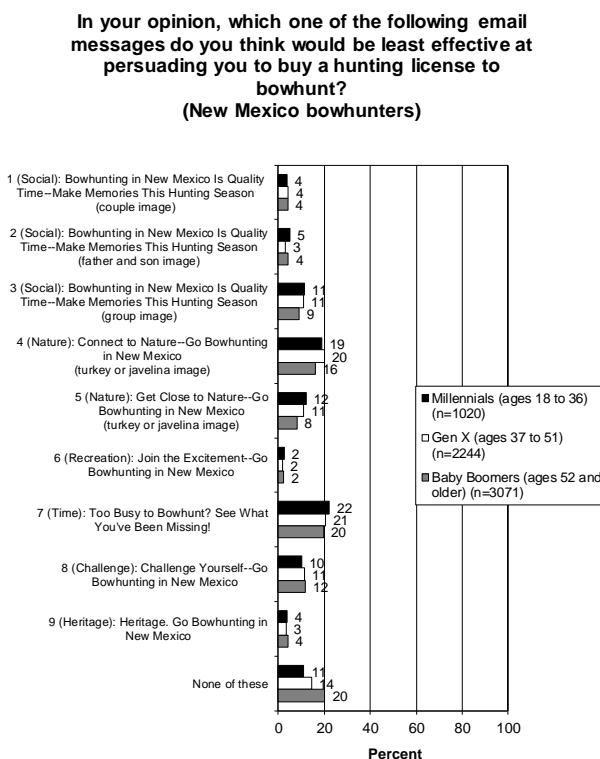
Figure 4.117. Most Effective Email Message, New Jersey by Age Group**Figure 4.118. Least Effective Email Message, New Jersey by Age Group****Figure 4.119. Most Effective Email Message, New Mexico by Age Group****Figure 4.120. Least Effective Email Message, New Mexico by Age Group**

Figure 4.121. Most Effective Email Message, Oklahoma by Age Group

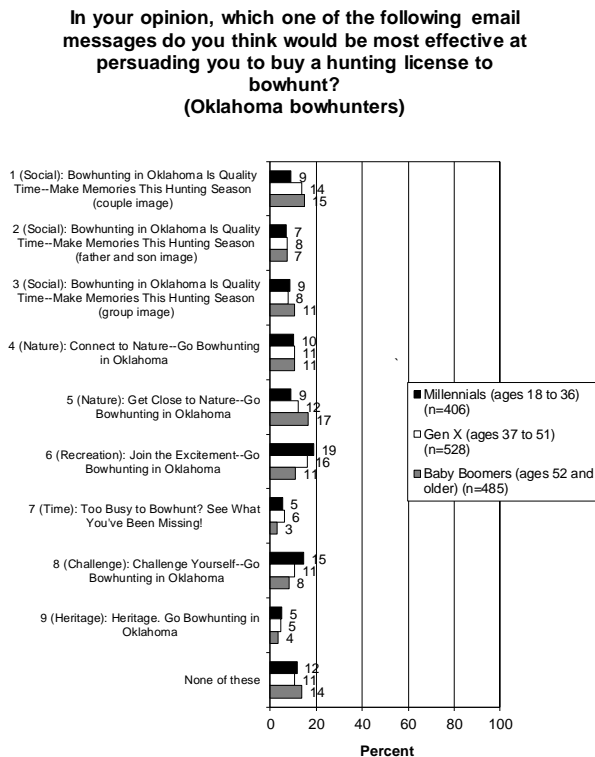


Figure 4.122. Least Effective Email Message, Oklahoma by Age Group

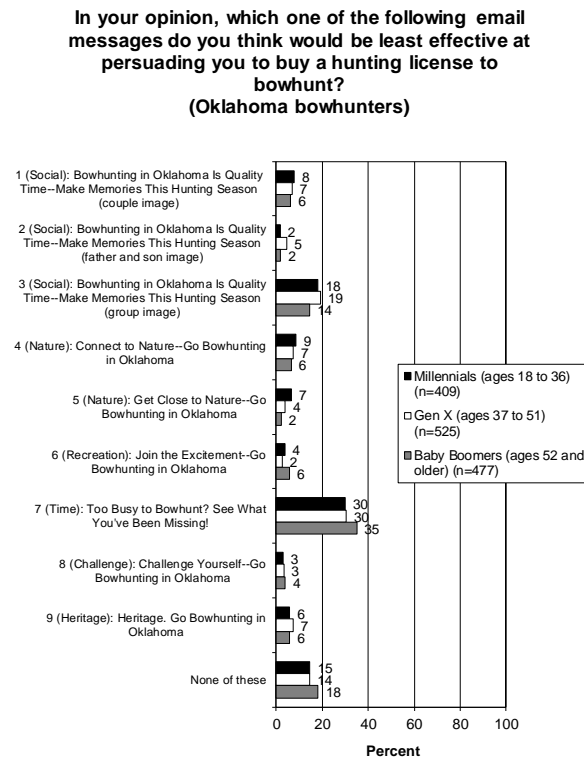


Figure 4.123. Most Effective Email Message, Pennsylvania by Age Group

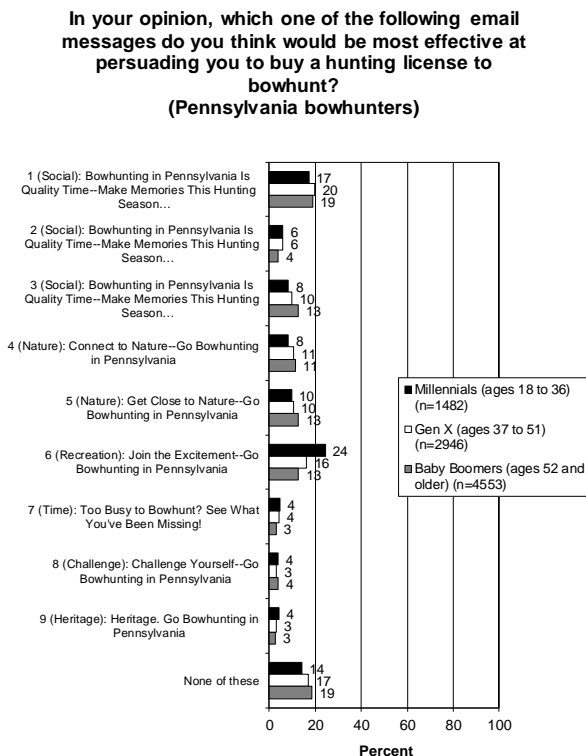


Figure 4.124. Least Effective Email Message, Pennsylvania by Age Group

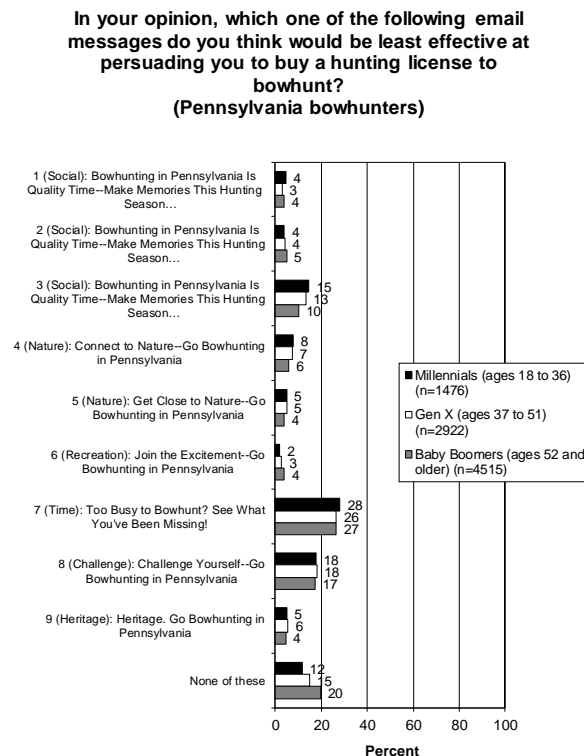
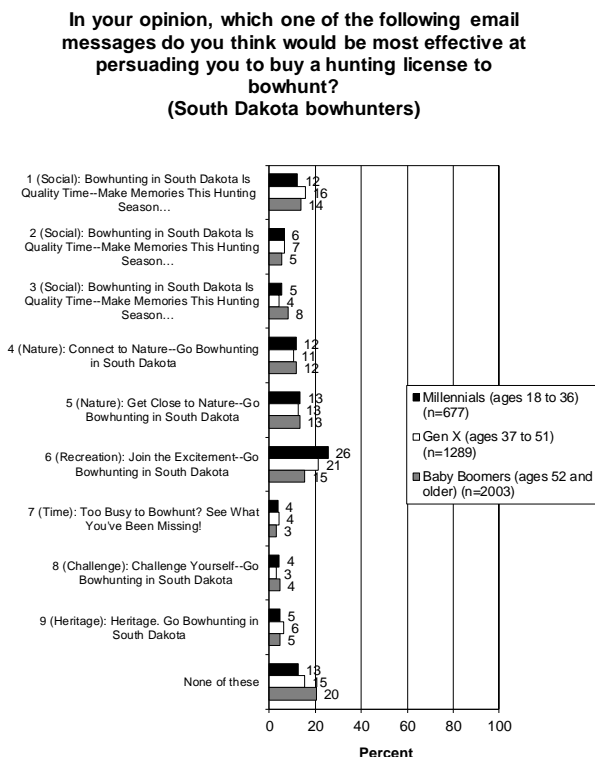
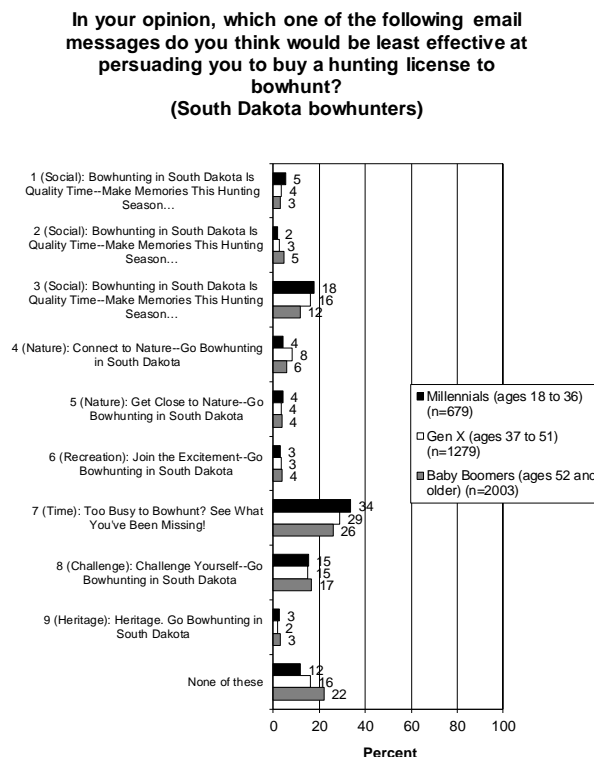
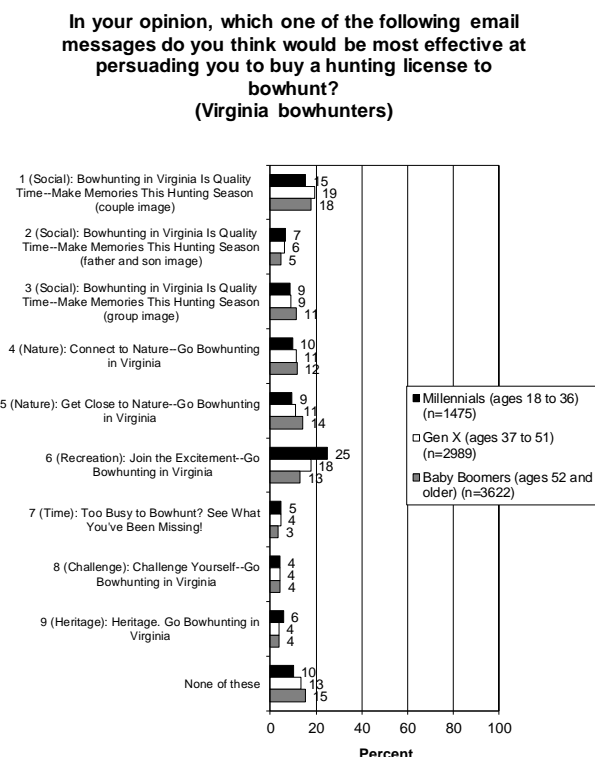
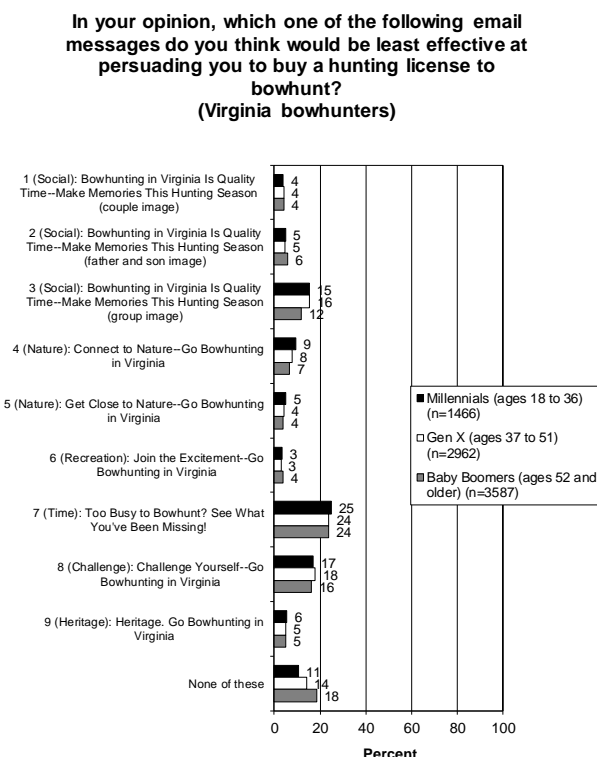


Figure 4.125. Most Effective Email Message, South Dakota by Age Group**Figure 4.126. Least Effective Email Message, South Dakota by Age Group****Figure 4.127. Most Effective Email Message, Virginia by Age Group****Figure 4.128. Least Effective Email Message, Virginia by Age Group**

HUNTING PARTICIPATION

The majority of bowhunters in most states hunted all 5 of the past 5 years; the exception is New Mexico, in which the mean number of years is 3.25 and the median is 3 (Figures 4.129 and 4.130). Recent bowhunting avidity is less than that of hunting overall—results are more varied across the states, and again New Mexico bowhunters are the least avid (Figures 4.131 and 4.132).

Figure 4.129. Recent Hunting Avidity, Western Bowhunters

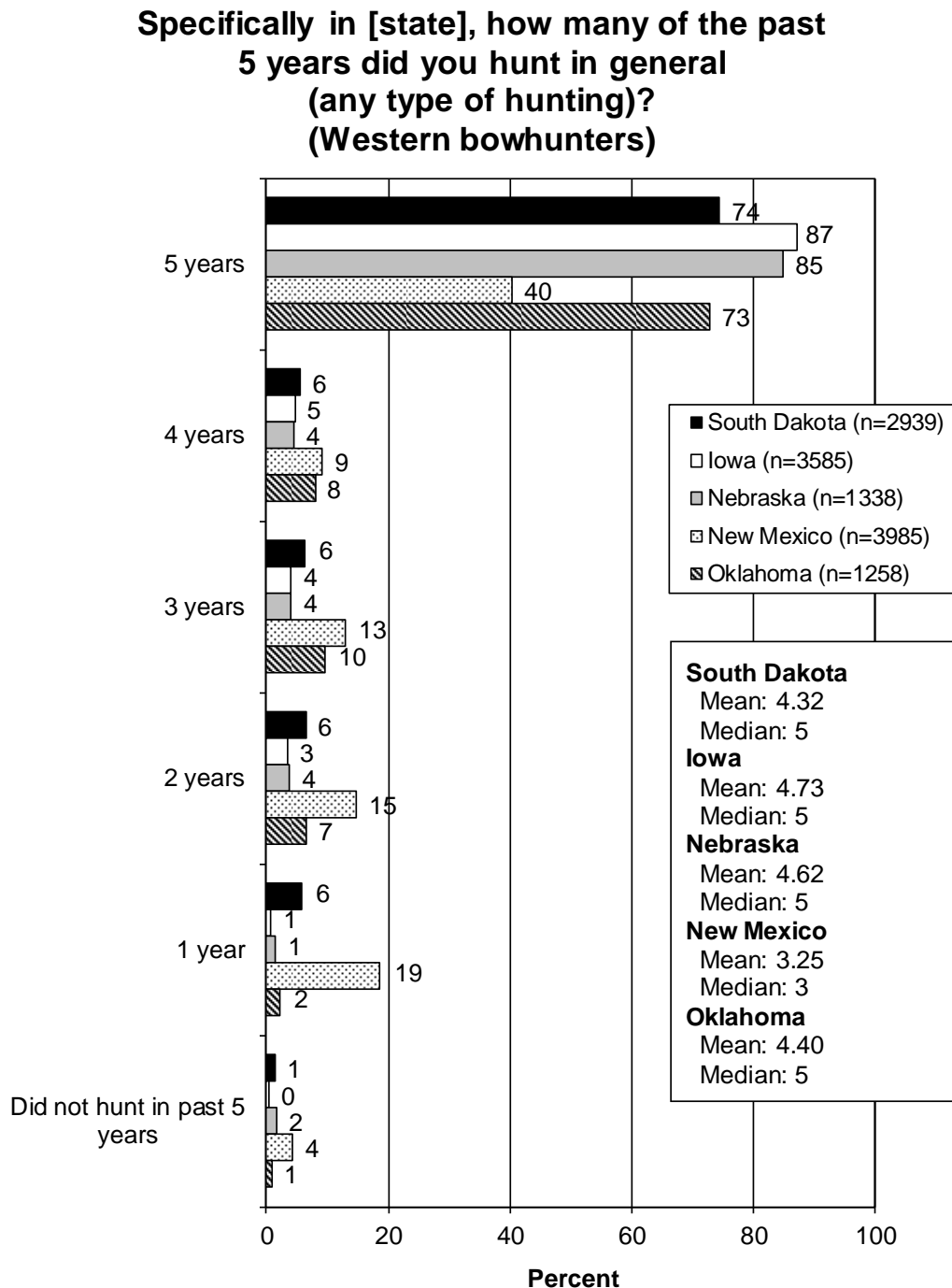


Figure 4.130. Recent Hunting Avidity, Eastern Bowhunters

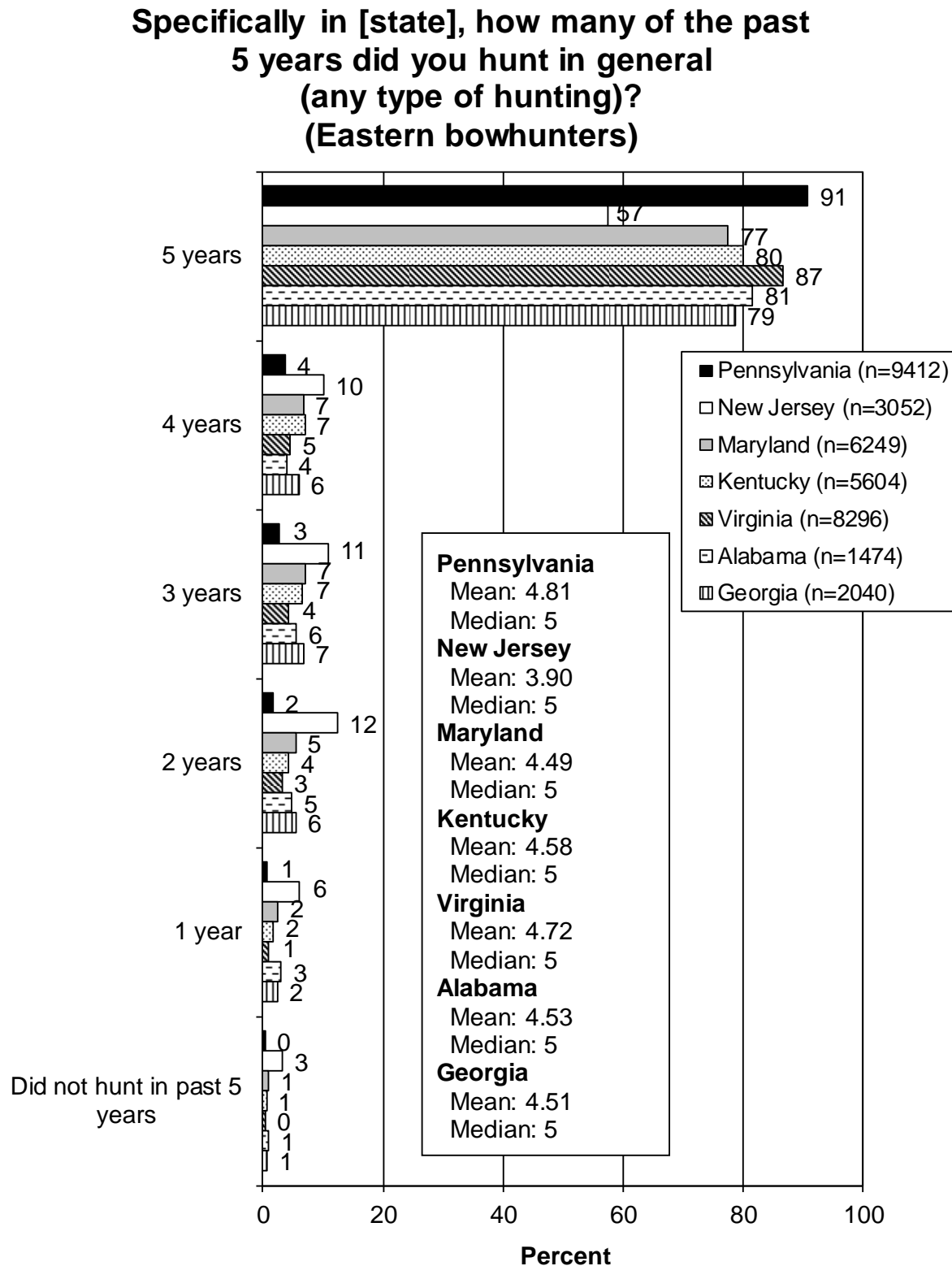


Figure 4.131. Recent Bowhunting Avidity, Western Bowhunters

**Specifically in [state], how many of the past
5 years did you bowhunt?
(Western bowhunters)**

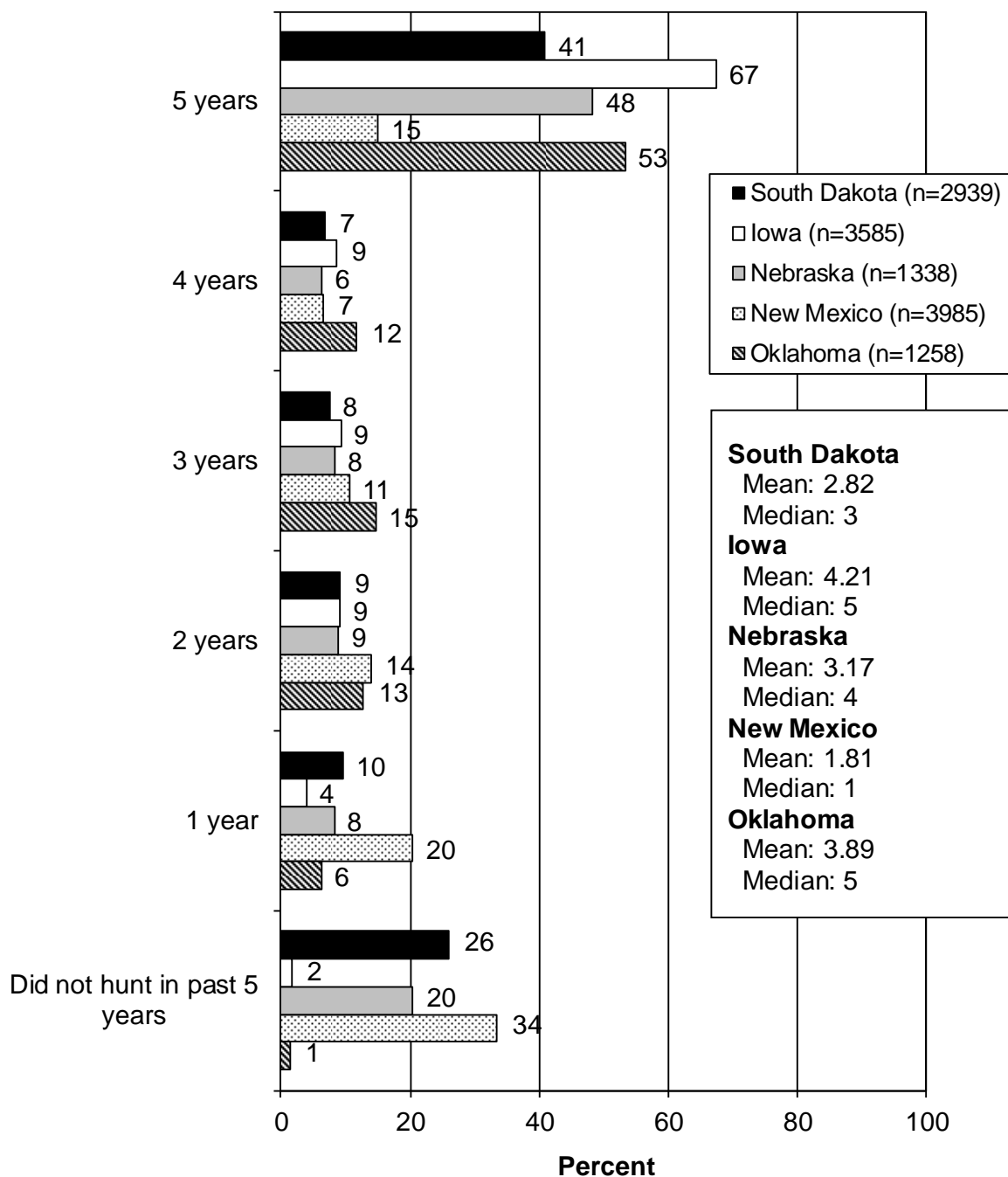
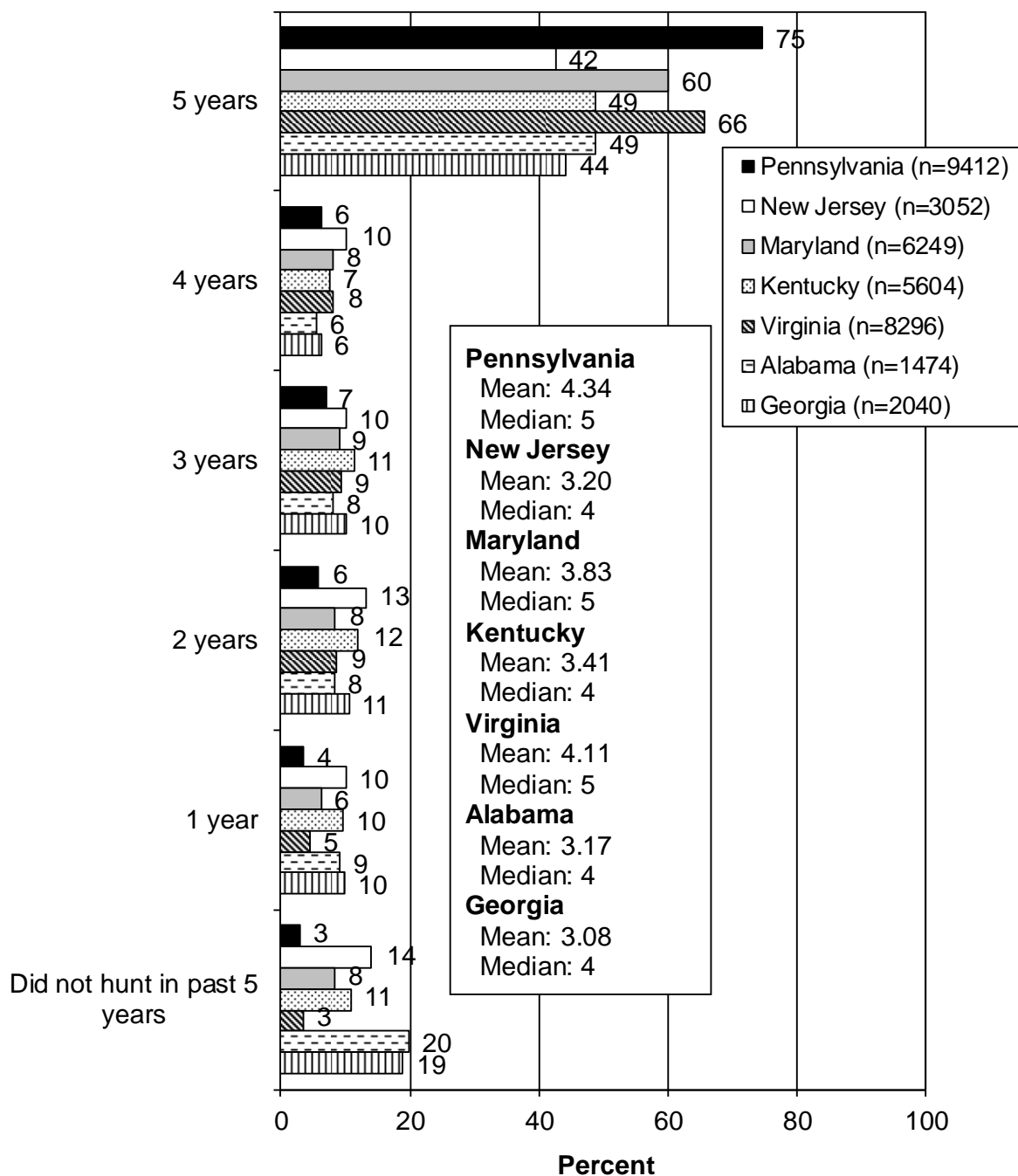


Figure 4.132. Recent Bowhunting Avidity, Eastern Bowhunters

Specifically in [state], how many of the past
5 years did you bowhunt?
(Eastern bowhunters)



A strong majority of bowhunters in each state bowhunted during the 2018-2019 season, with the exception of New Mexico (35% bowhunted last season) (Figures 4.133 and 4.134).

Figure 4.133. Bowhunting During the 2018-2019 Season, Western Bowhunters

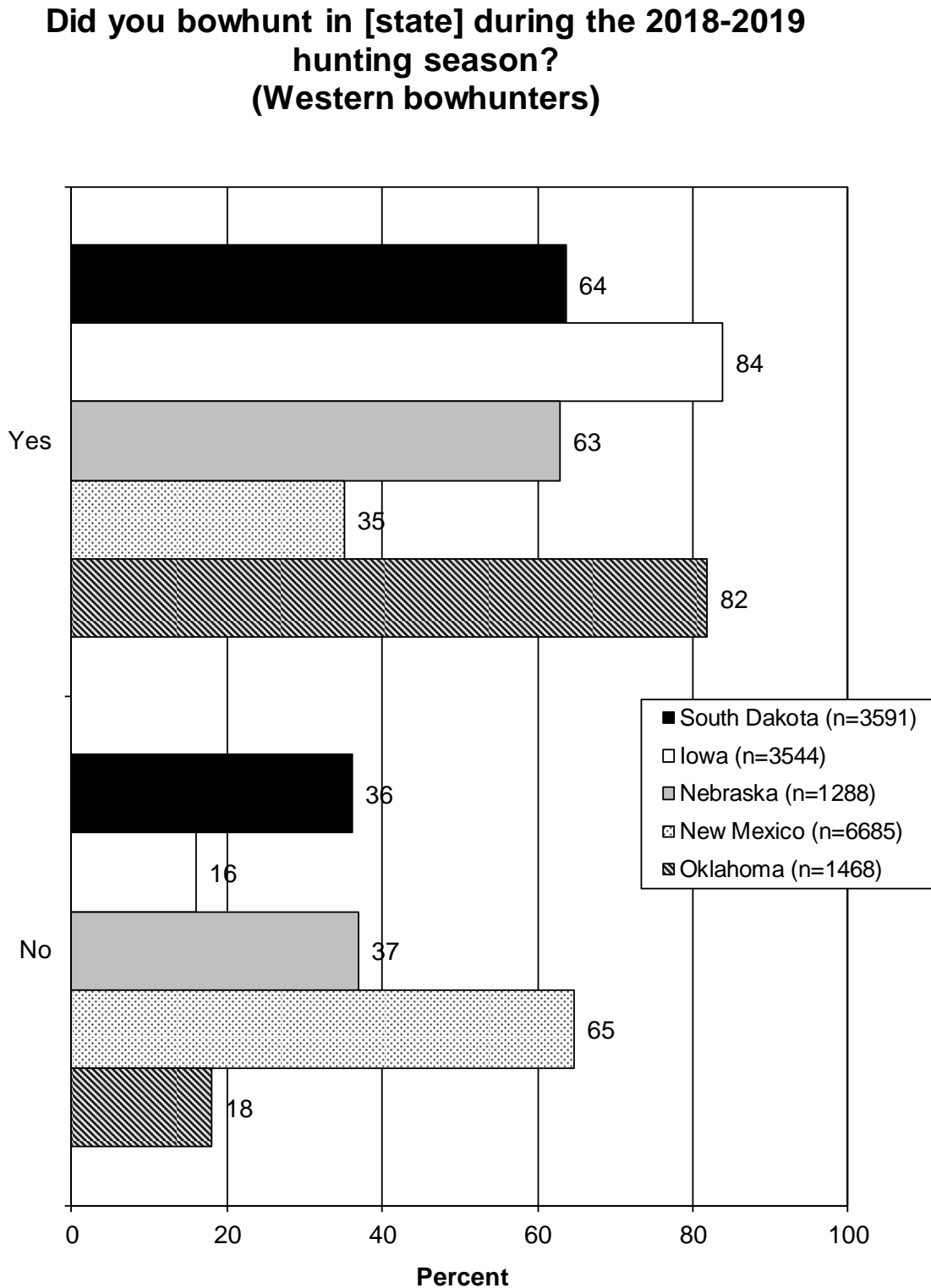
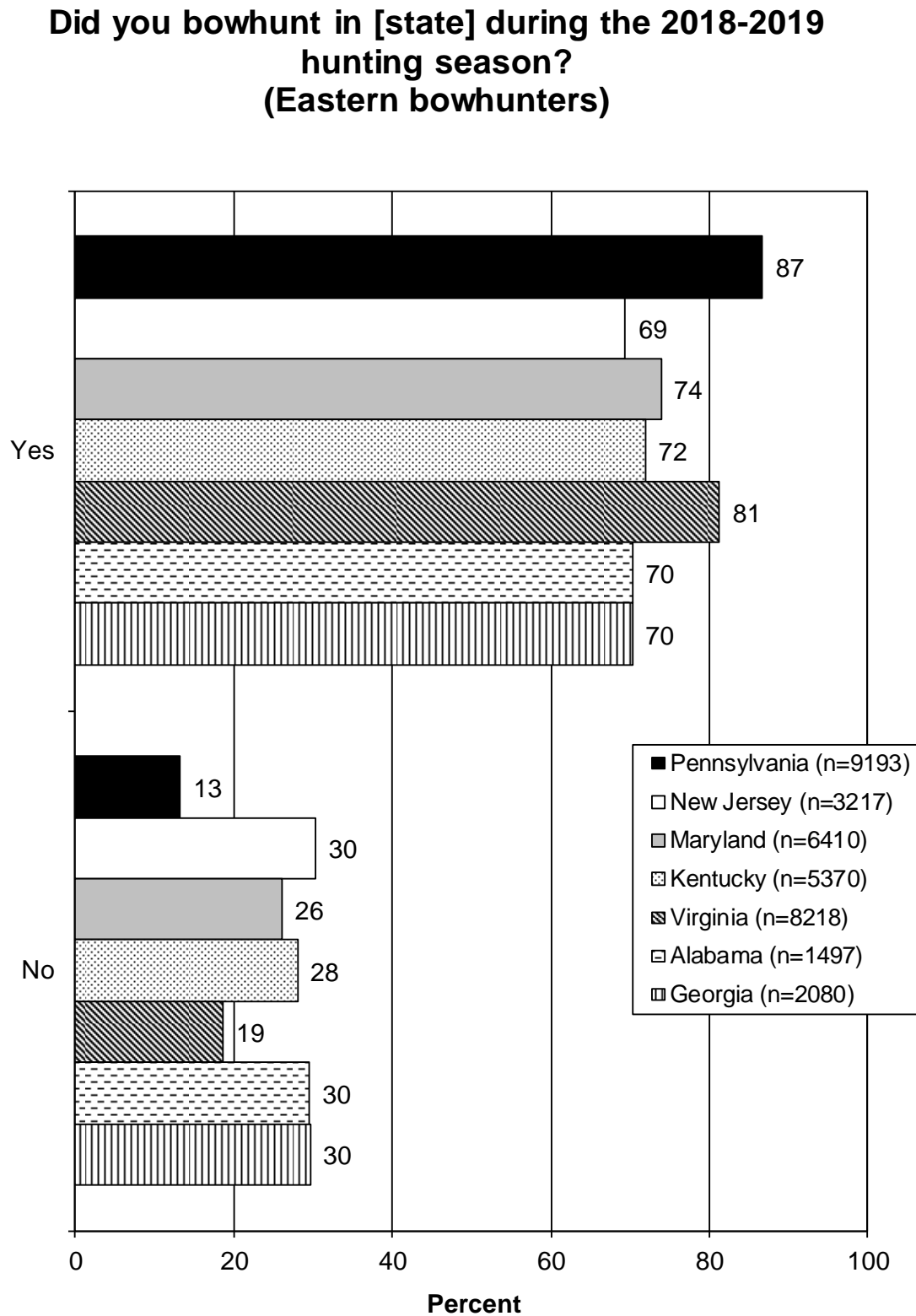


Figure 4.134. Bowhunting During the 2018-2019 Season, Eastern Bowhunters

DEMOGRAPHIC CHARACTERISTICS OF BOWHUNTERS

Figures 4.135 through 4.144 show the type of residential area, education level, age, and gender of bowhunters in the survey.

Figure 4.135. Type of Residential Area, Western Bowhunters

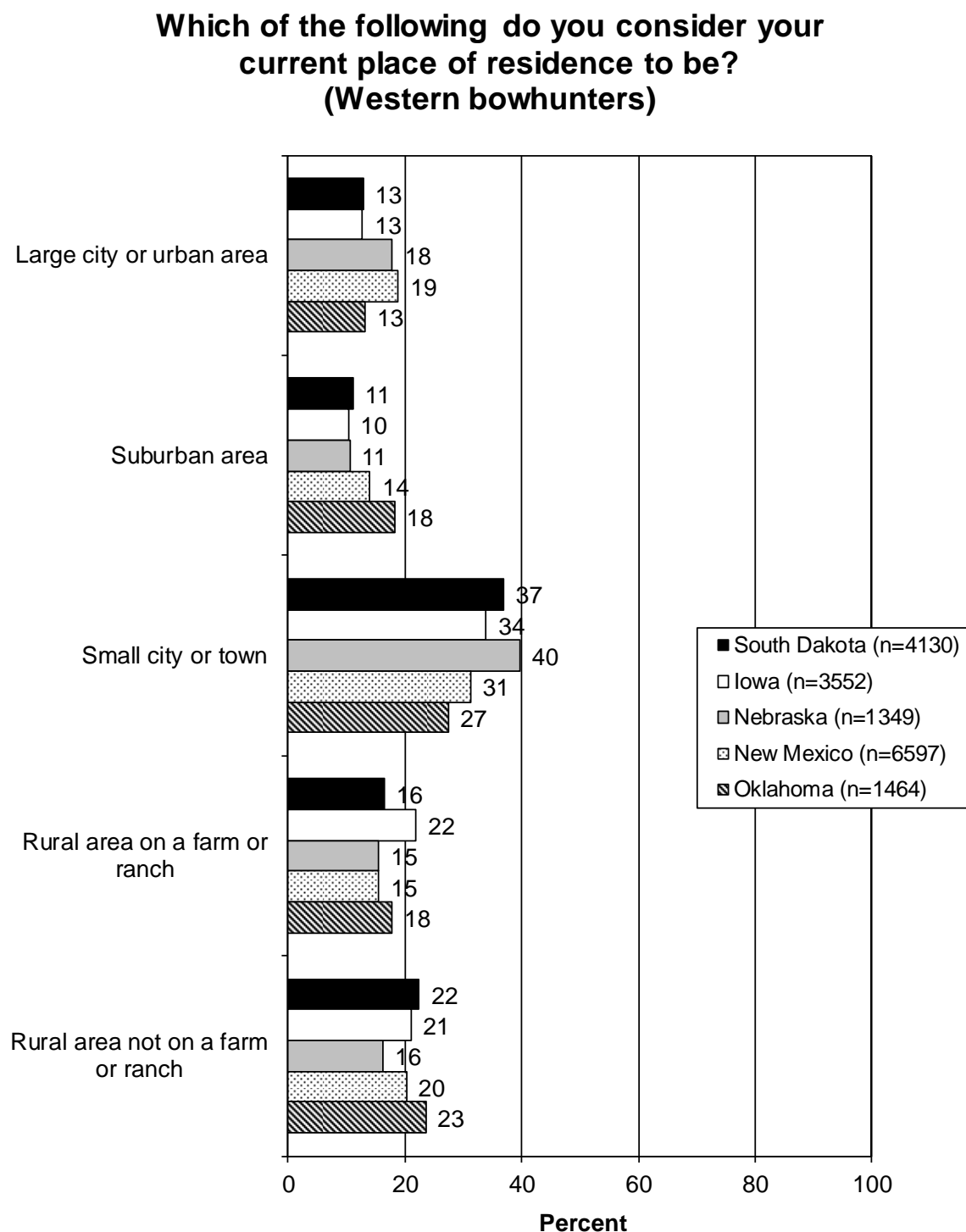


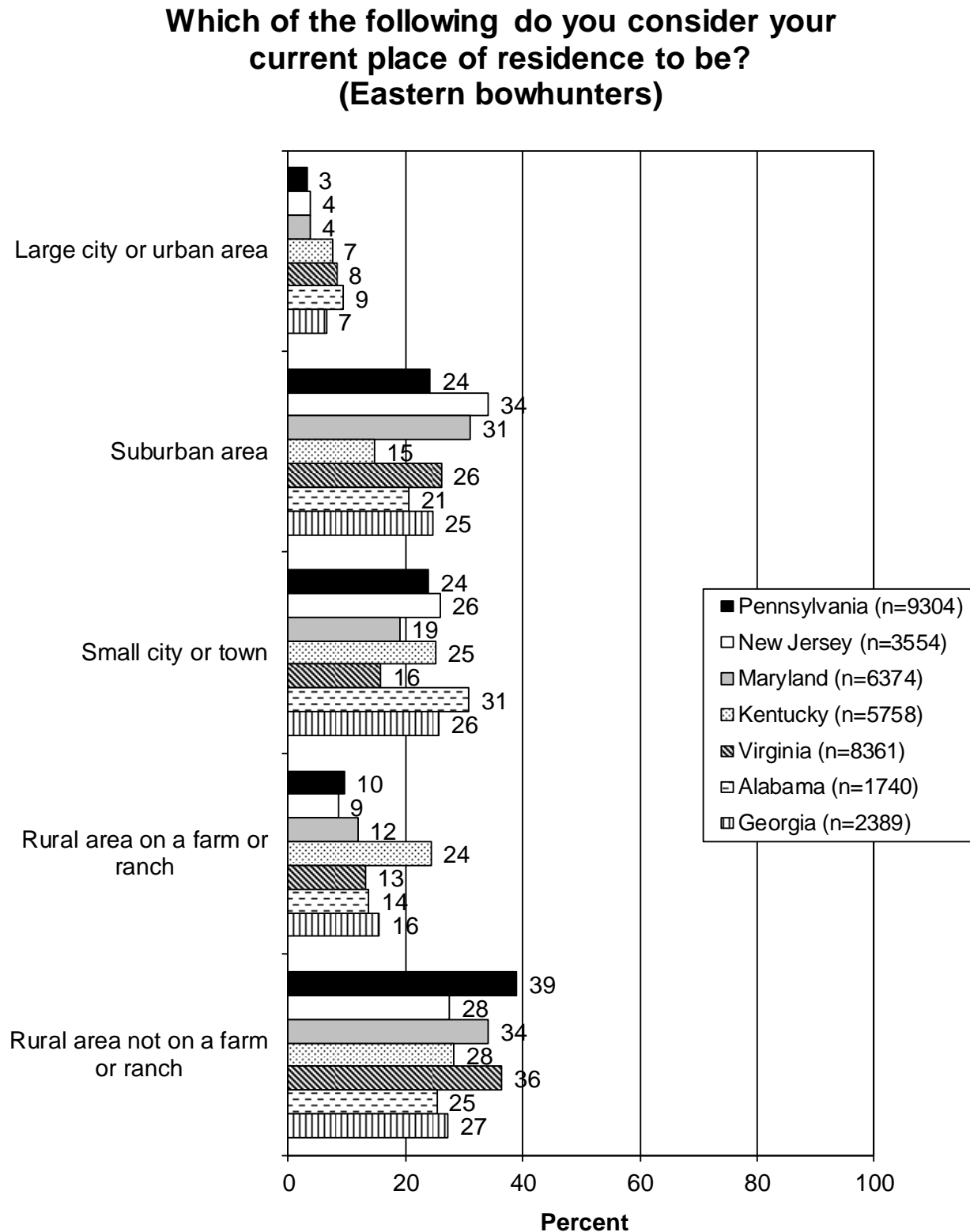
Figure 4.136. Type of Residential Area, Eastern Bowhunters

Figure 4.137. Education Level, Western Bowhunters

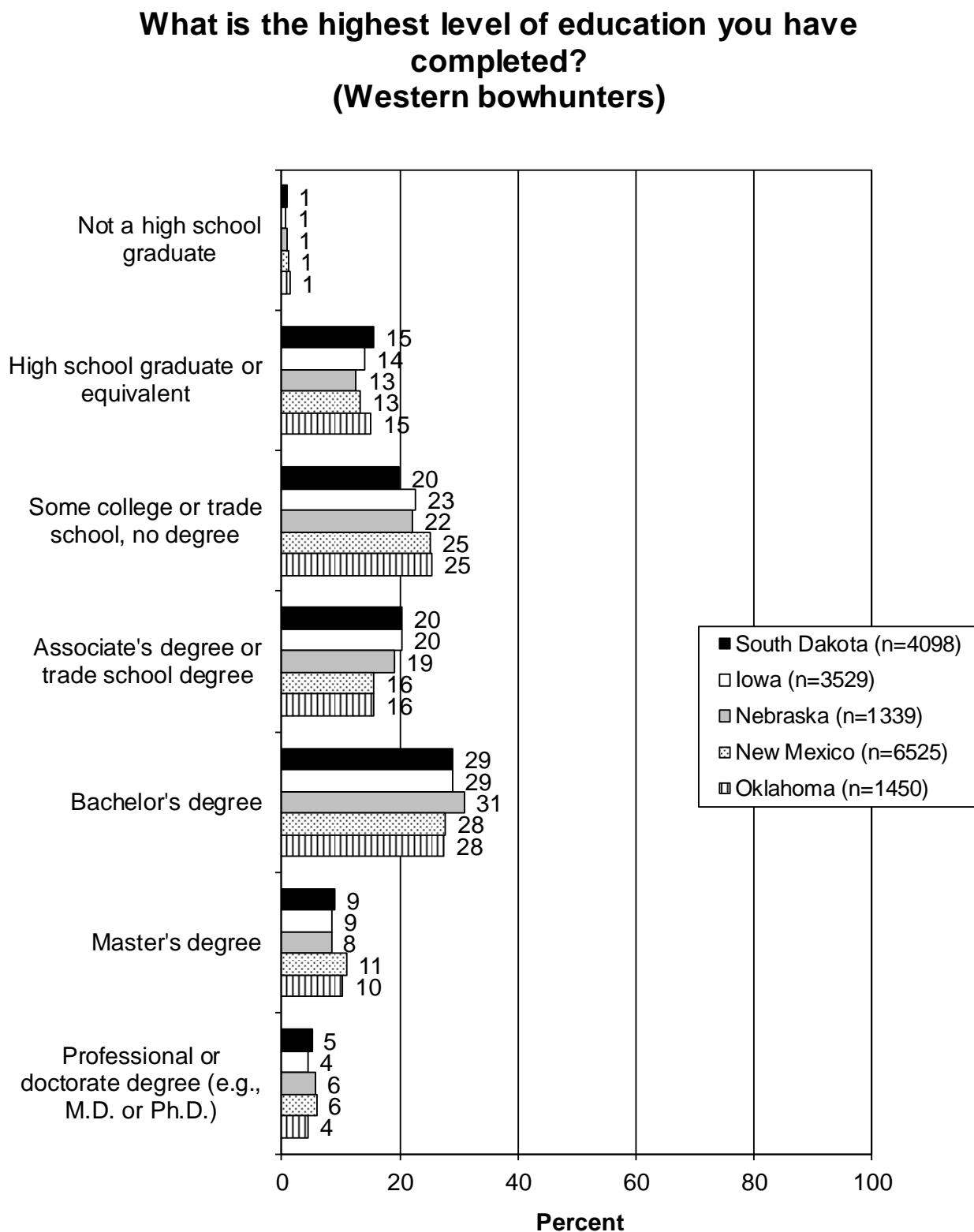


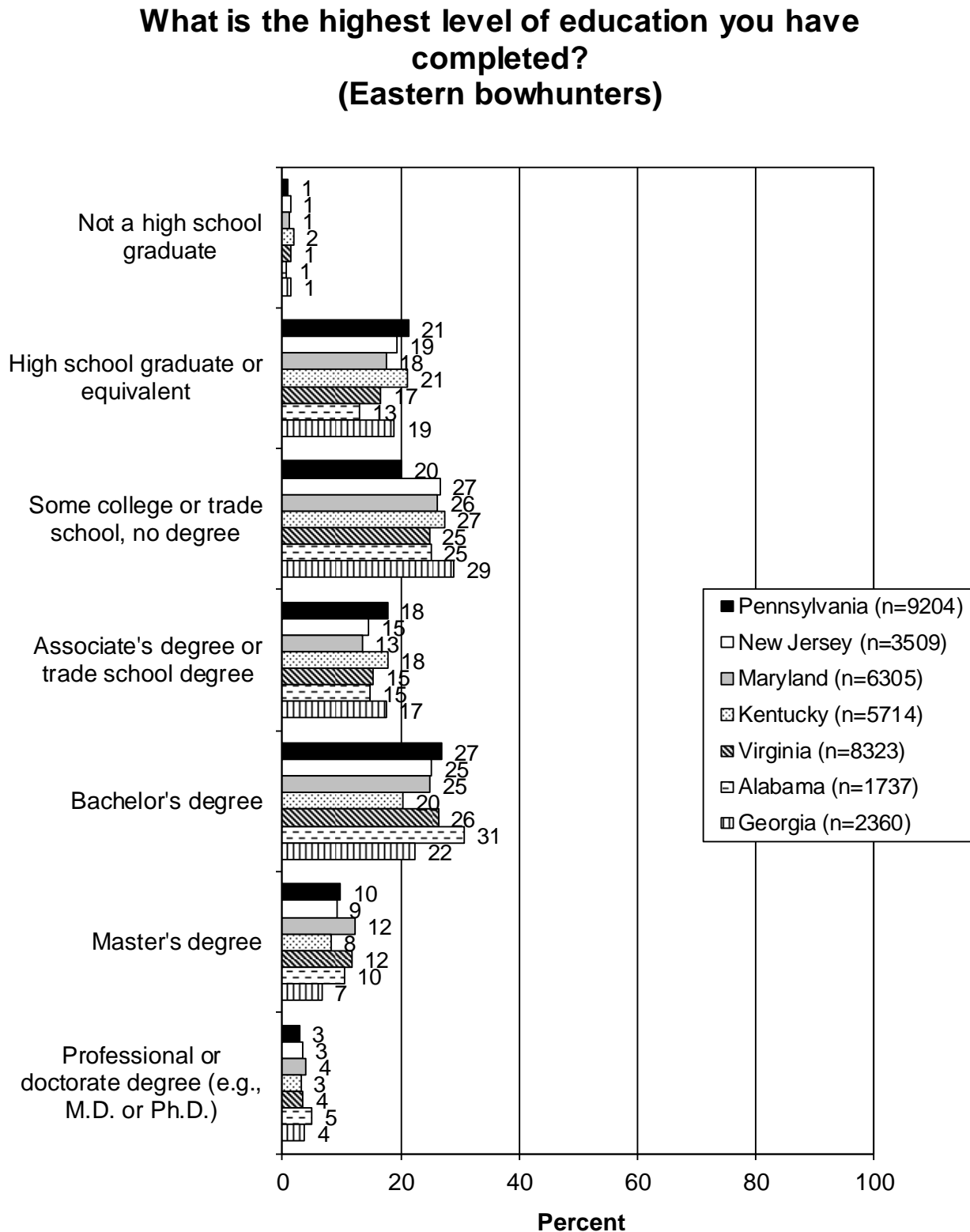
Figure 4.138. Education Level, Eastern Bowhunters

Figure 4.139. Age, Western Bowhunters

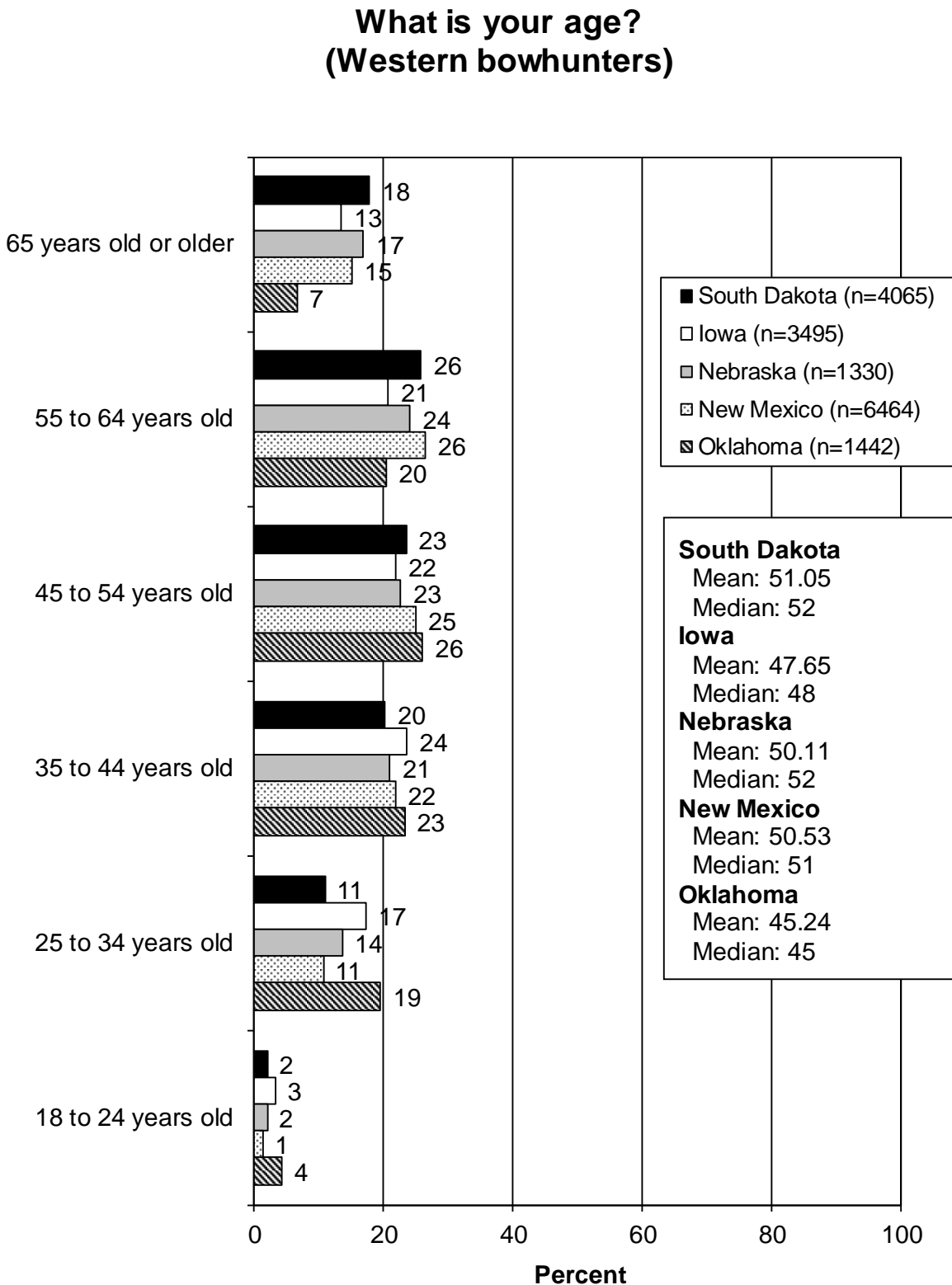


Figure 4.140. Age, Eastern Bowhunters

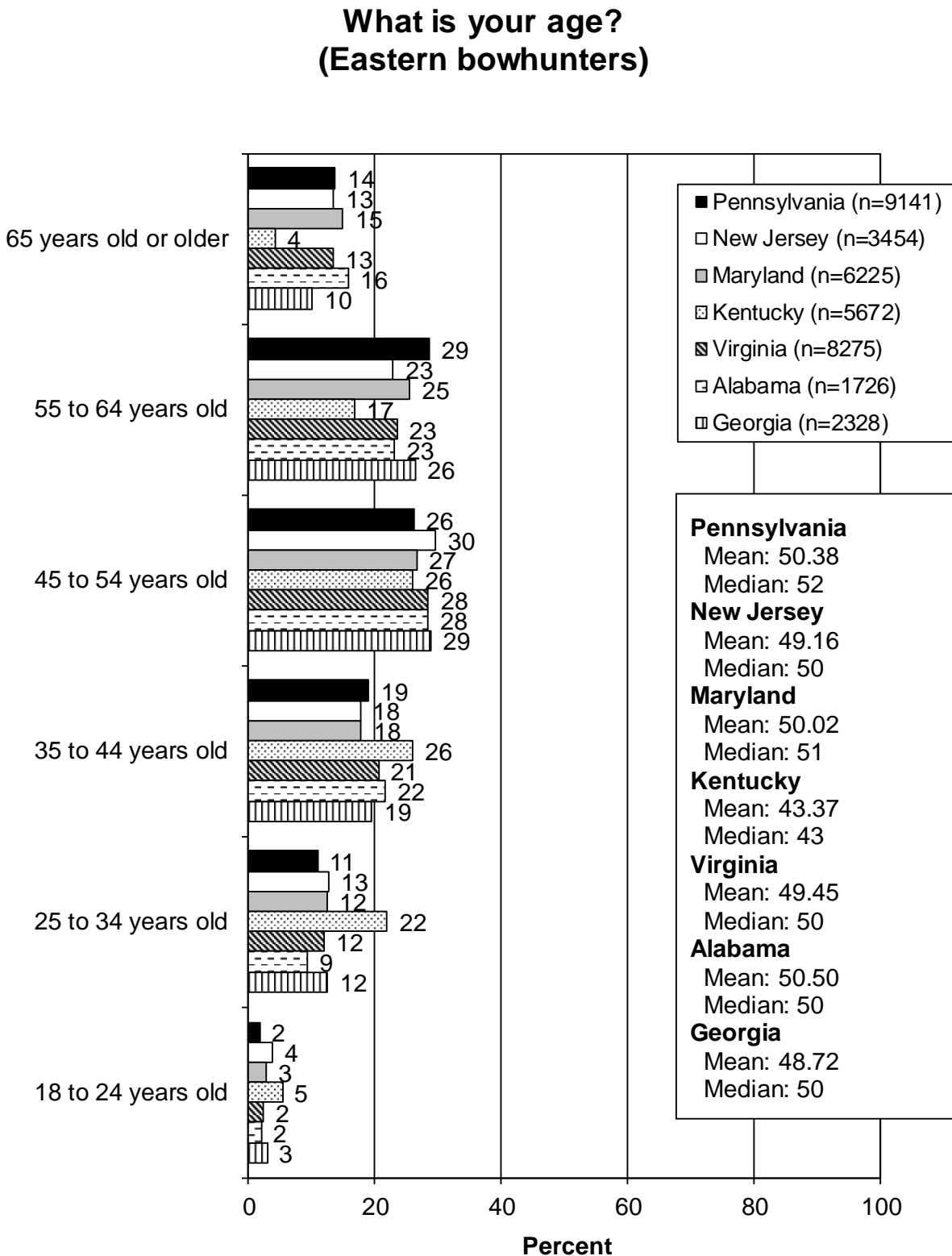


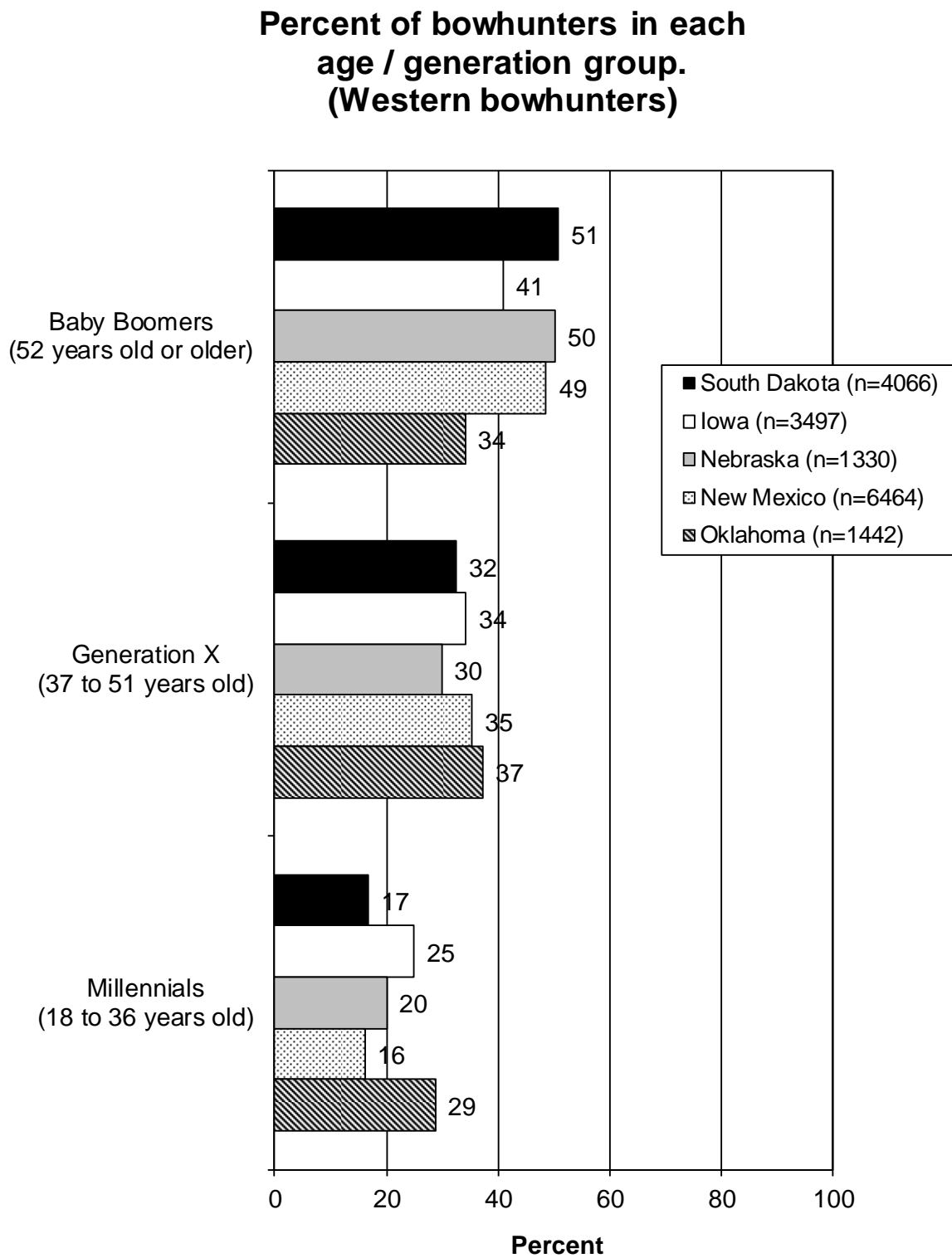
Figure 4.141. Age / Generation Groups, Western Bowhunters

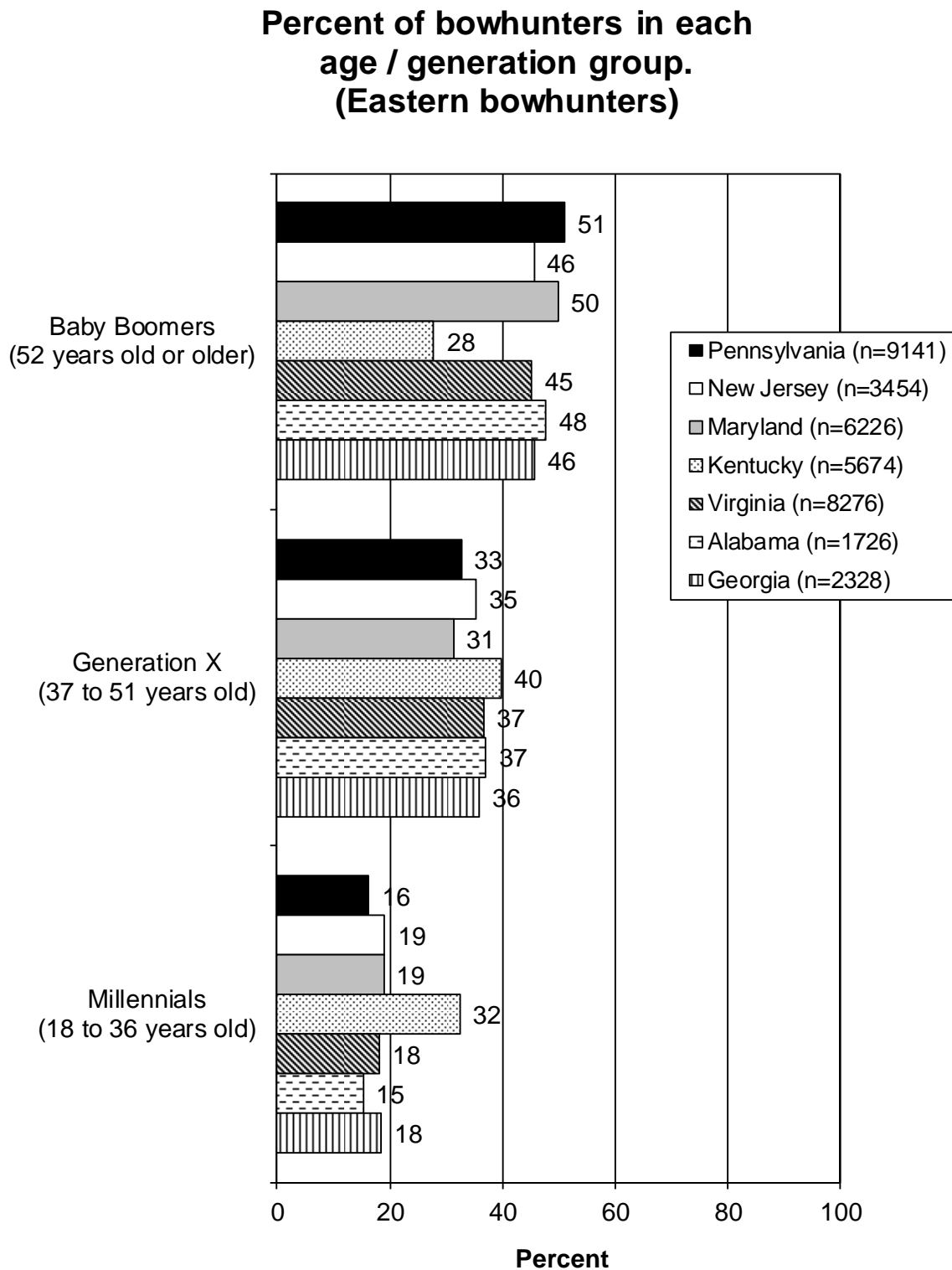
Figure 4.142. Age / Generation Groups, Eastern Bowhunters

Figure 4.143. Gender, Western Bowhunters

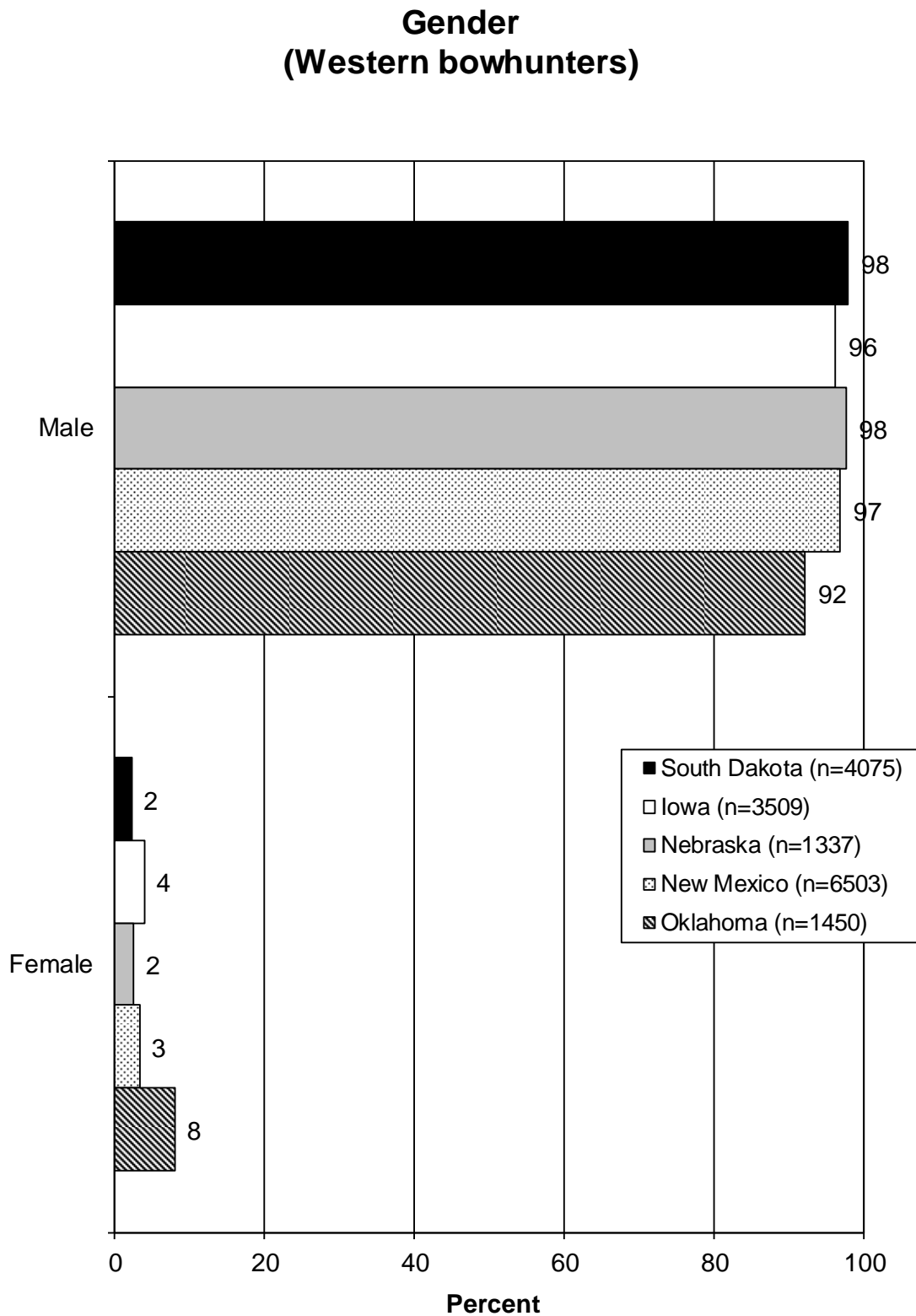
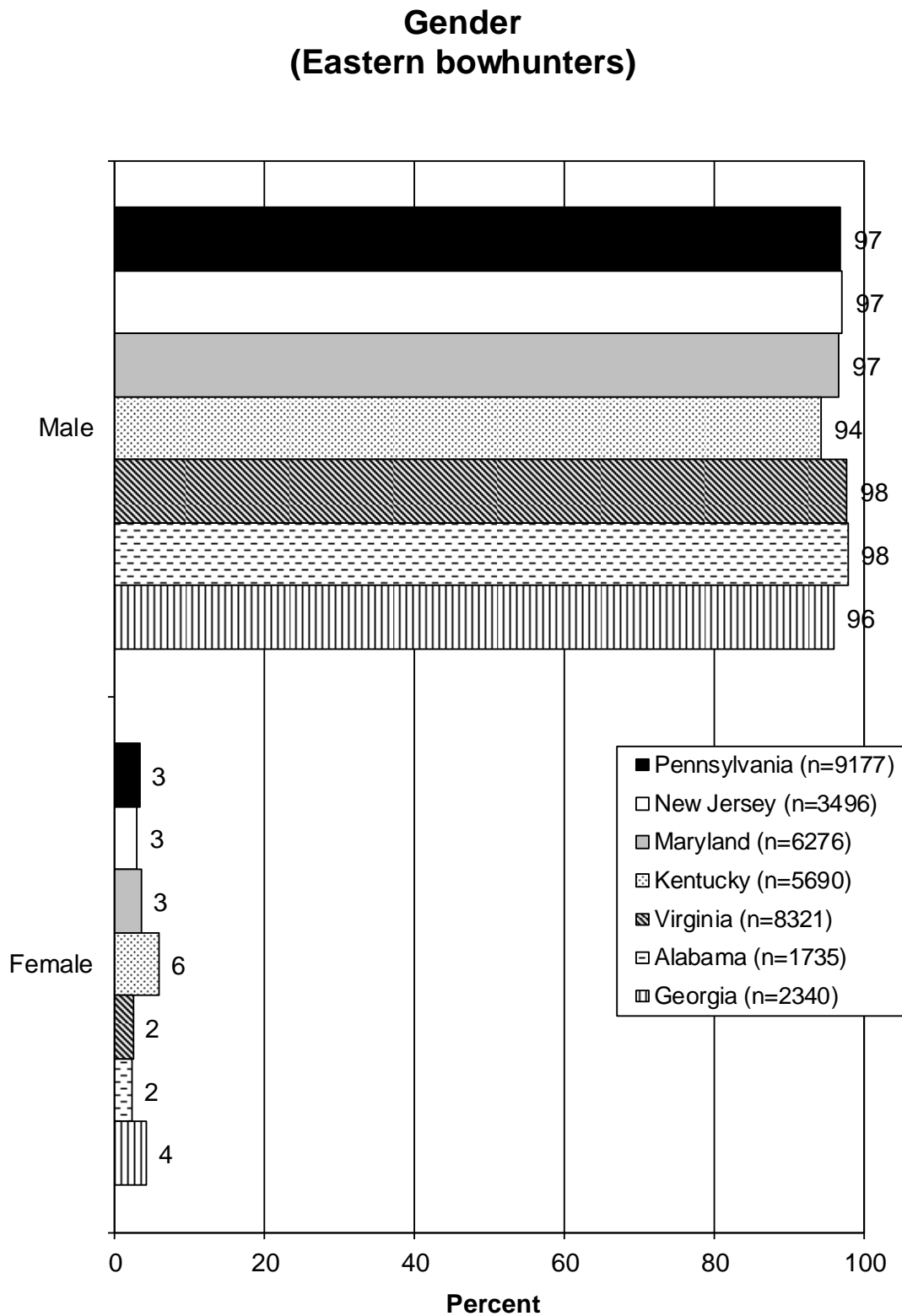


Figure 4.144. Gender, Eastern Bowhunters

CHAPTER 5. FOCUS GROUP RESULTS

For Phase II, the researchers conducted focus groups to qualitatively explore bowhunters' initial sources of interest in bowhunting and motivations, barriers, and challenges to participation in bowhunting. The focus groups also conducted an in-depth examination of reactions to and opinions on the components of the email marketing campaign messages.

A total of four focus groups were conducted with licensed bowhunters. The focus groups were conducted in Tampa, Florida; West Des Moines, Iowa; Millville, New Jersey; and Oklahoma City, Oklahoma. The locations were selected to achieve geographically diverse locations among the participating states across both Phase I and Phase II studies.

The focus groups entailed in-depth, structured discussions with small groups of hunters who began bowhunting in the last 5 to 8 years (8 to 12 individuals per group). Each focus group was moderated by one of Responsive Management's trained moderators using a guide to keep the discussions within study design parameters without exerting a strong influence on discussion content. The discussion guide also allowed for consistency in the data collection. In addition, focus group participants were given booklets with each of the marketing messages only, without an accompanying image, as well as booklets with each of the marketing messages *with* an accompanying image. The images and messages reviewed in focus groups corresponded with the participants' state of residence. All focus group discussions were recorded.

Focus groups allow for extensive open-ended responses to questions; probing, follow-up questions; group discussion; and observation of emotional responses to topics—aspects that cannot be measured in a quantitative survey. Qualitative analyses of the focus groups were conducted through direct observation of the discussions by the moderator as well as through later observation and analysis of the recordings by other researchers. The organization and development of findings entailed a third review of the focus groups as part of the overall qualitative analysis.

In the qualitative analysis that follows, verbatim quotations from focus group participants are shown in the relevant sections. Images of the messages discussed in the analysis of the email marketing campaigns are presented before the comments and analysis pertaining to that campaign. If an image is used in more than one state, only one state's email message will be presented as an example. (It should be noted, however, that each state used their own fish and wildlife agency's logo, design, and information for the marketing campaign.)

This analysis begins on the following page with an overview of the major findings from the focus group discussions. Following the overview is a more in-depth examination of the focus group results by topic, beginning with general bowhunting topics, such as participation, motivations, and constraints. The examination also directly analyzes reactions to and opinions on the email marketing campaign messages, images, and themes. Findings specific to the various topics are summarized at the beginning of each subsection, and representative comments from focus group participants follow in italics.

OVERVIEW OF FOCUS GROUP MAJOR FINDINGS

Major Findings on Bowhunting Participation, Motivations, and Opinions in General

➤ **Bowhunters generally enjoy bowhunting more than other types of hunting.**

Focus group participants across the groups asserted that bowhunting is their preferred form of hunting. Participants feel that the additional skill and time required for bowhunting, when combined with the earlier season start dates and perceived calmer atmosphere, all contribute to bowhunting's greater appeal.

➤ **Bowhunters are motivated by the opportunity to be in nature, the challenge of bowhunting, and the opportunity to interact with wildlife.**

On multiple occasions, participants compared being in the woods in the early morning to a spiritual experience and cautioned against minimizing that experience in any marketing or advertising. Participants agreed that the opportunity to be in nature and experience closer contact with wildlife are major motivators for their continued participation in bowhunting.

➤ **The challenge of bowhunting when compared to other types of hunting is an important motivation for some bowhunters.**

Several participants explained that they transitioned to bowhunting as a result of complacency and boredom with general gun and muzzleloader hunting. Participants discussed how the increased challenge associated with bowhunting had not only been an initial attractant to the sport but also serves as a source of continued motivation.

➤ **Lapses in bowhunting are frequently the result of family and work obligations.**

Some participants have experienced lapses in their bowhunting participation. In most cases, participants explained they have family obligations, such as pregnancy, childbirth, and childcare that takes time away from bowhunting or that the stresses and obligations of work serve as additional obstacles in finding time to bowhunt.

➤ **Learning and teaching opportunities could reduce lapses in participation.**

Participants discussed that without necessary bowhunting skills, new bowhunters could potentially become frustrated or overwhelmed. Some participants suggested that increased learning opportunities could aid in bowhunting retention. YouTube, archery ranges, and peer education were all suggested as possible solutions to the perceived lack of bowhunter education.

Major Findings on Specific Aspects of Bowhunting: Access, Churn Rates, and Mentoring

➤ **Access and opportunity are barriers to increased bowhunting.**

Discussion in all of the groups explored issues with access and opportunity. The lack of access and opportunity is a problem for some of the focus group participants, who reported bowhunting less as a result. Participants also feel that there is a lack of land on which a new bowhunter can practice, which they believe may be leading to increased churn in the sport.

➤ **Bowhunting season could be presented as an early access pass.**

Focus group participants communicated that one of their favorite parts of bowhunting is the earlier and overall longer hunting season. Although participants acknowledged that there is limited access and opportunity for all hunters, they feel that the earlier dates of bowhunting season offer a slight advantage when compared to gun and muzzleloader seasons.

➤ **Access to public land and Wildlife Management Areas (WMAs) is considered problematic.**

Most participants feel that the limited amount of public land, combined with the need to share public land with non-hunters, contributes to many problems with access. The problems reported include overcrowding and exhausted resources on public land.

➤ **Bowhunters want increased access to private land.**

Many participants have access to friends' or family members' land, but several participants use only land that is publicly accessible and are, therefore, very interested in gaining access to private land. Several participants recommended that the state fish and wildlife agency partner with landowners to create programs in which landowners would receive some form of compensation for allowing hunting on their land.

➤ **The expenses and challenges associated with bowhunting may also contribute to churn in bowhunting participation.**

Many focus group participants reported being unlikely to stop bowhunting personally. However, they understand that the costs associated with bowhunting, particularly in the early stages, can be overwhelming and suspect that, in addition to the often-frustrating challenges of bowhunting, this is a primary reason for a higher churn rate in the sport.

➤ **Bowhunters are willing to mentor new recruits.**

Although some participants fear there may be a lack of willing mentees, many participants commented that they would be happy to teach new bowhunters. Several participants suggested creating social media networks in which people who wished to learn how to bowhunt could find someone willing to teach them. Other participants suggested that bowhunters take it upon themselves to mentor as many friends and family members as possible in order to prevent a decline in bowhunting participation.

Major Findings on Communications and the Email Marketing Campaigns

➤ **There should be more bowhunting-specific communication from fish and wildlife agencies.**

Some focus group participants reported that they have received a number of emails and newsletters from their respective fish and wildlife agency but have never received any bowhunting-specific communication. Participants suggested agencies tailor messages to each specific audience, as they would be more likely to read information that applied to them directly.

➤ **YouTube is widely used by new and experienced bowhunters.**

A handful of focus group participants in all focus groups have used YouTube when looking for information about bowhunting. These participants explained that YouTube is particularly helpful when starting out in the sport, as there are a number of beginner and educational videos available on the platform. Some focus group participants suggested that fish and wildlife agencies partner with YouTube or with popular YouTube channels to provide additional learning opportunities for new bowhunters.

➤ **Word-of-mouth is one of the primary sources of information about bowhunting.**

Across all focus groups, participants reported that their primary source of information is friends and family who are more experienced with bowhunting. Although long-term bowhunters are a great source of educational information, there is also a desire for consistent and accurate information coming from fish and wildlife agencies.

➤ **Advertising and marketing emails should include useful hunting season information.**

While many participants expressed being overwhelmed with large text blocks in agency emails, they also voiced a desire for more useful or detailed information in any and all correspondence from fish and wildlife agencies. Recognizing these desires as somewhat contradictory, discussion led to suggestions to include links in emails to useful information; for example, season dates, updates on public land, and harvest information. It was recommended that links, rather than large amounts of information, would reduce the number of deleted or disregarded emails.

➤ **Details in images are critical.**

When considering the presented images for the marketing campaign, participants noticed when a location seemed unfamiliar or foreign, when camouflage did not seem appropriate for surroundings, when a bow appeared too large for the individual carrying it, and a number of other details. Several participants suggested fish and wildlife agencies work with experienced hunters when selecting images in order to ensure accuracy of all details.

➤ **Stock images with models and actors should be avoided.**

As with the previous finding, participants are very cognizant of anything that does not appear familiar or does not comply with their perceptions of hunters. For example, participants noticed when an individual in an image had neatly manicured fingernails that do not correlate with hunting or being in the woods. Fish and wildlife agencies should avoid using stock photos and instead focus on local or state-specific images of actual bowhunters.

➤ **Messages that focus on the social aspects of hunting and the opportunity to be in nature received the most positive feedback.**

Focus group participants enjoyed images of family and friends, as the images reminded them of how rewarding hunting can be for all involved, including those who do not actually harvest an animal. Images that emphasize nature were also well-received by participants. Several participants suggested that combining images of family and nature might appeal to a larger audience.

➤ **Images of groups and families are well-liked by bowhunters.**

Many participants are fond of the concept of creating memories with family members, particularly children. Even among participants who do not have children, however, many feel that messages about making memories serve to remind them of their own mentors and their excitement when they first began hunting.

➤ **Images of nature are popular among bowhunters.**

Many focus group participants agreed that being in nature, and not necessarily harvesting animals, is their primary reason for bowhunting. According to participants, the silence afforded bowhunters, as opposed to rifle hunters, brings a greater appreciation for nature and wildlife and should therefore be emphasized in any marketing and advertising campaigns.

➤ **Bowhunting is considered a greater challenge than general gun hunting, but this perceived benefit may also be a deterrent to newcomers.**

Focus group participants discussed how messages emphasizing the challenge of bowhunting could be advantageous when used to reactivate lapsed bowhunters or when focusing on gun hunters who have become bored with the sport. However, many expressed concern that focusing on the challenge of bowhunting could be detrimental when recruiting new hunters.

➤ **Images should not present vague or easily misinterpreted messages or relationships.**

Some mild frustration was expressed in the focus group discussions regarding images for which participants are unable to determine the connection between individuals in the image. For example, some of the social messages, save the gentlemen and boy, confused participants to an extent because the relationship is not immediately discernible. This confusion appeared to easily distract them from the overall message encouraging them to bowhunt.

- **It is important to bowhunters to reach out to less active bowhunting demographics, such as women, minorities, and youth.**

Participants responded very positively to images with women in them. In each focus group, images of women provoked conversation about designing marketing and advertising campaigns to reach less involved demographics.

- **Emotional terms and images are more appealing to bowhunters.**

Throughout the focus groups, participants conveyed the importance of bowhunting in providing balance in their lives. For this reason, participants agreed that, in order to reach lapsed bowhunters, words and images that hold emotional appeal would likely be most effective.

BOWHUNTING PARTICIPATION

Each focus group began with general questions regarding the bowhunting participation of hunters in attendance. Bowhunters were asked to discuss their own levels of participation, their motivations for bowhunting, and their opinions on bowhunting in general, including the importance of bowhunting to them personally.

Recall that focus group participants were recruited based on the criteria that they first started bowhunting recently, ideally within the past 5 to 8 years. Most focus group participants explained that they were recruited to the sport by friends or family members. Some participants reported consistently bowhunting over the past several years, although a few have experienced lapses in their participation mostly attributed to work or family obligations.

Comments on bowhunting in general, bowhunting participation, and frequency of participation:

I think it depends on the weather, too. Because we can hunt year-round, weather gets in the way. Like Hurricane Irma, last year.... That really put a dent in our days and we never got those days back. You had to skip; you didn't have a choice.
—Tampa participant

I only hunted four days this year, because I had a baby. I had a baby in August, so it was kind of difficult. Those first few months are really difficult, and I can't just leave my wife alone with a newborn. —Tampa participant

Finding somewhere to hunt is almost more of a pain than not hunting at all.
—Tampa participant

I was against hunting for most of my life, but then I moved to Iowa and I took up hunting. Bowhunting is my favorite; it gives me time to reflect on things that happened at work or at home. YouTube has been fantastic in helping me learn. —West Des Moines participant

I try to go every year, but I work a lot. I am most passionate about spring turkey. It's just such a rush to call those gobblers and hear them call back and start posing. I haven't gotten a bird yet, but I am anticipating the day I have to transition to bow for that, because the challenges involved with bowhunting turkey, but my skills aren't quite there.
—West Des Moines participant

College is going to get in the way, because of time and just getting my focus on that. I don't want to drive two-plus hours every weekend just to hunt for a few hours and then have to drive back up. —West Des Moines participant

I only went half of this season, because I had a baby right in the middle of the rut. Poor planning. —Oklahoma City participant

I started just for time. You get ten days for rifle and ten days for muzzleloader and more than that for bow down here. I think it is more about it's nothing to see a deer two hundred yards out and shoot it with a gun, but if you see one ten, or twenty, or five yards from you, the rush is a lot better. —Oklahoma City participant

I have hunted with rifles every year, and I kind of stuck with it, even after I started bowhunting, because I grew up in Texas and their rifle season is really long. Growing up, I just always took part in gun season, and then when we moved up here is when I first picked up a bow. I really enjoy it a lot more than rifle hunting, just for the challenge aspect and you're so much closer and your fear is magnified by a lot.

—Oklahoma City participant

Every year, the way my work schedule is, I work out of the house. I usually get out in the morning only for a few hours. I'm bouncing around between small game and whatever, but if I am doing the deer thing then I try to get out every morning if only for a couple of hours. —Millville participant

When I got my dog a few years ago I started taking the time to train her, after school, after work, I would go right there and start training. That is about two hours that I have to sit in the stand, so I probably didn't hunt for the past two or three years, but I just started back again this year. —Millville participant

The last couple years life has gotten in the way, you know when you have to work on the weekends and have to free up a Saturday and everything gets crammed into a Sunday, you might only be able to get out for an hour or two. —Millville participant

As far as frequency, it is just like anything else in life. Some years I watch a hundred Sox games, some years I watch ten. Two years ago, I probably hunted forty or fifty days. Last year I showed up opening day and my camera was gone, chair was gone out of my blind, and perfume was near the bait block. So, I probably hunted maybe six days this year.

What are you going to do? It's an ebb and flow, just like anything else.

—Millville participant

Comments on bowhunting locations and access:

The major reason I see [for not bowhunting as much as I'd like] is land. They get frustrated. They will go hunt public land and get suckered, and then they'll come back and talk to guys who have private land, and they don't know what they're doing.

—West Des Moines participant

You have to know what you're doing on public land. There are no mistakes, from an availability standpoint. You have to know where to put your stand, and where to shoot, and where the wind is going. —West Des Moines participant

I do a two-and-a-half-hour-drive one-way, and I usually go for several days if my work schedule allows me that. And I do what I need to do for the wife and kids, and then I pull out at about two in the morning and drive up for a few days. —Oklahoma City participant

I like public land for the simple fact that it is a lot harder to shoot something than it is on my land. If someone I know has gone five months or five years without shooting a deer, I will take them to my land, and they'll shoot something.—Oklahoma City participant

I stay pretty close to home. I don't know anyone personally who has property, so I stay in the town or county or state woods, and it's all local. I work, so I don't really have time to travel to go far away. —Millville participant

I found several local places, private mostly but also my grands have a small farm in central/northern New Jersey. I travel two hours to hunt up there, which is land of the giants. —Millville participant

We hunt private mostly and have dealt with all sort of things: neighbors driving their quads through the bait pile. I have had the cops called on me because someone thought we were shooting their horse barn with guns, even though on this property we are only allowed to shoot with a bow. —Millville participant

MOTIVATIONS FOR BOWHUNTING

Bowhunters are motivated by a number of different things, but focus group participants most frequently referred to being in nature, having time away from their busy lives, the challenge of hunting with a bow, and the opportunity to hunt earlier than other seasons. Participants also said they go hunting because they enjoy the ability to get closer to wildlife, as well as the meat hunting provides. Some participants also mentioned enjoying time spent hunting with family and friends.

Most participants initially became involved in bowhunting because someone they knew suggested they try it or because they have family members who bowhunt. Some comments suggested that having exposure to archery, especially at a young age, could lead to bowhunting. Being invited or asked by anyone—family, friend, coworker, etc.—to bowhunt is also an important factor in recruitment into bowhunting.

Comments on motivations to bowhunt in general:

It's a challenge, that's why I like bowhunting. —Tampa participant

Bowhunting season is early. You get in before anyone else has gotten in there and taken everything with guns. A month before it opened up in Upper Hillsborough, I got to go in, and they were bringing out bucks and does every day and hogs every day.
—Tampa participant

What I like about bowhunting is that you get to get up close and personal with wildlife.
—Tampa participant

I would say the rush and the meat are the major motivations for me, because I like to eat.
—Oklahoma City participant

Bow season is in October, so it is more of a challenge and you get more days out hunting rather than just sitting and shooting. You get to go out in better weather for bow season.
—Oklahoma City participant

For me it feels more like hunting in a sense. You have to put a lot more effort into getting closer to an animal and you have to figure that out and outsmart them and cover your scent and not disturb the land. There are just so many things that go into it and it's almost like more like hunting. —Oklahoma City participant

I hunted with a rifle for a long time, but then I kind of got bored with that and then we would be eating the meat year-round, too. I have two little boys that go with me, too, so it is also a family thing. Then also, just for the sport, I enjoy it. It's fun.
—Oklahoma City participant

My dad said, "Hey, do you want to go bowhunting?" and I said, "Yeah." That's how I got into it. I had been hunting with him all of my life, but he said that we should pick up bowhunting and I was confused and asked why, and he said, if you stick with guns, you only have two weekends a year, and from that, I liked the sound of bowhunting.
—Oklahoma City participant

For me, it's all about sitting in a tree and watching the leaves rustle.

—West Des Moines participant

Watching a bird land on your head because you are so motionless in the tree.

—West Des Moines participant

Definitely the longer seasons. Your work-life balance can adjust to the season when it's so long. Whereas with shotgun season, you had better be there, because that's it.

—West Des Moines participant

I bowhunt to get meat. —Millville participant

[I bowhunt for] the excitement of it. It's more challenging than a chess match.

—Millville participant

I hunted for almost twenty years with a gun, and my first year of bowhunting I killed the biggest deer in my life. You can see more deer, there's more opportunity, and everything these other guys are saying, too. You can call deer in. It's a challenge. It's the experience. —Millville participant

Comments on motivations to start bowhunting:

I made one indoor range. I own a CrossFit gym, so I put the target way down at the end of the gym and I'll sit at the other end of the gym. Then this guy asked if I wanted to come out to his stand and that was the first time I sat out there. I saw a deer and shot it, and I was hooked. —Oklahoma City participant

I was in Alaska, and I had this extreme jealousy of all of the guys I worked with that were getting moose and caribou and all the other big game up there. In the wintertime, up there, you have literally nothing to do other than stay indoors. I lived right next to a range, and I shot there for an entire winter. —Oklahoma City participant

My best friend died five years ago, and his family were big hunters and I had always been just a gun shooter and so I kind of connected with his brother and he has taken me out a couple of times. ...that was kind of how I got into it.

—Oklahoma City participant

I was against it initially just because I personally thought that if there was deer at forty yards, I couldn't take a shot, so I always hunted with a slow gun. A friend of my old man gave me his bow and that is why I got into it. I thought I'd give it a try.

—Millville participant

I just love shooting a bow. I got my first bow when I was five. I shoot almost every night in my basement probably because my son shoots. It's a good sport, even if you don't hunt. —Millville participant

I practiced for two years before I went hunting with a bow just to be sure that I could make that shot. —Millville participant

THE IMPORTANCE OF BOWHUNTING

Participants were asked to explain why they enjoyed bowhunting and to rate its importance in their lives on a scale of 0 to 10. Although participants acknowledged that there are often fewer kills in bowhunting and it could be frustrating from a harvest or success perspective, they still consider bowhunting more important, enjoyable, or rewarding for them than other types of hunting.

Comments on the importance or reward of bowhunting:

I would give it like a seven or eight out of ten, because I just like the thrill of it once you actually get something. Knowing you shot something with a bow, rather than a gun, you just get this totally different feeling. —Tampa participant

It really is just the access to it that holds me back at all. Unless you want to drive thirty to forty-five minutes to go somewhere to shoot, there's really nowhere to shoot. —Tampa participant

Two or three hundred yards is easy to get with a rifle, but for bowhunting, you're forty or fifty yards in, so that's a lot harder. I like that. —Oklahoma City participant

Bowhunting always changes. You rifle hunt, you buy a rifle, you buy a scope, and your sight. You probably never have to touch them. You buy a bow and you're always having to tune it, and I love that. —Oklahoma City participant

I think regular hunting is a step backwards. You can always go shoot with a rifle and that's fine, but I feel like it's always the same. —Oklahoma City participant

It's all about the feeling you get when you get that reward of getting a deer within forty yards and getting a good shot. It's just a feeling that you can't replace, with a bow that is. —West Des Moines participant

It's a lot more personal when you can shoot one with a bow, than say with a gun or a rifle. —West Des Moines participant

Bowhunting is so much more rewarding. —West Des Moines participant

Archery, to me, seems so much more overwhelming. There are so many more components. Muzzleloader, I threw on some old Army surplus camo and went out and was able to get a doe. Now, I've got tree stands, scent control clothing, and I try to buy everything affordable because I hunt public and I know it can be stolen, but I still put trail cams out there and if a fifty-dollar cam gets stolen, that's just how it goes. —West Des Moines participant

Just deer hunting in general is so important to me. I definitely spend more time on bowhunting than gun hunting. I only gun hunt with the club that week and that's it. Any other time I'm by myself. —Millville participant

CHURN IN BOWHUNTING

Focus group participants were asked to discuss their thoughts on churn in bowhunting, that is the rate at which bowhunters participate and dropout in bowhunting. They discussed a number of ideas about the causes for rising churn rates among bowhunters. One of the primary ideas focused on the difficulty associated with bowhunting as a potential reason for churn in the sport. Participants said they know people who had started bowhunting only to return to rifle hunting or cease participation when they found bowhunting to be too difficult or frustrating.

In some of the focus groups, participants mentioned some possible explanations for churn rates that are specific to their state of residence. In Tampa, Florida, participants argued that the churn rates may be misleading, explaining that archery tag purchases are only required for hunting some big game species and not others. Hogs, deemed by some participants as one of the most hunted species by bowhunters, does not require the purchase of an archery tag. The speculation is that these licensing issues make Florida's bowhunting churn rates seem higher than they actually are.

In West Des Moines, Iowa, participants suggested that those who remain in bowhunting may be as interested in herd management as hunting. Some suggested that those for whom harvest and acquiring meat are priorities may not be as attracted to bowhunting due to less harvest, thereby choosing rifle hunting in the interest of easier or increased harvest.

Participants in the Millville, New Jersey, group also mentioned the difficulty of bowhunting as a possible reason for high churn rates. In addition, some Millville participants expressed frustrations regarding licensing rules and regulations for bowhunting in the state.

Comments on churn in bowhunting:

As far as statistics are concerned, you're monitoring an archery tag [to determine churn rates], but that is for people who are targeting deer, turkey, or something along those lines. The average person in Florida is not an avid deer hunter. Our deer population is just so undersized compared to the other states. You're looking at these statistics, yet I have tons of friends who are avid bowhunters that won't even buy a Florida deer license. They just go to other states, but they hunt hogs in Florida thirty weekends a year.
—Tampa participant

The other side of that, too, is that there are states that you don't have to buy a tag. It's not an additional fee, but you at least have to go online and say you're doing archery, so it's zero dollars when you check out, but at least it shows up as a demographic in the state. Maybe that's something that needs to be added to the FWC website.
—Tampa participant

I have had thirteen unsuccessful draws just from this past year of quotas here in Florida, all of which were archery. It's disappointing. —Tampa participant

Priorities change, though. Last year was easily the most I've ever hunted in a season. I hunted like crazy, and this season, I have been hunting like crazy. Next year, though, I expect to be a really slow season. —Oklahoma City participant

My biggest issue is trying to balance things, like hunting and the fact that I am also in college. Trying to balance classes and everything is hard. I'm working on research projects and applying to grad school. During hunting season, it's hard.

—Oklahoma City participant

I have known a few people that have bought crossbows and now they just don't really care to do it. It could be they just had other things to do. —Oklahoma City participant

I think the reward here, because it is so much harder to be successful at bowhunting, I would assume that if someone is going out and using their resources to go for three or four years, and never being able to successfully harvest or capture a deer, that their frustration level is going to be a lot higher. So far, in my four years bowhunting, I have shot one deer. —West Des Moines participant

The major reason I see for people falling out of bowhunting is land. They get frustrated. They will go hunt public land and get suckered, and then they'll come back and talk to guys who have private land, and they don't know what they're doing.

—West Des Moines participant

The end of December comes and my license for 2018 is no good. I have to make sure to go out and get a 2019 license to hunt January winter bow. So I'm carrying half of my old license and my 2019 new license; it's just stupid. Why can't they do it in July and June?

—Millville participant

People get discouraged if they're not seeing deer. You guys are talking about killing eighteen to twenty deer. I don't think I've seen eighteen deer total! —Millville participant

For new hunters? If they can't get someone to explain it to them or mentor them? They just don't bother. And they're not going to hunt for all the different opportunities that are available. When I was younger and just getting into it, I was turned off by a local shop because I was young and had questions and the guy behind the counter said "Listen kid, we just sell this [stuff]." —Millville participant

ACCESS

Participants discussed a number of issues related to access, particularly access to public land, including limited land in general, stressed interactions between hunters and non-consumptive users, and depleted game populations. Participants also suggested that this lack of access likely contributes to churn in bowhunting participation.

Because bowhunting requires more setup and time before hunting, bowhunters also perceive access to be an even bigger issue for bowhunting than for other types of hunting. In addition, participants feel that the extra space needed to practice and shoot a bow causes greater access issues for bowhunters. Some participants suggested that public land should be opened to bowhunters before their season begins in order to allow the arrangement of tree stands and food plots.

Participants, particularly in West Des Moines, suggested that fish and wildlife agencies focus on creating partnerships with landowners in order to increase access to private land. Participants fear that liability and property damage might be barriers to any such partnerships, but some suggested offering a form of compensation or fish and wildlife agencies taking on liability issues in order to encourage the opening of private land to hunters. Participants asserted that more access to all kinds of land would help retain current bowhunters and perhaps even recruit new bowhunters.

Comments on access:

I think it is definitely a networking thing. I think the more people you email, the more people you know who hunt, the easier it is to get access to land and find places. If you don't have a big group of people, though, it's tough to figure out where to go and where to find public or private land. —Oklahoma City participant

Even if I go to the place that's an hour away, I have to go three times to scout once or twice and then go back a third time to shoot. It makes it harder. —Oklahoma City participant

You can have all the guns and all of the bows in the world, but if you have nowhere to go, how are you going to hunt? —Oklahoma City participant

But if you're a bowhunter, you have to get everything set up before you even hunt. Bowhunting requires a little more effort and pre-scouting and stuff. The way that I hunt is designed around it. —Oklahoma City participant

If I am hunting on public land, I can't stop anyone from coming in and doing whatever they want. I can call Iowa DNR, but by the time a game warden would get out there, it wouldn't matter much. —West Des Moines participant

Liability is another issue. Farmers are backing off of even letting you fish their ponds. They don't even like people walking across their property. I don't know if there is anything that could be done to maybe reduce the liability issue so that they felt safer. —West Des Moines participant

The last two times I was on public land were an absolute disaster. One initiated by me when I had my stealth on and I got all the way in and I was so proud, until I look up and see this orange and realize it's a guy sitting in full camo right there. So, boom, that was an entire weekend's prep wasted. Then another time, I was in the stand and there were like eight guys who came out of nowhere and parked in a big public area and came up over the bluff right at me, firing rounds through the trees. —West Des Moines participant

Could there be special tags that the DNR could do? Couldn't the DNR partner with some landowners? —West Des Moines participant

Some guy could sell a landowner tag to the DNR, and he would get a part of the money, too. Could that work? —West Des Moines participant

MENTORING

Many focus group participants had been mentored by a family member or became interested in bowhunting on their own and learned without the assistance of a mentor. Participants who learned to bowhunt without the assistance of a mentor explained that having a mentor would likely have made the learning process easier. Participants are very open to mentoring a new bowhunter but expressed concern that there simply are not enough people interested in being mentored.

Most of the participants in the Millville focus group feel that mentoring would likely be most successful if limited to working with family and close friends. Participants suggested creating social media networks, in conjunction with their fish and wildlife agencies, in order to assist new bowhunters in building relationships with mentors outside of their immediate social circle.

Some participants suggested that the archery industry and archery and bowhunting organizations forego more traditional means of learning and focus on more interactive learning, such as 3-D targets and increased competition so that practicing more closely replicates video games. Tactics such as these, when combined with mentoring, they suggested, might encourage new recruits into bowhunting.

Comments on mentoring:

I was mentored by my dad actually. He passed down his bow when he got a new one, so we just went out and started shooting. It was awesome. He taught me everything and I was pretty young. I didn't feel quite proficient enough to kill anything with it, but once I got good, I actually went out and loved it. —Tampa participant

I think maybe if we treated it more like karate. How many moms take their kids to karate for discipline? I would compare archery to karate in terms of the discipline you need. You learn to be quiet and have discipline for hunting. —Tampa participant

I just got my fourteen-year-old nephew into shooting. We shoot [archery] a couple of times a week, but at the same time, he would rather be playing Madden [video game]. —Tampa participant

Mentoring is very important, of course. —Tampa participant

I think you need faces. When you think of guns or NASCAR, or any sport, you get images. Can anyone name one archer? I can name five, but I know I'm in the minority. —Tampa participant

Going back to the whole generation thing, if you're trying to get more of the younger generation interested in bowhunting, you've got sports, you've got soccer, you've got football, so why don't they have an archery program after school for kids? I would honestly love to go out and teach kids the proper way to handle a bow, the discipline that is needed. It's hard, though. If you want to get them interested in hunting and stuff, you can have 3-D animal targets. —Tampa participant

I just bought a little cheap bow for my six-year-old, and he's running around the yard and shooting at acorns. It's interesting, though, because all of the neighbor kids come rushing over when he pulls that bow out and starts shooting at targets. They'll run over and ask if they can try it and I always tell them they have to ask their parents first, but I don't know how to get more people into it. I am going to raise my kid that way, I guess. —West Des Moines participant

It is really helpful to have schools have archery programs now. I think the Valley Program has like a hundred-and-twenty kids who shoot for our team. There are a lot of people who have interest in it. —West Des Moines participant

Honestly, I think there may be less than a handful of kids who went from archery to bowhunting. —West Des Moines participant

I know people whose kids have done the National Archery in the Schools program who will shoot paper all day, but they wouldn't dream of shooting an animal. —West Des Moines participant

I mentored a guy I work with [his] first-year bowhunting. [Mentoring] definitely helps since it is kind of intimidating doing it on your own. —Millville participant

They should have some kind of discount program with your license for mentoring. That would be a start. —Millville participant

You need a mentor who knows what they're doing. And it's going to be your friend! You're not going to have a stranger take you to their honey hole! You're going to want your friend to bring you there. —Millville participant

What about a Big Brothers Big Sisters kind of thing for underprivileged kids who want to learn how to shoot a deer? That would be good. —Millville participant

A cousin of mine does mentoring but it's not with strangers, it's for family—grandkids and that kind of thing. I think it needs to start close to home with nieces and nephews, or anyone who shows an interest in it. —Millville participant

SOURCES OF COMMUNICATION AND ADVERTISING TECHNIQUES

Bowhunters were asked to discuss the best sources of information and most successful advertising techniques for recruitment and retention. The primary sources of information regarding bowhunting among focus group participants are YouTube videos and word-of-mouth from fellow bowhunters. Focus group participants reported receiving limited communication from their fish and wildlife agencies. This is particularly true, they explained, when it comes to information related to bowhunting, with many saying that they have never received bowhunting-specific information from their state agency. According to their discussions, any information participants had seen regarding bowhunting was the result of their own information-seeking, though a number of different sources were listed as being particularly useful. Participants especially feel that there is no information for underrepresented demographic groups, such as women, minority groups, and youth.

Participants seemed to understand and accept the fact that hunting and harvest imagery and messages are difficult for the public to digest. With hunting licenses being one of the primary funding sources for fish and wildlife agencies, however, some participants feel that fish and wildlife agencies do not focus on communicating with hunters enough. Several participants suggested fish and wildlife agencies partner with YouTube to create better learning and communication opportunities.

Participants feel strongly that advertising and all sources of communication need to focus on providing information about WMAs, bag limits, deer populations, etc. Participants repeatedly mentioned wanting more information of every kind. Even with this request for information, however, participants cautioned against emails with large amounts of text, and instead suggested that emails include links to desired information.

Comments on sources of information on bowhunting:

FWC is where I get most of my information for hunting, but archery-wise it's just from magazines. I'll pick up magazines and read them and see what they have to say.

—Tampa participant

I get information in the mail about fishing, but nothing about bowhunting or anything.

—Tampa participant

You have to avidly look for information about bowhunting. —Tampa participant

Nothing is actually attracting females to bowhunting. I have been trying to get my wife to get a bow, but there is nothing about it that is attracting her or drawing her in. You'll go to the store and see a model holding a bow and that's only attracting males. If you could get the female population and tap into some of the females who hunt hogs with rifles and shotguns, I guarantee that they would see more hunters actually bowhunting.

—Tampa participant

I think the response from FWC is the problem. I started hunting in Kentucky two years ago, and I emailed their main office and said I was interested in bowhunting there. Within twenty-four hours, I had a detailed email of what I need, where to get it, and everything else I needed. If you email FWC, you're going to get an email back that says, "Go to our website." —Tampa participant

On social media, on the Internet, if you have a question, you can find someone who has had that problem, you can find some thread, you can figure it out. YouTube has done a lot. —Oklahoma City participant

If someone was trying to reach out to archers in Oklahoma, they should send things to the folks whose information they gather when they sign up for their license and collect their emails. —Oklahoma City participant

I think the social media presence of archers is much bigger than I expected it to be. There are a lot of Facebook groups. —Oklahoma City participant

There are a lot of different apps you can get on your phone that will tell you which grounds are public and which are private. They will tell you who owns it, where they live, and sometimes give you information to contact them if you want to get permission. —West Des Moines participant

We use a lot of plat books, too. If they are handy—you have to find the courthouse and you have to find the right time—but if they were more accessible that would be incredibly helpful! I'm a little more old-school, the state of Iowa has a big binder map that has each county sectioned so that you can see what is available. —West Des Moines participant

I wish that the DNR or private industry would get away from this politically correct stuff going on in the hunting industry. I follow the DNR on Facebook, and I notice they are all about posting pictures of their hatcheries and stuff like that. You almost never see anything about hunting, whether it is first hunts for youth or anything like that. I have seen a few about classes and getting women out, but it's never about record bucks shot by this guy or something like that. The only thing you see is stuff about some guy poaching. —West Des Moines participant

They don't do a good enough marketing job. Us old guys are dying off and there are not enough of you young bucks coming into replace us, so they need to do a better job of recruiting youth through archery programs and stuff like that. —West Des Moines participant

I get a lot of stuff from YouTube. —Millville participant

My family always hunted, so I learned from them. From a lot of the archery stores I buy from. I'm close to those guys, they give you little hints. They help out a lot of people. —Millville participant

I get most of my information from magazines. —Millville participant

Comments on the most successful sources of information and advertising techniques:

Tell us “this is what we’re adding to this management area,” or “this is going to be open a little longer this year,” or just simple things like that. —Tampa participant

Wolverine Boots did a commercial and from the advertisement standpoint, it wasn’t designed for hunting. It was all about the boots. At the end of the commercial, though, it was showing people in the woods and the snow, wearing the boots and it also shows a grandfather, a dad, and a son walking out of the woods with a bow, and I used to love going hunting with my dad. It didn’t matter what we were hunting or what we were doing, it was just about being with my family and getting to do something I enjoyed. —Tampa participant

I like advertisements that are more personal to the hunter, because if you’re not a hunter and you’re trying to increase hunting participation, how are you going to be able to relate that to how the hunter is going to feel? —Tampa participant

If you’re going to try to get new people out there, I like the idea of getting them out with someone. I’d be way more willing to do something like that. That’s how I was taught. I could just keep passing that on and maybe I could get five or ten more people. —Oklahoma City participant

Maybe they could do a jamboree every spring where they build their own bow, and I know that is hardcore traditional, but that bridges the gap between traditional build-your-own bow to more modern things. Even if it is not a first-time bowhunter, maybe it’s just someone who wants to have a three-day weekend. —Oklahoma City participant

I listen to the radio all of the time. I used to listen to a show on Saturday morning. I hear commercials and stuff. It seems like a good place for ads. —Oklahoma City participant

Another thing you might think about is some kind of incentive for taking youth out. That’s a huge one and currently, I think you have to have a tag for it. —West Des Moines participant

I think you could also recruit farmers who see deer out in their field every night. Could they sign up and have kids come out and learn there? —West Des Moines participant

Friends or some kind of connection are the best sources. If someone shoots a big deer, you are going to hear about it. Or someone is going to throw that picture up on Facebook or Instagram. Everyone else will start doing circles around you and be buzzards until they find out where you are hunting. —Millville participant

I think possibly the promotion of wild game dinners could possibly get people involved. I know some people are kind of turned off and some people are more intrigued. Some of my friends are interested in tasting wild game, but they don’t have a resource or an outlet to get to it besides people they know who hunt. So, if there was a wild game dinner, it could possibly spark an interest in hunting. —Millville participant

New Jersey is a weird state for it, too. There has been a lot of, at least recently, people protesting squirrel hunts. There are a lot of anti-hunters and it just seems split in this state. In Kansas, it might be different where people are outside doing stuff more often. I feel like it's more taboo here than in other places. So, if you want to advertise, I think it might not be about getting people into hunting but getting people to at least accept it and then go from there. —Millville participant

EMAIL MARKETING CAMPAIGN MESSAGES

Focus group participants were asked to assess a series of messages designed to recruit new, retain active, and reactivate lapsed bowhunters, used in the email marketing campaign for this study. They were first asked to assess each headline without an accompanying image. After discussing the headline, they were shown each email marketing campaign message used in their state with the headline, accompanying image, and, when applicable, agency logo and text. They were asked their opinions of each email message, including the images used. Although there were some positive responses to the headlines without images, in general participants responded to headlines much more positively when paired with an image.

Overall, messages with the most positive feedback in the focus groups are the social, nature, and recreation messages. The message themes focused on time and heritage were less well-received among participants. Throughout all focus groups, it appeared that participants feel more strongly about messages that appeal to them personally, whether through recalling a specific memory or relating to personal experiences and preferences.

Assessing the focus group responses to the email marketing campaign messages makes one conclusion clear: details are extremely important. Participants quickly noticed if someone in an image looks uncomfortable or inexperienced with the bow, someone is wearing the wrong type of camouflage, or a landscape does not match the location or type of hunting being depicted or advertised.

As a reminder, the images discussed in each section are presented before the comments and analysis pertaining to the email marketing campaign. For messages that used the same image across states, an image of only one state's email message may be shown as an example.

Social Theme

Messages 1 to 3 Social (*Bowhunting in [State] is Quality Time—Make Memories This Hunting Season*) Without Images

As previously mentioned, reactions to the headlines without an image were typically less enthusiastic than when the entire email message was shown with an image. This is especially true of the social message headline, *Bowhunting in [State] is Quality Time—Make Memories This Hunting Season*.

While some focus group participants responded positively to the social theme headline and immediately made the connection to the concept of spending time with family or friends, it was more typical for the participants to quickly start critiquing the message. Some thought the headline is too long, and others criticized the wording or phrasing as too cumbersome or cliché. Moreover, others expressed confusion about how an activity as solitary and quiet as bowhunting could involve spending or enjoying quality time with others. This latter sentiment is especially true for the Millville focus group discussion.

Comments on Messages 1 to 3 Social (*Bowhunting in [State] is Quality Time—Make Memories This Hunting Season*) without images:

I kind of like it. It makes me think about family and taking my kid out and going bowhunting with him, and I like that. Maybe I'm a sap. —Millville participant

The Florida stuff is what makes us special. This could work with Florida pictures. —Tampa participant

I like it, but I'm a woman. I like the quality time part. I have a ten-year-old and an eight-year-old. —Oklahoma City participant

I think I like it without the "quality time" part; just stay with "Make Memories This Hunting Season." —Tampa participant

For someone like me who usually hunts with family back home, while I'm here, I hunt by myself. That doesn't pop out to me. That doesn't draw my attention, because I think I'm going to be out in the woods by myself. —Tampa participant

I actually like it, too. My wife went hunting with me three or four times last season, and she actually killed a deer and it was nice. —Oklahoma City participant

I just think it's too long. If you think of that on a billboard, it wouldn't really work. —Oklahoma City participant

You can't really talk and you're away from everybody, so how can that be quality time? —Oklahoma City participant

I like this, but it would mean more to me if it was personalized. Rather than some generic statement. What I mean by that is instead of just saying, "It's quality time," give me an example of how it is quality time. That way I am not asking what quality time even is. —West Des Moines participant

The "Make Memories This Hunting Season" part sticks with me, but the "Bowhunting in Iowa is Quality Time" part just seems weird to me. I don't know if it's the word choice or what, but it just doesn't flow to me or really connect. —West Des Moines participant

I feel like it gets across a good message, but I am just not sure it has that snap, grab-your-attention effect. —Millville participant

This is more of a family thing, I think. —Millville participant

It's like an ad you might see in the New Jersey Digest or something like that. It's a little cliché. —Millville participant

Messages 1 to 3 Social With Images

Recall from previous chapters that the email marketing campaigns tested three social-themed messages, each with the same headline (i.e., *Bowhunting in [State] is Quality Time—Make Memories This Hunting Season*) but with a different image. Because the social theme and headline tested well in the Phase I study, Phase II sought to determine what type of social image would be most effective. The three images used for the social email messages are 1) a young male and female dressed for hunting and carrying bows, 2) a father and son (or possibly mentor and youth) bowhunting, and 3) a mixed gender and age group dressed for hunting with bowhunting equipment, shown socializing (for reference, see Table 2.1 and Figures 2.1 to 2.3 in Chapter 2).

Figure 5.1. Message 1 Social
(Florida is used as an example.)



According to focus group responses, the image of the young man and woman is generally an effective image, though it is not favored as much as the image of the man and boy in Message 2 (Social), which will be discussed next. Some participants are unsure of the nature of the relationship, expressing confusion as to whether they are a couple, friends, or siblings. The participants' tendency to dwell on surmising the relationship suggests that marketing should avoid vague imagery, as it appears to detract from the focus on bowhunting.

As has been mentioned previously, attention to detail is extremely important to focus group participants. While feedback is generally positive for Message 1 (Social) overall, some participants expressed frustration that the landscape in the image does not reflect their state or where they personally hunt; it gave the impression that it is inaccurate or fake.

Many focus group participants were pleased to see a woman in a bowhunting marketing campaign, as they feel that women are often neglected in such communication.

Comments on Message 1 Social with image:

Her bow looks the same size as his. That doesn't make sense. That's a really big bow for her. —Tampa participant

That is what a typical Florida morning looks like when you're bowhunting. I like that. —Tampa participant

I don't see the context of this. I don't think the picture is too bad, but I guess now that you mentioned it, they are a little young, but if this looked like a husband and wife or a father and son, it would be different. That is what I was expecting. —Tampa participant

I like that there is a girl in it. The picture made a big difference for me.
—Oklahoma City participant

It makes me excited to see people hunting. It makes me happy to see people out there “making memories.” —Oklahoma City participant

I think you should see a deer. Make it look a little more like hunting.
—Oklahoma City participant

It sounds crazy, but that movie that came out a few years ago and there was a heroine who was a bowhunter: Hunger Games. I’ll tell you, it was crazy how many young ladies were excited about archery during that time, and I see this right here and it kind of validates and builds on that. —West Des Moines participant

I think the image could probably speak to everyone, but at different times in your life. It will make a difference with what image you want to see. —West Des Moines participant

I don’t see her getting elbow deep, but I understand wanting to get females to want to hunt. I have known a handful of avid hunters that are female.
—West Des Moines participant

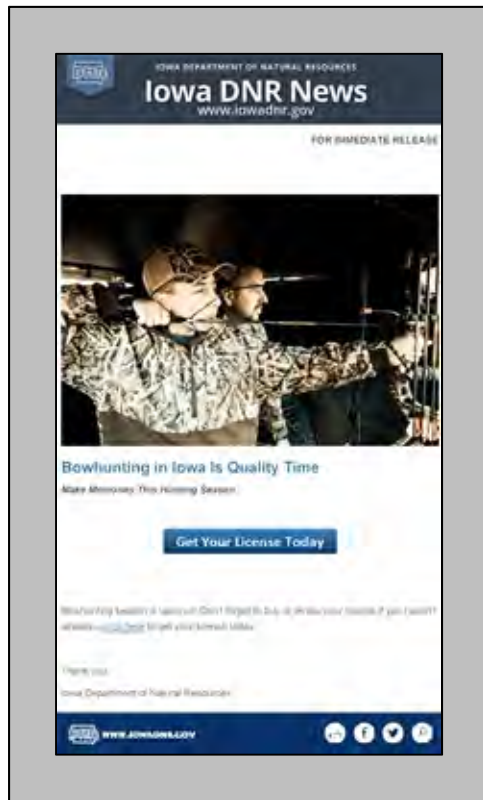
I don’t see anything wrong with the ad, but again, I don’t know where you would put this.
—Millville participant

This looks like something you would see in a digest and just flip right by it.
—Millville participant

I don’t want to be critical, but take message one, for example. Imagine if there were Palmetto bushes all around it, rather than looking like it could be a field in Kansas. —Tampa participant

The problem is, I don’t bowhunt with people, I am a solo hunter, so all of these quality time ones do nothing for me. —Millville participant

Figure 5.2. Message 2 Social
(Iowa is used as an example.)



The boy and father-figure image was the most well-received among focus group participants. Previously, when presented with only the headline and no image, participants in the Tampa and West Des Moines focus groups suggested using an image of a father and a child in order to obtain the greatest impact of the social message and the idea of quality time, so this image fulfills that criterion. Several focus group participants feel that an image of a father and daughter could potentially be a more powerful choice, as it may evoke memories of bowhunting with a parent or child and have the added benefit of appealing to more girls and women, who are traditionally underrepresented in bowhunting.

Comments on Message 2 Social with image:

I feel like this one actually shows quality time. The meaning is clearer here. —Tampa participant

I love this one. For all men who have ever hunted with their dad or even had a father, they can be reminded of just doing something with their dad. —Oklahoma City participant

And he has the discipline. He's holding it right. It's not some actor and you can't tell me, anyone who has ever gone hunting with their parent, the first deer or whatever they killed, that is the best feeling in the world for both of them, not just one of them. —Tampa participant

You have one person who is not holding the bow, though, and it seems a lot more like mentorship instead of peers. That's the part that I like. —Oklahoma City participant

What I think might make it better would be if the father or man was leaning closer like he was... giving him instruction or directions. —West Des Moines participant

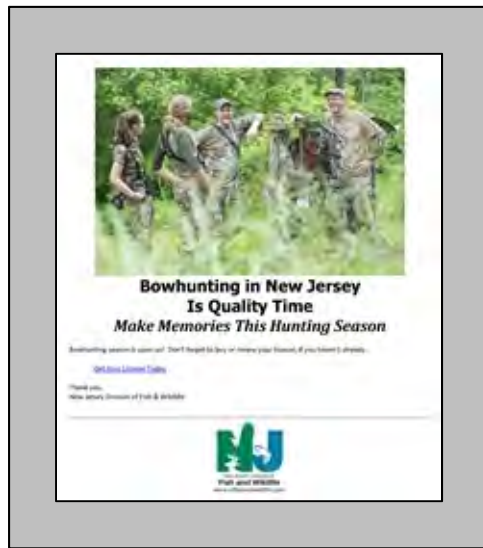
This one is good. It is just a father and a son and that works. Maybe a daughter would be even better. —West Des Moines participant

I prefer this one over the first one. —Millville participant

I like it because I think there are more fathers and sons and fathers and daughters who are going hunting than husbands and wives. I don't think much of either one, though. —Millville participant

Maybe we are underestimating the target audience of [the] female eighteen to thirty demographic. —Millville participant

Figure 5.3. Message 3 Social
(New Jersey is used as an example.)



Among focus group participants, the group image used in Message 3 (Social) appeared to be the least popular. Again, vague or unclear details in the image became the topic of discussion, detracting from the bowhunting focus. Participants expressed confusion about the relationship between the figures in the image. There is also confusion about the setting in the image: the surroundings do not appear to be a camp, yet the figures in the image are clearly speaking and laughing, which would deter wildlife. The expressed issues with this image highlight the importance of not using staged or stock images, as hunters may quickly perceive a lack of authenticity.

Comments on Message 3 Social with image:

What are they laughing about? Are they at a checkpoint, or are they standing in the middle of the woods where there is a post or something? —Tampa participant

To sit out there like that, that is not going to happen on public land. That's not out in the woods. Maybe it's at the checkpoint or something. —Tampa participant

If there was a hog or something hanging from the tree in the background, though, that might make it better. —Tampa participant

If they are going to be relaxing, it shouldn't be in the woods. That just makes no sense. —Oklahoma City participant

When I think of quality time as a group, I think of it at camp, not in the woods. We go to deer camp for ten days every year and I really enjoy hunting, but I enjoy the time around the fire after we are done, too. —Oklahoma City participant

Or, I know you can't have a deer hanging in the tree, but maybe you could see some antlers hanging out of the back of the truck. —Oklahoma City participant

To me, this is confusing. What are they doing? Are they just out shooting or are they in a camp? Are they done hunting? —West Des Moines participant

I associate archery either with solitary or mentoring-type pursuit. To see a group of four people and only one bow in the picture, it doesn't quite work for me. Where are they? —West Des Moines participant

They look like they're blowing up their spot. I am not bowhunting with that many people. —Millville participant

Nature Theme

Two nature-themed messages were presented, one with the headline, *Connect to Nature—Go Bowhunting in [State]* (Message 4 for this study) and the other with the headline, *Get Close to Nature—Go Bowhunting in [State]* (Message 5). The same image accompanied both messages. While each focus group state used an image of deer, the image used varied across the states. Most states used a silhouette of a single buck, but among the focus group states Florida differed most notably, using an image of a deer that more accurately reflected the habitat of the state.

Message 4 Nature (*Connect to Nature*) Without Image

Focus group participants' reactions to this message suggest that the connection between bowhunter and nature is a very important one. Discussion also suggests that bowhunters may be excited to see *any* marketing or advertising related to nature. Many participants stressed the importance of not trivializing or minimizing the relationship between bowhunters and nature. The *Connect to Nature* headline was typically more well-received than the other Nature headline (*Get Close to Nature*). Recommendations were made to use the word *with* rather than *to*, for the headline, *Connect With Nature*.

Comments on Message 4 Nature (*Connect to Nature*) without image:

You can't get much closer than that. I think that's pretty damn perfect. Whether I kill anything or not, I love being in the woods. I love walking through the woods, I love climbing up in the trees and looking down on everything. Being alone and quiet, with no work, that is my release. —Tampa participant

I think nature is just such a big part of it—you know hunting and fishing. Most people who aren't out doing that kind of stuff, they don't realize there are Palmetto thickets that you look at and you can't even walk through them. I know people who have seen things you would never think could be possible when you're in Florida. People always think about the beach when they think about Florida. —Tampa participant

If I saw this on a billboard, I would get excited just because it was advertising bowhunting. —Oklahoma City participant

You need some animals and wildlife in this one. —Oklahoma City participant

If you're driving down Interstate 240 near Oklahoma City and you see this and you've never hunted before, you've never lived outside of the metro area, I think it might strike more of a new person to inspire them to go hunting. I think this would be more important in a city. —Oklahoma City participant

When you were talking about this, I was playing with something like that in my head. I thought: "Call your mother! Get back to nature!" That line to me strikes a chord, because you sit in that tree and you watch the leaves, the trees, the squirrels. —West Des Moines participant

[This message] definitely resonates with me more. I like the thought of bowhunting being so new and foreign, and then the reconnecting with nature part is great.

—West Des Moines participant

My brother-in-law hunts with me, and I got him started on bowhunting and that's the first thing he said, and he was in his forties. He would come down and go, "Just drink it in." I love that idea of resetting from the city and all of the things that are eating you alive and stressing you out. You can go to an area where you can find peace and calm.

—West Des Moines participant

I like that one better than the [Social Message]. —Millville participant

I would say, "Bowhunt in New Jersey," instead. —Millville participant

I think for someone who has no experience with hunting, they do have experience with nature. They could have been hiking or canoeing or birdwatching. There are a lot of things they could be doing in nature. I can hunt and still connect with nature. I like that one. —Millville participant

I think "connect to" reminds me of connecting my phone to Wi-Fi. It's impersonal, but when you say "connect with," it is more personal. I think "with" insinuates a two-way thing. —Millville participant

Message 5 Nature (Get Close to Nature) Without Image

Focus group discussion explored how getting *close* is not the same as actually getting *in* nature. This is an important distinction for focus group participants, as they overwhelmingly expressed that the idea of *getting close* does not accurately represent the relationship between bowhunter and nature. Participants in the Millville group did not express a preference as strong as some of the other groups regarding the two nature headlines. Instead, they discussed how the actual words are secondary to expressing the importance of being in nature.

Comments on Message 5 Nature (Get Close to Nature) without image:

I like "connect" better. —Tampa participant

It feels like, "Let's not go bowhunting. We're close enough." —Tampa participant

I don't like this one. It makes me feel like it's about a petting zoo or something.
—Oklahoma City participant

If they took the word "close" out and just had "Get to nature!" —Oklahoma City participant

I like "connect" more than "get close." —West Des Moines participant

Get in nature! You're not getting close, you're in it. —West Des Moines participant

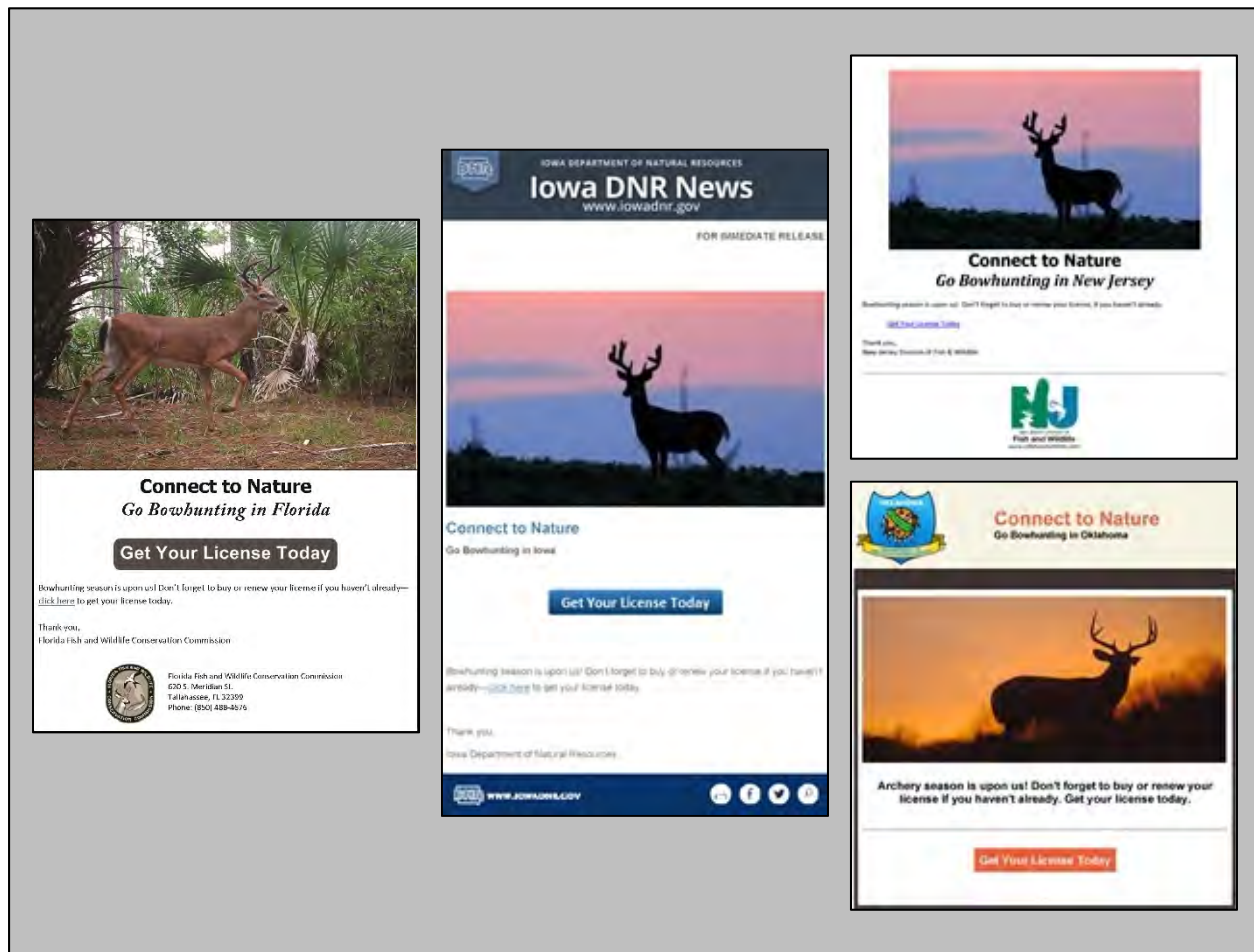
I prefer the “Connect to nature.” It’s just the wording. It means the same thing, but the other one is just better. —Millville participant

I like the other one better, too. —Millville participant

Messages 4 and 5 Nature With Image

Recall that the same image accompanied both Nature theme messages in each state. While each state in the email marketing campaign used an image of game species, each focus group state used an image of a deer, although the image used varied across the states.

Figure 5.4. Message 4 Nature (Connect to Nature)
(Each focus group state is shown.)



The first Nature message with an image presented to focus group participants features the headline, *Connect to Nature—Go Bowhunting in [State]* (Message 4). The image associated with the phrase varied depending on the state, but the concept of healthy deer was used in every state. Many states used the same image of a silhouette of a buck in the email marketing campaigns, including Iowa and New Jersey shown above for the focus groups. Oklahoma also used the silhouette of a buck, albeit a different image. Florida used an image of a deer that more accurately reflects the habitat of the state, featuring a deer in front of palmetto foliage.

The use of a local and recognizable image was very successful with focus group participants in Tampa. The use of the silhouetted buck is largely considered effective among focus group participants, but focus group participants in Iowa, New Jersey, and Oklahoma reiterated the need for recognizable local imagery and habitat.

Participants in the West Des Moines focus group feel that the image could be stronger if the buck did not appear to be in velvet (i.e., too young to have fully mature antlers). They feel that the image of the deer still in velvet suggests the buck is not yet mature and, therefore, not ready for harvest. Suggestions were to use an image of a fully mature buck with a background that is clearly identifiable as being within in the state.

Comments on Message 4 Nature (*Connect to Nature*) with image:

We all want to feel connected, so it's relatable. When you're out there and you're checking your trail cams, you have a good chance of actually seeing something. Whereas the one before, they were all gathered around talking. —Tampa participant

And seeing a deer like that, that's not a trophy buck. That's a good eating buck. It makes me want to put food on the table. —Tampa participant

I think this would appeal to a lot of people. —Oklahoma City participant

I think this would appeal to those people who haven't been out hunting in two or three seasons. This would be a good picture to use on them. —Oklahoma City participant

Keep the rack like it is, though. That's a good deer. It's not too big that you would never see that deer. —Oklahoma City participant

I can't harvest a deer with velvet. I just look at it and when I am thinking about hunting, I just think, I can't shoot that deer. That deer is in velvet. —West Des Moines participant

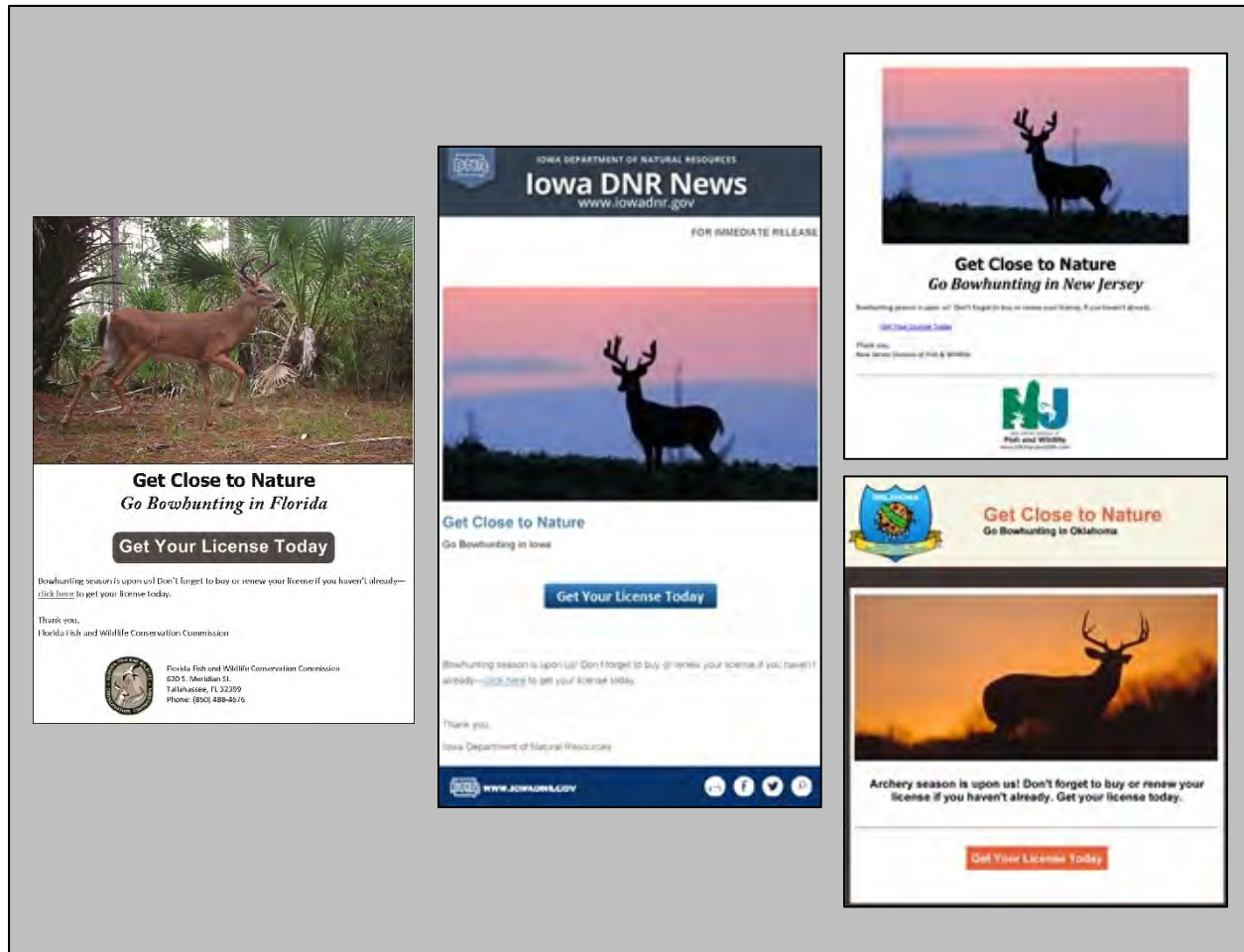
It's great. —Millville participant

It's a good image. You've got a beautiful sunset and a beautiful buck.
—Millville participant

I like the picture with it. If you want someone to go bowhunting, I like this for it.
—Millville participant

I want the picture to encompass more. I want trees, leaves, acorns, a fox, and a tree stand. —Millville participant

Figure 5.5. Message 5 Nature, (*Get Close to Nature*)
(Each focus group state is shown.)



The second Nature message with an image presented to focus group participants features the headline, *Get Close to Nature—Go Bowhunting in [State]* (Message 5). States used the same image for this second Nature message as the first. Once again, many states used the same image of a silhouette of a buck in the email marketing campaigns, including Iowa and New Jersey shown above for the focus groups. Oklahoma also used the silhouette of a buck, albeit a different image. Florida used an image of a deer that more accurately reflects the habitat of the state, featuring a deer in front of palmetto foliage.

Participants across focus groups seem to prefer the concept of connecting to (or with) nature, more so than getting close to nature. Several participants noted that *close* still indicates some degree of distance, and that when bowhunting, one feels absorbed into nature. Not everyone is put off by the headline, however. At least one participant suggested that an image with a hunter close to wildlife would make this a strong message. Overall, the headline received a better response from focus group participants when combined with the image of a deer.

Comments on Message 5 Nature (Get Close to Nature) with image:

I don't know. I think it makes sense to "get close," because you're getting close to the deer. It made a little sense, but you understand that very few people get that close to a deer. Sometimes I don't shoot anything if I get that close. —Tampa participant

I feel like the idea of getting close would be like an owl or something you would see from a tree stand. You aren't focused on him, but he's there. —Oklahoma City participant

I like the "Connect to Nature" better. —Oklahoma City participant

Yeah, I think this one works better, just because it is one of those things where as you are walking out at night and you look up on the hill and just think that is so awesome. —West Des Moines participant

Yeah, it's better with this picture, but it is still not as good as a different saying with a different picture. —West Des Moines participant

Recreation Theme**Message 6 Recreation Without Image**

The recreation-themed message uses the headline, *Join the Excitement—Go Bowhunting in [State]*. Overall, this headline received some mixed positive and negative response. Even with positive comments, criticism usually followed with suggestion for improvement.

Focus group discussion explored whether the word *excitement* could be misleading, given the slower, more methodical nature of bowhunting. While focus group participants think the headline could potentially appeal to someone who has never been bowhunting, they expressed concern that the statement might build unrealistic expectations in newcomers and ultimately contribute to churn in the long run. Nonetheless, some participants readily acknowledged how exciting and challenging bowhunting is for them and thought that aspect of bowhunting should be communicated in campaigns. This headline, without an image, seems to suggest it but may not capture the sentiment fully.

Comments on Message 6 Recreation without image:

Just seeing animals can be exciting. That starts to get your adrenaline going and you're like, "I came out here to get something and here it is." —Tampa participant

I'm not sure that's "exciting" though. You just trekked two hours and you do that every weekend and don't see anything. —Tampa participant

If it was a commercial, you could show someone shooting their bow and that would be appealing. —Oklahoma City participant

Maybe you could do a two-parter with the [Nature] message and this one. Smash them together on a billboard. —Oklahoma City participant

If you did this and a guy saw this driving down the highway, I think he would think that bowhunting is cool, but if he dropped three grand on a bow and went out there and didn't see anything, he would not think that was exciting. —Oklahoma City participant

I would just be concerned about the overhype on the off-chance that they don't get the big deer that they really want. Then they would be like, "Well, I didn't have any excitement." —West Des Moines participant

I think this would be better with the word "feel." —West Des Moines participant

There is something about just seeing the animals, though. You may never get to do that again in your life. —West Des Moines participant

This is the perfect example. That is a lot more ear-pleasing than the other ones. This is a perfect example of that. —Millville participant

Your initial problem is getting the kid outside in the first place, and nature is the way to do it, because it means so much more than just hunting. —Millville participant

This one makes me think we are doing it for the thrill of it, and I am not sure that's good. That's a part of it, but it is not all of it. People who aren't hunters, though, could look at that and misconstrue the meaning. —Millville participant

Message 6 Recreation With Image

Figure 5.6. Message 6 Recreation
(Oklahoma is used as an example.)



Focus group reactions to this message with the image as a factor were once again mixed. Some focus group participants seem to very much like the image of the bowhunter completely exposed, which they perceive to be what made the image more exciting. In contrast, other focus group participants quickly noted that the landscape in the image does not match their local landscape and are, therefore, not impressed with the image overall. The reactions to this message and image highlight the importance of localized and personalized images more than perhaps any other during focus group discussions.

Some participants like the image while others feel the image is too dark, marking it difficult to see enough detail to judge the effectiveness of the image.

Comments on Message 6 Recreation with image:

If you just put a palm in front of them or behind them, it would be clear that it is a Florida environment and it would be a decent picture. —Tampa participant

Put him in a stand in Florida or put a pig in front of him and it would work. There are very few things more exciting than having a pig that close to you. —Tampa participant

I have definitely never seen anyone bowhunt in a wheat field without trees around. —Oklahoma City participant

I think this needs more nature. When I see that, I think he's practice shooting, not bowhunting. —Oklahoma City participant

If he were in camo and you could barely make him out, or if he was in a tree stand and all you could see was the rack, that would be cool. —Oklahoma City participant

I like that shot, because that is a sneak right there. You're not in a blind or anything like that, so it does convey more excitement, because you've probably been belly crawling and no one would sit there for three hours in that position, so you've probably been sneaking to get there. That does say excitement to me. —West Des Moines participant

The only thing I don't like about this one is that it's not me. —West Des Moines participant

It wasn't my favorite, but this picture is making it better. That dude looks excited. —Millville participant

I like this image much more. —Millville participant

I think this would be great with [the Challenge Message headline], "Challenge Yourself!" —Millville participant

Time Theme**Message 7 Time Without Image**

During the Phase I study, consistent with much research related to hunting, results indicated that not having enough time and both work and family obligations are the primary constraints to hunting participation. In response, Phase II developed and tested an email theme related to these issues: *Too Busy to Bowhunt? See What You've Been Missing!* (Message 7).

This message, overall, was not very well-received among focus group participants. Several participants said the message makes them feel guilty for having other responsibilities. Perhaps the message served more to remind them of obligations preventing their participation or what they are indeed missing rather than successfully encouraging them to make time to do so.

Comments on Time Message 7 Time without image:

I think the “too busy” part is off. —Tampa participant

Just say, “See What You’ve Been Missing” and have the season dates so that people know that bowhunting season is early. Otherwise, it doesn’t matter. —Tampa participant

I hate it. If I am too busy to bowhunt, I am too busy to bowhunt. This is just reminding me of that. —Oklahoma City participant

It makes me feel guilty. —Oklahoma City participant

No, I don’t like it. I guess I can relate to busy, but it reminds me of the other things I can’t do. —Oklahoma City participant

I might get a little offended by that. I felt myself getting a little salty.
—West Des Moines participant

It depends, though. The top line speaks to me. The second one, not as much. Something like, “Too busy to bowhunt? He stopped by your stand this morning,” with a shot of a big buck. —West Des Moines participant

If you’re already busy, you aren’t going to have time to bowhunt. —Millville participant

I don’t like that one at all. We don’t want you bowhunting if you don’t have time to practice. —Millville participant

It makes it seem like bowhunting doesn’t take a lot of time. It does take a lot of time.
—Millville participant

Message 7 Time With Image

Figure 5.7. Message 7 Time
(Florida is used as an example.)



Even with a collage image contrasting time obligations with bowhunting participation, the Time theme message was not as well-received as other messages by focus group participants. Concern about the message focuses on recipients potentially having a negative reaction to the reminder of other obligations. Focus group participants mostly agree that removing any images related to work or business is necessary for this image to have its intended impact. The second portion of the headline, *See What You’ve Been Missing*, was far better received than the first sentence, and many participants feel that an image of a deer with the second portion alone would be a better choice for this message.

Participants in two of the focus groups suggested using a popular meme that features a buck passing under a tree stand with a different message, such as “I stopped by your stand today, but you were working.” The concept of reminding lapsed bowhunters of what they are missing is worth considering, according to focus group discussion. However, the perception of asking bowhunters to choose between bowhunting and their work or lives, is not considered an approach that would successfully motivate or reinvigorate passion among lapsed bowhunters.

Comments on the Message 7 Time with image:

You should take the guy out and put the deer in this picture. —Tampa participant

This one to me feels like reasons to not go hunting. This looks like some kind of business man, because they are usually on their phone all the time. This one is showing that this guy might have a business call soon, and why would I want to go bowhunting when I could be making money right now? —Tampa participant

I think if you try to guilt people like this, they won't respond well. —Tampa participant

This guy looking down at his watch has never held a bow or been in the woods in his life. The manicure is really nice. —Oklahoma City participant

This [headline] is worse with the images. —Oklahoma City participant

So, basically, this one always feels like a reminder that you're just too busy. You're reminding me that I am mad about being busy. —Oklahoma City participant

Something around the lines of, “Chaotic day? Ground yourself.” might work better. It would be better if it was not so much in your face, because you do have to do all of these things because it's your life, but this would be an option to maybe slow your day down. —West Des Moines participant

I think this one comes back into the timing of the year. If it is right, it could be great, but if it's not, then it's a smack in the face. —West Des Moines participant

Next [message]! —Millville participant

I don't like this! —Millville participant

This made a great picture worse. —Millville participant

Challenge Theme

Message 8 Challenge Without Image

The challenge-themed message uses the headline, *Challenge Yourself—Go Bowhunting in [State]*. Like Message 7 (Time), this message was created for Phase II based on results from Phase I suggesting that the challenge and skill involved in bowhunting was part of the appeal of the sport.

Overall, this message received mixed responses. Even with positive comments, criticism usually followed. Focus group participants expressed concern that this message might be discouraging to the uninitiated because it suggests a high level of difficulty. However, some West Des Moines participants believe it might encourage a younger audience that is more interested in competition. Although nearly all focus group participants indicated that the challenge of bowhunting is indeed one of the reasons they participate, the concern that a challenging—as well as expensive—sport would discourage newcomers is an important point. In contrast, many participants in the Millville focus group feel that this particular message would probably be successful in recruiting lapsed hunters or even gun hunters who do not yet bowhunt.

Comments on Message 8 Challenge without image:

I don't think you want to tell these people how much of a challenge it is or how difficult it all is. —Tampa participant

Hunting can be difficult enough as it is, especially on public land, so if you say, "Challenge Yourself," that might seem like you're talking down to other people who are using a gun or something. It is about the challenge, but there is more to it than the challenge. —Tampa participant

I think it depends on where it is. If it is in a gym bathroom or something like that, or at a savage race, and you have someone coming off of an obstacle course, then that might work, but if you're talking about some average guy who is hunting, he is going to blow right by that. —Tampa participant

This would appeal more to other hunters, maybe rifle hunters, than anyone else. —Oklahoma City participant

If I was a rifle hunter who was getting bored with it, I think this would work on me. —Oklahoma City participant

I was going to mention competition for this one. You were saying what are some things that could possibly entice young people and they love competition, and the funny thing about it is they won't be intimidated by it. It's like fuel, like their video games and everything like that, when they are constantly going against somebody else. I guess if they can get the 3-D shoots and compete to shoot bigger bucks. The challenge is good. —West Des Moines participant

I like this as a hunter already, but I would not like this if I was maybe in the realm of thinking of hunting. —Millville participant

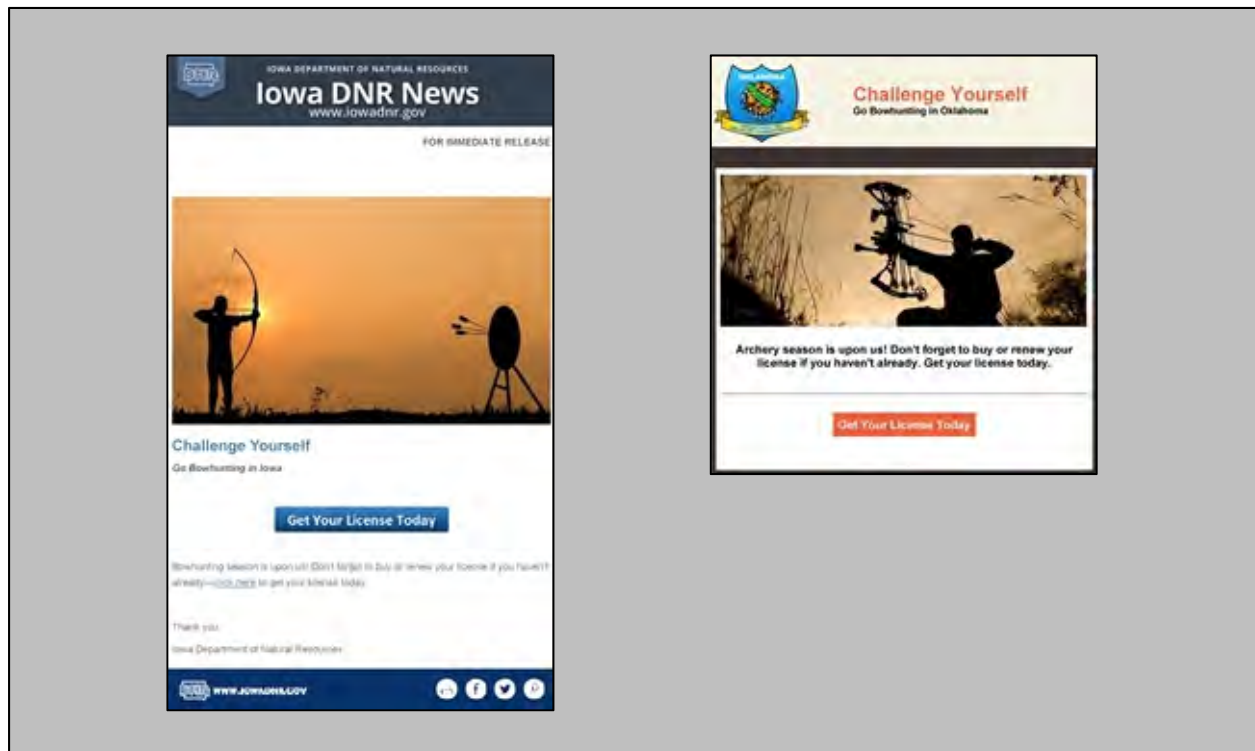
This is the kind of message that makes it seem hard. —Millville participant

If you're trying to target people who already hunt, it would be good. If you were targeting gun hunters, it would lead to something new to try to challenge myself.
—Millville participant

I think "Challenge Yourself" captures the rush more so than the rest of these.
—Millville participant

Message 8 Challenge With Image

Figure 5.8. Message 8 Challenge
(Iowa and Oklahoma are used as examples.)



Most states in the study use the target shooting silhouette shown in the Iowa email example above for the Challenge email, including Iowa and New Jersey, as well as Florida for the focus groups. Oklahoma used a different image with this message, albeit still a silhouetted bowhunter.

Upon viewing this message, focus group discussion suggested that an image of wildlife may be more appealing for a message about the challenge of bowhunting. Comments were that the image, particularly the one shown in the Iowa example above, could be equated with archery more than bowhunting. Some participants feel that there should be more images of crossbows, as most newcomers to the sport would likely use a crossbow. Once again, the attention to detail became an important part of the conversation about the image.

Comments on Message 8 Challenge with image:

If you wanted to use “Challenge Yourself,” I think you should use a deer in the background and it should be clear and obvious that he’s there, but there should be a hunter there without being seen by the deer. That’s more of a challenge than shooting a target. —Tampa participant

This looks like an advertisement for the Boy Scouts. —Tampa participant

I think this picture goes way better with the idea of challenging yourself, because I see me bowhunting from the ground with no cover, and that’s a challenge. —Oklahoma City participant

If I am a new hunter and I am going to go out bowhunting, I am going to start with a crossbow. —Oklahoma City participant

I like the message, but the picture doesn’t do it for me at all. —West Des Moines participant

I don’t see bowhunting, though. I see a challenge, because shooting a recurve is hard, but I don’t see deer hunting here. —West Des Moines participant

The thing I don’t like about it, though, is that he is only like ten feet from the target. —Millville participant

You never see anyone shooting like that. That’s summer camp. —Millville participant

It’s not the motto or the wording that bothers me, it’s the picture. —Millville participant

Heritage Theme

The heritage-themed message uses the headline, *Heritage. Go Bowhunting in [State]*. Like Message 7 (Time) and Message 8 (Challenge), Message 9 (Heritage) was created for Phase II based on results from Phase I suggesting that heritage and passing on the tradition of bowhunting is important to bowhunters. Research determined that many people hunted, and especially bowhunted, because they are a part of a long-standing family tradition of bowhunting that has been passed from generation to generation.

Message 9 Heritage Without Image

This headline seemed to be problematic for focus group participants. It quickly became clear that *heritage* has a very different meaning to people in different regions of the country. Most notably, in Tampa and Oklahoma City, focus group participants feel uncomfortable using the term *heritage* without paying homage to the larger Native American populations in their states or explained that it would be confusing given the culture and history in their state.

In West Des Moines, where participants found no connection between the word *heritage* and a particular group of people, participants still took issue with the term. One participant explained that focusing on heritage and tradition may act as a deterrent by promoting a sense that bowhunting is exclusively for individuals who are part of a generational hunting structure, leaving little room for individuals who come to bowhunting on their own.

In the Millville focus group, some participants feel that using the word *tradition* instead of *heritage* might be a better option for reminding hunters to get others involved and mentor as much as possible in the interest of maintaining long-held traditions.

Comments on the Message 9 Heritage without image:

It would be better if you put “family tradition” on there. Plus, that’s a southern thing.
—Tampa participant

I think about Seminole Indian while you’re bowhunting when I read that.
—Tampa participant

I guess I see bowhunting as a part of Native American heritage, which is Oklahoma.
—Oklahoma City participant

“Tradition” is a better word than “heritage.” —Oklahoma City participant

If you’re a new hunter, you don’t have that tradition. If you saw this on a billboard, or on an ad, or on the radio or something, you would just think it doesn’t apply to you and then you would just tune it out. —Oklahoma City participant

I don’t think you have those generations of hunting anymore. Heritage just isn’t going to resonate with anyone, I don’t think. —West Des Moines participant

To me, this means nothing. —West Des Moines participant

Boy, I tell you, I am a school teacher and I can tell you that heritage doesn’t even exist anymore. —West Des Moines participant

I feel like this is missing a handful of words. It almost feels like you tried to make the message too direct. —Millville participant

This wouldn’t work for everyone. There are people who start on their own.
—Millville participant

That would be a good message. That might get people thinking that it is dying off or maybe it’s slowing down. —Millville participant

I think “tradition” would be good instead of “heritage.” —Millville participant

Message 9 Heritage With Image

Figure 5.9. Message 9 Heritage
(New Jersey is used as an example.)



The image used for Heritage Message 9 is consistent across the states and is the same image used for Social Message 2 of a father and son (or mentor and youth). The addition of the image to this message changed some participants' opinions, as they explained that an image of what appeared to be a father and son or a young mentee with his mentor clarifies the headline. Some Millville participants feel that if the word *tradition* is used in the headline instead, the message could potentially reach hunters and encourage mentorship. Still, however, discussion regarding this image revealed potential confusion with the term *heritage*. Once again, comments were made about the importance of managing the details in the photo for accuracy and authenticity.

Comments on the Message 9 Heritage with image:

I think it would look better if it were more like what I was talking about with the Wolverine Boot company, with a dad and a grandad standing on either side of the kid and them all carrying a bow. —Tampa participant

I think it has to do with what your culture is now. I'm not in it for my family, so I don't have that. I am sure you guys all have nieces and nephews and stuff like that, but this doesn't pertain to me. I'm not saying it's bad, I am just saying it doesn't work for me. —Tampa participant

If you just say the word "heritage," and I see someone bowhunting, it's not a thing. If you show me a recurve or a traditional bow or an old compound bow like my dad used to hunt with. That's what I think when you say "tradition" or "heritage." —Oklahoma City participant

I think this would be better if it was a Native American in the picture. —Oklahoma City participant

The wording matches the picture perfectly. —Millville participant

This actually works. —Millville participant

I still like the idea of tradition better. —Millville participant

They need to redo the image, because it has all kinds of problems with the camo and the lineup and his eyeline. If you're targeting bowhunters, you're going to have to change some things. —Millville participant

APPENDIX A. SUMMARY OF PHASE I STUDY RESULTS

This project was undertaken to better understand the effectiveness of various email marketing messages at encouraging sporadic and lapsed bowhunters to purchase a bowhunting license. This pilot project entailed both a proactive marketing campaign, involving the distribution of email messages to encourage license purchases and bowhunting participation, and analyses to assess the most effective campaign messages and images as well as the timing of such messages. This project serves as the pilot to a continuing effort to encourage bowhunting participation and license purchasing that is being undertaken in 2018-2019.

The centerpiece of this project was a reactivation email campaign that was intended to boost bowhunting license renewal rates. Four different email message themes and two different email timings (when feasible) were tested among two groups of bowhunters: avid bowhunters and sporadic/lapsed bowhunters.

The four email message themes were as follows:

1. **Social** image and message.
2. **Aesthetic** image and message.
3. **Hunting-Recreation** image and message.
4. **Hunting-Success** image and message.

The two timing approaches were as follows:

Timing 1: Approximately at the **beginning** of the hunting season.

Timing 2: Approximately in the **middle** of the hunting season.

The two bowhunting groups were defined as follows:

Avid bowhunters were those who had bought a license in at least 4 of the 5 previous seasons.

Sporadic bowhunters were those who had bought a license in no more than 3 of the 5 previous seasons.

The result of the 4 image/message themes, the 2 timing strategies, and 2 avidity groupings is shown in a matrix (Table A.1), with control groups added to be compared against the treatment groups.

Table A.1. Matrix Based on Theme, Timing, and Avidity

THEME	TIMING OF EMAILS			
	AVID BOWHUNTERS		SPORADIC BOWHUNTERS	
	Timing 1 (Beginning of Season)	Timing 2 (Middle of Season)	Timing 1 (Beginning of Season)	Timing 2 (Middle of Season)
Social	Group 1	Group 2	Group 10	Group 11
Aesthetic	Group 3	Group 4	Group 12	Group 13
Hunting- Recreation	Group 5	Group 6	Group 14	Group 15
Hunting- Success	Group 7	Group 8	Group 16	Group 17
Control	NO EMAILS			
	Group 9		Group 18	

Five states participated in the pilot study: Florida, Georgia, Indiana, New Jersey, and Oklahoma. Each participating state provided a database of bowhunting license holders from the previous 5 years. This database was used to prepare the treatment and control samples in each state; note that only those license records with email addresses were used. After the treatment, the states provided a database of bowhunting license purchasers within the 2017-2018 season, which was compared to the initial database.

APPROACH AND METHODOLOGY

As described briefly, the project entailed grouping bowhunters into 18 groups (16 treatment groups and 2 control groups) based on theme, timing, and bowhunting avidity. Emails would then be sent to the treatment groups. Therefore, after the initial design of the study, the first task was obtaining license databases from participating states. Note that the license databases were used only for this project and no other purpose. All license information is kept completely confidential.

Obtaining the Database of License Holders and Preparing the Sample Groups

Each state provided the research team with its database of bowhunting license holders for the previous 5 years. The databases were screened to include only those with email addresses, because the study and treatment were to be conducted online. All remaining bowhunters in the databases were then categorized through the license records as being either avid bowhunters or sporadic bowhunters. Then, each of the avidity groupings was randomly divided into 9 groups (see Table A.1 for this matrix).

Once the databases were divided into the various treatment and control groups, they were ready for the actual treatments themselves. This brings us to the next part of the project.

Designing the Email Messages

Based on a review of previous research that was conducted, the research team chose the following themes and messages to be tested; states could tweak the message slightly if keeping within the overall boundaries of the theme.

1. Social: Bowhunting in [STATE] Is Quality Time—Make Memories This Hunting Season
2. Aesthetic: Connect to Nature—Go Bowhunting in [STATE]
3. Hunting-Recreation: Join the Excitement, Go Bowhunting in [STATE]
4. Hunting-Success: Big Game, Good Meat—Go Bowhunting in [STATE]

Note that the actual name of the state was used in place of [STATE].

The messages were accompanied by imagery that fit that message. The imagery was selected by the states in conjunction with the research team to be representative of that state. The images that were chosen in conjunction with each state were based on the guidelines outlined below:

1. Social: men and women together in hunting clothes/youngsters in hunting clothes/men, women, and children in hunting clothes around a fire.
2. Aesthetic: wildlife (deer or elk)/sunrise/landscape.
3. Hunting-Recreation: man walking through pleasing-looking field or other habitat/man or woman aiming a bow and arrow/man or woman getting into a tree stand.
4. Hunting-Success: youngster posing with deer or elk/man posing with deer or elk/a person preparing food or eating (or the food itself).

Under the message and the images were the season dates and a link to the state's license purchasing site.

Sending Out the Email Treatments

After the treatments were designed, the samples broken into the treatment and control groups, and the specific treatments assigned to the specific groups, the agencies sent out the email treatments. The agencies used in-house software and facilities or their own vendors for sending out the treatments.

The agencies sent the treatments according to the times listed for the various groups. All states sent two email treatments, with the exception of Florida, where only a single email treatment was sent using the Timing 2 dates. Each treatment consisted of two emails for those who had not purchased a license in the meantime, except for Georgia and Indiana's Timing 2 treatment (in both cases, the agency inadvertently missed the second email of that treatment schedule).

Obtaining the Databases of License Purchasers Within the Past Year and Comparing Them to the Initial Databases

At the conclusion of each state's 2017-2018 seasons that allowed bowhunting, the state provided the database of license purchasers within the 2017-2018 seasons. These databases were then matched to the initial databases, allowing each license holder in the initial database to be

categorized as a license purchaser or a non-purchaser. It is this rate of 2017-2018 purchase among those in the initial database in each group that was examined in the statistical analysis.

Survey of License Holders in Each Group

In addition to the analyses of databases, an email survey was conducted to assess awareness of and reaction to the email reminders. The email survey was closed—in other words, only those who were in the initial database and specifically invited to participate in the survey could do so. Although the survey was conducted online, it was not an open survey in which anybody surfing the Internet could participate.

Every hunter in each group previously categorized was sent the survey invitation, including those in the control groups, who had received no treatments. The survey invitation explained the purpose of the survey and included a unique link that the respondent had to use to take the survey. This allowed the survey to track the grouping in which the respondent was in, and it prevented uninvited people from taking the survey. Each potential respondent was sent the initial email invitation and, if he or she had not completed the survey, a reminder to complete the survey, with the exception of Georgia, where only a single survey invitation was sent.

The final data contained surveys from 25,255 bowhunters who were in the initial database. Note that some of these bowhunters were not in the post-season database, meaning that the survey included some hunters who did not purchase a license for the 2017-2018 season.

RECOMMENDATIONS AND BEST PRACTICES

The survey suggests that a little more than half of the people who received the email at least opened it. Thus, the email is reaching potential bowhunters; in this respect, the email campaign is effective. Furthermore, the statistical analyses of the databases suggest that treatments work. A comparison of any treatment versus no treatment found statistically significant lift was produced in Indiana and New Jersey, as well as on bowhunters as a whole when the states were combined (GA, IN, NJ, and OK) in the analysis.

Note that the survey results suggest that the email may simply serve as a reminder to those who would have been very likely to purchase anyway. Nonetheless, this is not to say that there is no value in sending the emails because, although the emails by themselves may not change potential bowhunters' minds regarding whether to purchase or renew licenses, the emails may keep hunting at the top of potential bowhunters' minds.

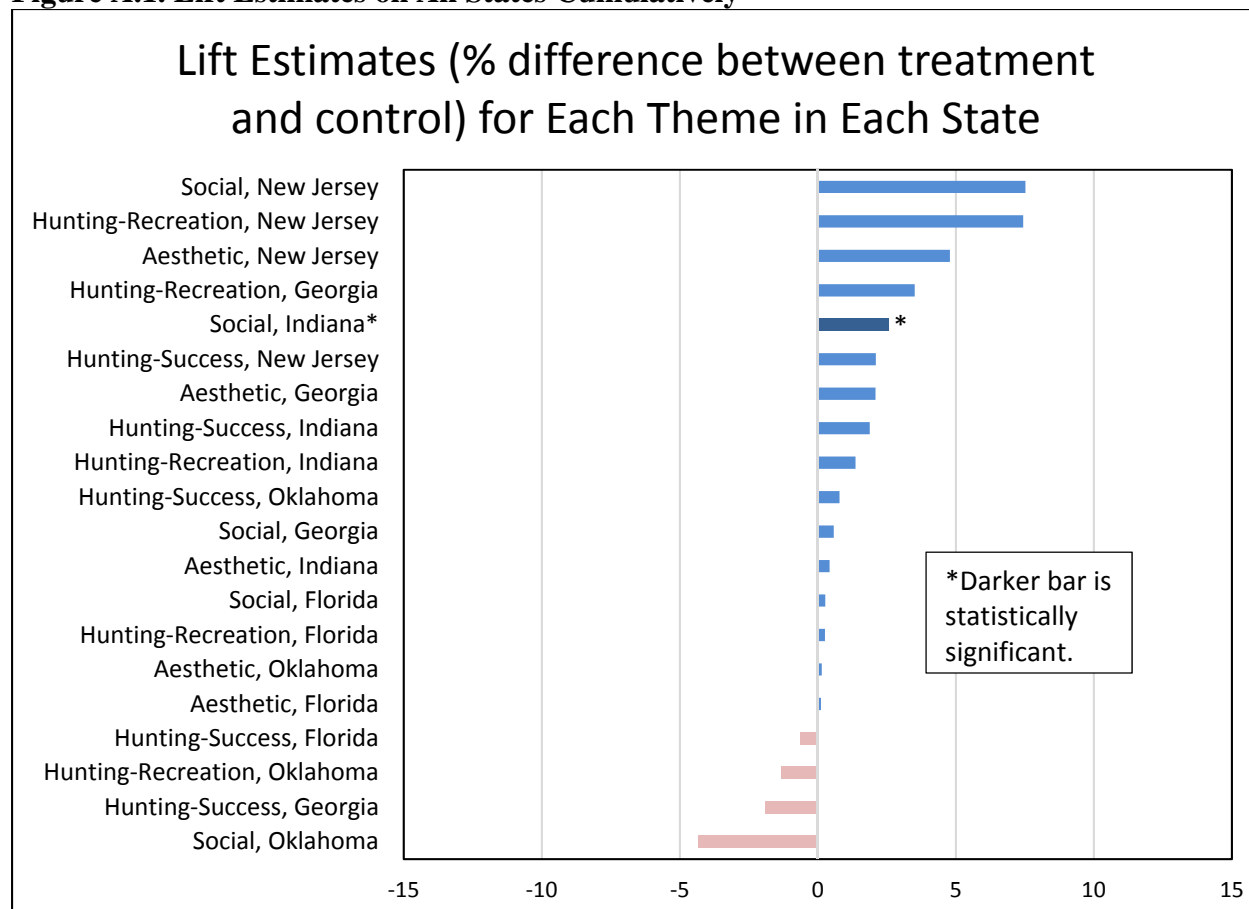
Regarding the themes themselves, the results for each message theme are mixed. Some themes worked well in some states but not in others. Some themes showed positive results in the lift analysis but were not rated highly in the survey, while others were positively rated in the survey but did not show much actual lift in license purchases. The lift results and survey ratings also varied by state.

In general, the social and hunting-recreation themes did well in both the statistical analyses of databases (i.e., based on the analyses of license sales) and in the survey. While the hunting-success theme showed some statistically significant lift in the analyses of databases, the survey

data suggest that the hunting-success theme was not well received. The last theme—the aesthetic theme—seemed to be memorable in the survey (as discussed below) but did not have any statistically significant lift in any of the statistical tests.

Specifically within the lift analysis, each of the five participating states in the study experienced some lift for at least one message theme, although in some cases the lift may not have been statistically significant (Figure A.1). The following graph shows the total lift by theme by state ranked from the greatest to the least lift.

Figure A.1. Lift Estimates on All States Cumulatively



*Significant at the 95% confidence level (t-test statistic = 2.125 and p-value = 0.0336).

Most notably, New Jersey received 7.52% lift in license sales with the social message theme and 7.44% lift with the hunting-recreation theme. The greatest lift for Georgia was with the hunting-recreation and the aesthetic themes. In Indiana, the social and hunting-success themes resulted in the most lift. Florida experienced modest lift with the social and hunting-recreation themes, while Oklahoma also had modest lift with the hunting-success theme.

The social, aesthetic, and hunting-recreation themes appeared to be more memorable than the hunting-success theme; those who received the former email campaign themes were more likely to correctly remember which message they received than were those who received the hunting-

success theme. Indeed, those receiving the hunting-success theme hardly remembered it at all, and the research suggests that it was not effective in this regard.

The hunting-recreation theme did not do as well among avid bowhunters as it did among sporadic bowhunters in the survey. It may be the email's attempt to create "excitement" is not needed for those who are already avid.

In one part of the assessment of themes, the survey presented the four emails to respondents and asked them to indicate the one that they thought would be the most effective. Across all states, the hunting-success theme with the imagery of meat did *not* do well, while the social theme was consistently in one of the top two spots in most states. Figure A.2 shows the overall survey results regarding opinions on effectiveness. Table A.2 shows the ranking of the effectiveness (again, based on survey respondent opinion) of the different themes by state; the hunting-success theme is at the bottom for each state.

Figure A.2. Opinions on Message Themes on All State Cumulatively

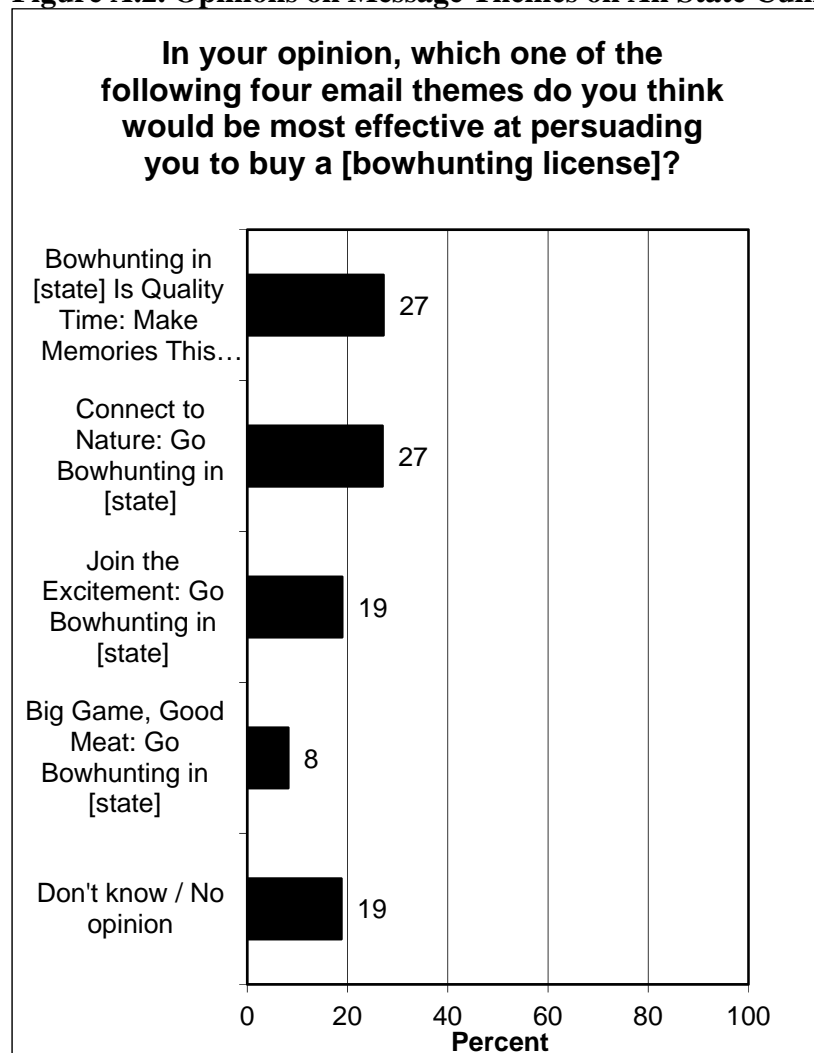


Table A.2. Percent in Each State Selecting Each Message Theme as Most Effective, Ranked by Percent

State	Theme	Percent Who Selected Theme as Most Effective
OK	Aesthetic	34.05
GA	Social	29.96
IN	Social	29.06
FL	Aesthetic	28.11
NJ	Aesthetic	27.73
GA	Aesthetic	27.68
NJ	Social	26.87
IN	Hunting-recreation	26.87
FL	Social	24.62
OK	Hunting-recreation	22.61
FL	Hunting-recreation	22.45
NJ	Hunting-recreation	20.42
IN	Aesthetic	19.95
OK	Social	19.48
GA	Success	11.46
GA	Hunting-recreation	10.70
OK	Hunting-success	8.99
IN	Hunting-success	6.94
NJ	Hunting-success	6.87
FL	Hunting-success	5.75

Message Themes

1. **Social: Bowhunting in [STATE] Is Quality Time—Make Memories This Hunting Season** (image of two adults walking with or using archery/bowhunting equipment)
2. **Aesthetic: Connect to Nature—Go Bowhunting in [STATE]** (image of one or several bucks)
3. **Hunting-Recreation: Join the Excitement, Go Bowhunting in [STATE]** (image of a bowhunter with bow drawn and aimed)
4. **Hunting-Success: Big Game, Good Meat—Go Bowhunting in [STATE]** (image of game meat served as a meal)

Note that each state used an image consistent with the descriptions above, but the actual image used varied across the states.

In summary regarding the themes, the research suggests that the social and the hunting-recreation themes were received the best and were the most effective. The aesthetic theme also proved memorable and well-received in the survey. The social, hunting-recreation, and aesthetic themes should be tested again in a subsequent study.

Regarding timing, some evidence suggests that sporadic bowhunters responded better with the middle-of-the-season timing of the treatment than at the beginning of the season, while the avid responded better with the beginning-of-the-season treatment. However, the email timing (beginning versus middle of the season) was applied inconsistently among states, which created challenges in interpreting the results. Moreover, using a middle-of-the-season timing makes the sample sizes small (because only a small section of the season is being compared), which can sometimes produce statistically unreliable estimates (the 95% confidence limit was greater than 50% of the estimate). This affected results in New Jersey and Florida, for example. In future projects, comparing themes across a single timing schedule may produce more substantial findings regarding the efficacy of various themes.

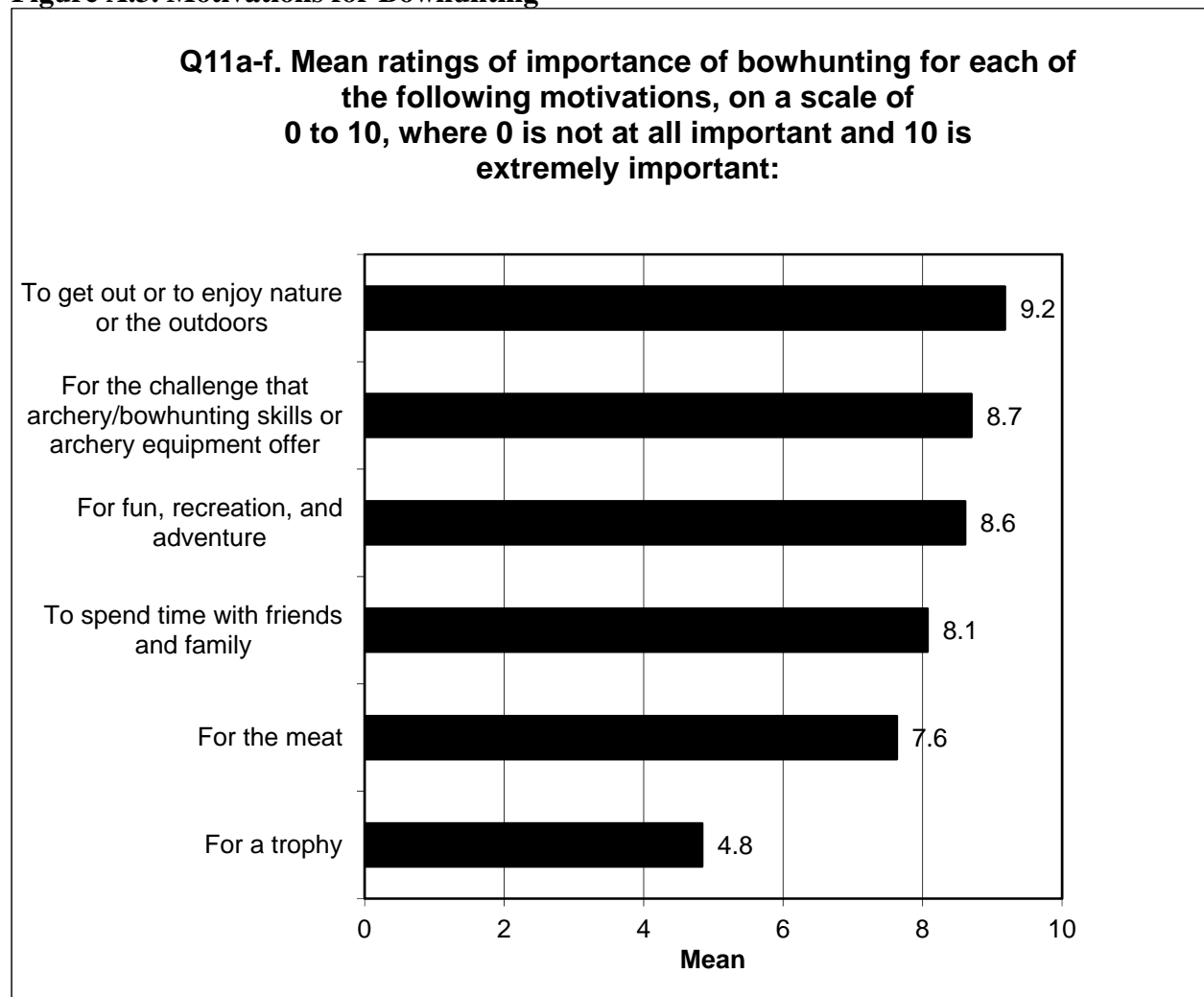
Although not related to the themes or timing, it is worth noting that the survey found that a lack of time is the top constraint to bowhunting participation. About half of all survey respondents (51%) cited a lack of time as a reason they have not gone bowhunting at all or as much as they would like. Furthermore, this is a constraint that repeatedly ranks highest in previous studies on hunting participation. It may be beneficial to test a message that addresses the time constraint issue in future studies.

Access also appears to be a constraint that is affecting participation in bowhunting. Additionally, many bowhunters responded to the question about constraints by saying that the weather was too

warm or otherwise having a complaint about the season timing. Such problems with season timing and weather again effectively limit “access” to bowhunting.

In addition to constraints, motivations for bowhunting were also explored in the survey. While the top motivations reflect some of the more successful message themes in the study, such as getting out to enjoy nature or the outdoors; for fun, recreation, and adventure; and spending time with friends and family, the second top ranked response is for the challenge that archery or bowhunting offer (Figure A.3). Testing a message theme that focuses on the challenge or skills aspect of bowhunting is recommended for future studies.

Figure A.3. Motivations for Bowhunting



In a qualitative review of open-ended answers and comments in the survey, the idea of the “hunting heritage” and “tradition” were commonly identified as an important concept to bowhunters and a reason to participate in bowhunting. Testing a message theme that focuses on the heritage or tradition of bowhunting is recommended for future studies.

Finally, regarding the implementation of the campaigns, the project revealed some aspects of the pilot project that can inform implementation of the follow-up (and ongoing) email campaign. As much as possible, consistency in timelines, implementation factors, and message design is important for successful execution of the research.

One aspect of the research that led to challenges was having two timings in each state. The largest drawback with Timing 2 was that it simply had such a narrow window of time in which a license could be purchased by bowhunters—it is late in the season after most licenses are typically purchased anyway. Therefore, differences can become less meaningful, statistically speaking, if the second timing is too late in the year because the percentage rate of purchase in both control and treatment groups in such a scenario would both be so low.

Note that, by itself, administering a single timing in all the participating states still entails a different timing in each state, as each participating state has different hunting season dates and regulations, and numerous additional factors may result in changes and delays (which was the case for several states in this pilot project). Therefore, those administering similar email campaigns in the future should determine how to best ensure that the two timings are carried out in relatively similar fashions in the various states, both for comparability of data as well as for the ease of administering the campaigns themselves.

Based on the pilot study, the research team has determined that the images and message themes are more important variables than timing and avidity. Therefore, in addition to using a single timing, it is recommended that the separation of avid and sporadic bowhunters also be removed for the follow-up study. The additional sample groups that result from having separate avid and sporadic groups result in much lower n-values. The follow-up research will likely benefit from focusing on the message themes for further testing and refining. If desired, avid and sporadic bowhunters can instead be identified and examined further during the analysis stage of the research, when appropriate.

APPENDIX B. ALL EMAIL MARKETING CAMPAIGN MESSAGES BY STATE

ALABAMA

Message 1: Social Theme, Alabama



Bowhunting in Alabama Is Quality Time

Make Memories This Hunting Season

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Division of Wildlife and Freshwater Fisheries
Alabama Department of Conservation and Natural Resources



Alabama Department of Conservation and Natural Resources
Division of Wildlife and Freshwater Fisheries
64 North Union Street, Suite 584
Montgomery, AL 36104

Message 2: Social Theme, Alabama



**Bowhunting in Alabama
Is Quality Time**
Make Memories This Hunting Season

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Division of Wildlife and Freshwater Fisheries
Alabama Department of Conservation and Natural Resources



Alabama Department of Conservation and Natural Resources
Division of Wildlife and Freshwater Fisheries
64 North Union Street, Suite 584
Montgomery, AL 36104

Message 3: Social Theme, Alabama

Bowhunting in Alabama Is Quality Time

Make Memories This Hunting Season

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Division of Wildlife and Freshwater Fisheries
Alabama Department of Conservation and Natural Resources



Alabama Department of Conservation and Natural Resources
Division of Wildlife and Freshwater Fisheries
64 North Union Street, Suite 584
Montgomery, AL 36104

Message 4: Nature Theme, Alabama



Connect to Nature
Go Bowhunting in Alabama

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Division of Wildlife and Freshwater Fisheries
Alabama Department of Conservation and Natural Resources



Alabama Department of Conservation and Natural Resources
Division of Wildlife and Freshwater Fisheries
64 North Union Street, Suite 584
Montgomery, AL 36104

Message 5: Nature Theme, Alabama

Get Close to Nature

Go Bowhunting in Alabama

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Division of Wildlife and Freshwater Fisheries
Alabama Department of Conservation and Natural Resources



Alabama Department of Conservation and Natural Resources
Division of Wildlife and Freshwater Fisheries
64 North Union Street, Suite 584
Montgomery, AL 36104

Message 6: Recreation Theme, Alabama



Join the Excitement
Go Bowhunting in Alabama

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Division of Wildlife and Freshwater Fisheries
Alabama Department of Conservation and Natural Resources



Alabama Department of Conservation and Natural Resources
Division of Wildlife and Freshwater Fisheries
64 North Union Street, Suite 584
Montgomery, AL 36104

Message 7: Time Theme, Alabama

Too Busy to Bowhunt?

See What You've Been Missing!

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Division of Wildlife and Freshwater Fisheries
Alabama Department of Conservation and Natural Resources



Alabama Department of Conservation and Natural Resources
Division of Wildlife and Freshwater Fisheries
64 North Union Street, Suite 584
Montgomery, AL 36104

Message 8: Challenge Theme, Alabama

Challenge Yourself

Go Bowhunting in Alabama

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Division of Wildlife and Freshwater Fisheries
Alabama Department of Conservation and Natural Resources



Alabama Department of Conservation and Natural Resources
Division of Wildlife and Freshwater Fisheries
64 North Union Street, Suite 584
Montgomery, AL 36104

Message 9: Heritage Theme, Alabama

Heritage.

Go Bowhunting in Alabama

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Division of Wildlife and Freshwater Fisheries
Alabama Department of Conservation and Natural Resources



Alabama Department of Conservation and Natural Resources
Division of Wildlife and Freshwater Fisheries
64 North Union Street, Suite 584
Montgomery, AL 36104

FLORIDA

Note that Florida did not participate in the email marketing campaign for Phase II. The following mock emails were created using elements from both Florida's email messages for the Phase I email marketing campaign and the themes and images from the Phase II email marketing campaigns for other states. These mock emails for Florida were used only for the purposes of the Phase II focus group in Tampa, Florida.

Message 1: Social Theme, Florida (Focus Group Only)



**Bowhunting in Florida
Is Quality Time**
Make Memories This Hunting Season

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Florida Fish and Wildlife Conservation Commission



Florida Fish and Wildlife Conservation Commission
620 S. Meridian St.
Tallahassee, FL 32399
Phone: (850) 488-4676

Message 2: Social Theme, Florida (Focus Group Only)

**Bowhunting in Florida
Is Quality Time**
Make Memories This Hunting Season

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Florida Fish and Wildlife Conservation Commission



Florida Fish and Wildlife Conservation Commission
620 S. Meridian St.
Tallahassee, FL 32399
Phone: (850) 488-4676

Message 3: Social Theme, Florida (Focus Group Only)



**Bowhunting in Florida
Is Quality Time**
Make Memories This Hunting Season

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Florida Fish and Wildlife Conservation Commission



Florida Fish and Wildlife Conservation Commission
620 S. Meridian St.
Tallahassee, FL 32399
Phone: (850) 488-4676

Message 4: Nature Theme, Florida (Focus Group Only)

Connect to Nature

Go Bowhunting in Florida

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Florida Fish and Wildlife Conservation Commission



Florida Fish and Wildlife Conservation Commission
620 S. Meridian St.
Tallahassee, FL 32399
Phone: (850) 488-4676

Message 5: Nature Theme, Florida (Focus Group Only)



Get Close to Nature
Go Bowhunting in Florida

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Florida Fish and Wildlife Conservation Commission



Florida Fish and Wildlife Conservation Commission
620 S. Meridian St.
Tallahassee, FL 32399
Phone: (850) 488-4676

Message 6: Recreation Theme, Florida (Focus Group Only)

Join the Excitement

Go Bowhunting in Florida

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Florida Fish and Wildlife Conservation Commission



Florida Fish and Wildlife Conservation Commission
620 S. Meridian St.
Tallahassee, FL 32399
Phone: (850) 488-4676

Message 7: Time Theme, Florida (Focus Group Only)

Too Busy to Bowhunt?
See What You've Been Missing!

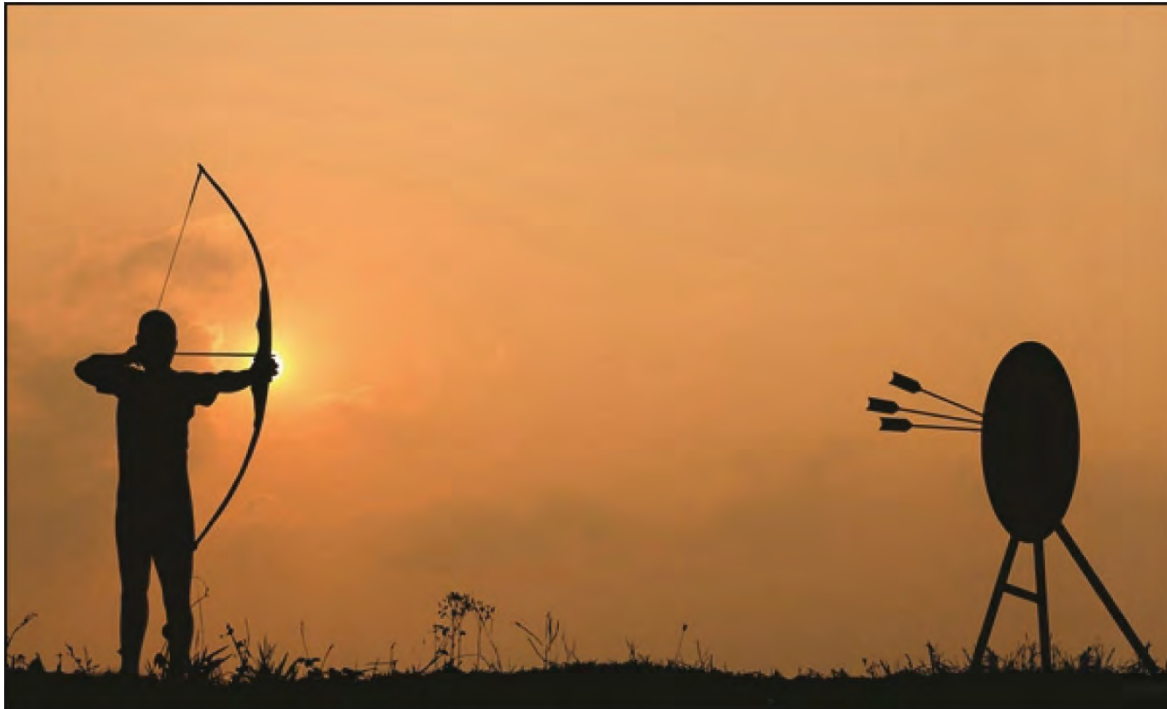
Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Florida Fish and Wildlife Conservation Commission



Florida Fish and Wildlife Conservation Commission
620 S. Meridian St.
Tallahassee, FL 32399
Phone: (850) 488-4676

Message 8: Challenge Theme, Florida (Focus Group Only)

Challenge Yourself

Go Bowhunting in Florida

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Florida Fish and Wildlife Conservation Commission



Florida Fish and Wildlife Conservation Commission
620 S. Meridian St.
Tallahassee, FL 32399
Phone: (850) 488-4676

Message 9: Heritage Theme, Florida (Focus Group Only)



Heritage.
Go Bowhunting in Florida

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Florida Fish and Wildlife Conservation Commission



Florida Fish and Wildlife Conservation Commission
620 S. Meridian St.
Tallahassee, FL 32399
Phone: (850) 488-4676

GEORGIA

Message 1: Social Theme, Georgia

Time to Bowhunt Georgia!



Bowhunting in Georgia is Quality Time



Make Memories This Hunting Season

Bowhunting season is upon us!

Don't forget to [buy or renew your license if you haven't already!](#)



More Resources:

[Find a place to hunt](#)

[Find a place to practice shooting](#)

[Hunting Seasons and Regulations](#)

Stay in Touch

Our emails will keep you up-to-date about important news. We promise we won't overwhelm you with emails; but if you wish, you can [unsubscribe](#) here.

Connect with us

Questions? Give us a call at 1-800-366-2661

Visit us at georgiawildlife.com

Headquarters address:
2067 U.S. Highway 278 SE
Social Circle, GA 30025



Powered by

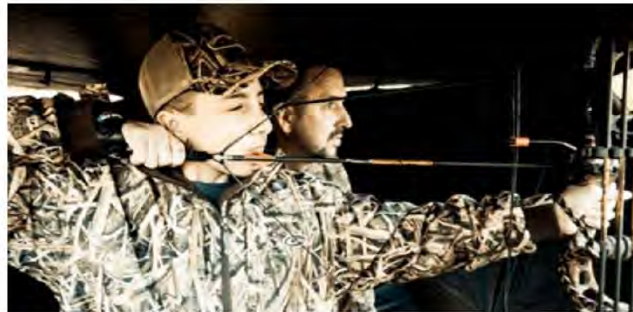


Message 2: Social Theme, Georgia

Time to Bowhunt Georgia!



Bowhunting in Georgia is Quality Time



Make Memories This Hunting Season

Bowhunting season is upon us!

Don't forget to [buy or renew your license if you haven't already!](#)



More Resources:

[Find a place to hunt](#)

[Find a place to practice shooting](#)

[Hunting Seasons and Regulations](#)

Stay in Touch

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Connect with us

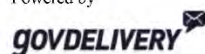
Questions? Give us a call at 1-800-366-2661

Visit us at georgiawildlife.com

Headquarters address:
2067 U.S. Highway 278 SE
Social Circle, GA 30025



Powered by



Message 3: Social Theme, Georgia

Time to Bowhunt Georgia!



Bowhunting in Georgia is Quality Time



Make Memories This Hunting Season

Bowhunting season is upon us!

Don't forget to [buy or renew your license if you haven't already!](#)



More Resources:

[Find a place to hunt](#)

[Find a place to practice shooting](#)

[Hunting Seasons and Regulations](#)

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Visit us at georgiawildlife.com

Headquarters address:
2067 U.S. Highway 278 SE
Social Circle, GA 30025



Powered by



Message 4: Nature Theme, Georgia**Connect to Nature!****Connect to Nature by Bowhunting**

Bowhunting season is upon us!

Don't forget to [buy or renew your license](#) if you haven't already!

**Buy a License**

More Resources:

[Find a place to hunt](#)

[Find a place to practice shooting](#)

[Hunting Seasons and Regulations](#)

Stay in Touch

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Connect with us

Questions? Give us a call at 1-800-366-2661

Visit us at georgiawildlife.com

Headquarters address:
2067 U.S. Highway 278 SE
Social Circle, GA 30025



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GOVDELIVERY

Message 5: Nature Theme, Georgia


Get Close to Nature!



Get Close to Nature by Bowhunting

Bowhunting season is upon us!

Don't forget to [buy or renew your license if you haven't already!](#)

 **Buy a License**

More Resources:

[Find a place to hunt](#)

[Find a place to practice shooting](#)

[Hunting Seasons and Regulations](#)

Stay in Touch

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Connect with us


Questions? Give us a call at 1-800-366-2661

Visit us at georgiawildlife.com

Headquarters address:
2067 U.S. Highway 278 SE
Social Circle, GA 30025



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GOVDELIVERY 

Message 6: Mixed Recreation/Nature Theme, Georgia**Join the Excitement!****Get Close to Nature by Bowhunting**

Bowhunting season is upon us!

Don't forget to [buy or renew your license if you haven't already!](#)



More Resources:

[Find a place to hunt](#)

[Find a place to practice shooting](#)

[Hunting Seasons and Regulations](#)

Stay in Touch

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Connect with us

Questions? Give us a call at 1-800-366-2661

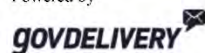
Visit us at georgiawildlife.com

Headquarters address:

2067 U.S. Highway 278 SE
Social Circle, GA 30025



Powered by



Message 7: Time Theme, Georgia


Too Busy to Bowhunt?



See What You've Been Missing!

Bowhunting season is upon us!

Don't forget to [buy or renew your license if you haven't already!](#)

 **Buy a License**

More Resources:

[Find a place to hunt](#)

[Find a place to practice shooting](#)

[Hunting Seasons and Regulations](#)

Stay in Touch

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Connect with us

Questions? Give us a call at 1-800-366-2661

Visit us at georgiawildlife.com

Headquarters address:

2067 U.S. Highway 278 SE
Social Circle, GA 30025




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GOVDELIVERY 

Message 8: Challenge Theme, Georgia**Challenge Yourself****Rise to the Challenge of Bowhunting!**

Bowhunting season is upon us!

Don't forget to [buy or renew your license if you haven't already!](#)

 **Buy a License**

More Resources:

[Find a place to hunt](#)

[Find a place to practice shooting](#)

[Hunting Seasons and Regulations](#)

Stay in Touch

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2067 U.S. Highway 278 SE

Social Circle, GA 30025

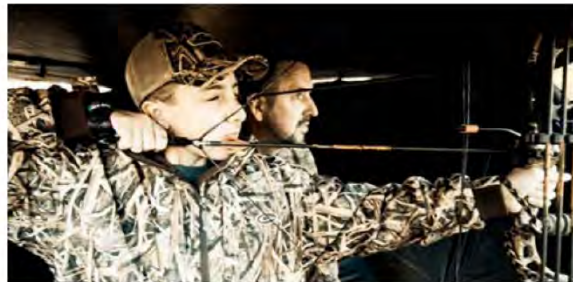


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GOVDELIVERY 

Message 9: Heritage Theme, Georgia


Hunting Heritage



Heritage. Pass on Bowhunting!

Bowhunting season is upon us!

Don't forget to [buy or renew your license if you haven't already!](#)

 **Buy a License**

More Resources:

[Find a place to hunt](#)

[Find a place to practice shooting](#)

[Hunting Seasons and Regulations](#)

Stay in Touch

Our emails will keep you up-to-date about important news. We promise we won't overwhelm you with emails; but if you wish, you can [unsubscribe](#) here.

Connect with us


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Visit us at georgiawildlife.com

Headquarters address:
2067 U.S. Highway 278 SE
Social Circle, GA 30025




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GOVDELIVERY 

IOWA

Message 1: Social Theme, Iowa

 IOWA DEPARTMENT OF NATURAL RESOURCES
Iowa DNR News
www.iowadnr.gov

FOR IMMEDIATE RELEASE




Bowhunting in Iowa Is Quality Time





Make Memories This Hunting Season

[Get Your License Today](#)


Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Iowa Department of Natural Resources

 WWW.IOWADNR.GOV

Message 2: Social Theme, Iowa




IOWA DEPARTMENT OF NATURAL RESOURCES

Iowa DNR News

www.iowadnr.gov

FOR IMMEDIATE RELEASE



Bowhunting in Iowa Is Quality Time


Make Memories This Hunting Season

[Get Your License Today](#)





Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,


Iowa Department of Natural Resources



WWW.IOWADNR.GOV



Message 3: Social Theme, Iowa




IOWA DEPARTMENT OF NATURAL RESOURCES

Iowa DNR News

www.iowadnr.gov

FOR IMMEDIATE RELEASE



Bowhunting in Iowa Is Quality Time


Make Memories This Hunting Season

[Get Your License Today](#)





Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,


Iowa Department of Natural Resources



WWW.IOWADNR.GOV



Message 4: Nature Theme, Iowa




IOWA DEPARTMENT OF NATURAL RESOURCES

Iowa DNR News

www.iowadnr.gov

FOR IMMEDIATE RELEASE



Connect to Nature


Go Bowhunting in Iowa

[Get Your License Today](#)





Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,


Iowa Department of Natural Resources



WWW.IOWADNR.GOV



Message 5: Nature Theme, Iowa




IOWA DEPARTMENT OF NATURAL RESOURCES

Iowa DNR News

www.iowadnr.gov

FOR IMMEDIATE RELEASE



Get Close to Nature


Go Bowhunting in Iowa

[Get Your License Today](#)





Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,


Iowa Department of Natural Resources



WWW.IOWADNR.GOV



Message 6: Recreation Theme, Iowa




IOWA DEPARTMENT OF NATURAL RESOURCES

Iowa DNR News

www.iowadnr.gov

FOR IMMEDIATE RELEASE



Join the Excitement


Go Bowhunting in Iowa

[Get Your License Today](#)





Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,


Iowa Department of Natural Resources



WWW.IOWADNR.GOV



Message 7: Time Theme, Iowa





IOWA DEPARTMENT OF NATURAL RESOURCES

Iowa DNR News

www.iowadnr.gov

FOR IMMEDIATE RELEASE



Too Busy to Bowhunt?


See What You've Been Missing!

[Get Your License Today](#)





Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,


Iowa Department of Natural Resources



WWW.IOWADNR.GOV



Message 8: Challenge Theme, Iowa




IOWA DEPARTMENT OF NATURAL RESOURCES

Iowa DNR News

www.iowadnr.gov

FOR IMMEDIATE RELEASE



Challenge Yourself


Go Bowhunting in Iowa

Get Your License Today





Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,


Iowa Department of Natural Resources



WWW.IOWADNR.GOV



Message 9: Heritage Theme, Iowa




IOWA DEPARTMENT OF NATURAL RESOURCES

Iowa DNR News

www.iowadnr.gov

FOR IMMEDIATE RELEASE



Heritage.


Go Bowhunting in Iowa

[Get Your License Today](#)





Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,

Iowa Department of Natural Resources



WWW.IOWADNR.GOV



KENTUCKY

Message 1: Social Theme, Kentucky



Bowhunting in Kentucky is Quality Time

Make Memories This Hunting Season

Get Your License Today



Bowhunting season is upon us! Kentucky's deer archery season opens Saturday, Sept. 1.

Don't forget to buy or renew your license if you haven't already--[click here](#) to get your license today.

Here are some links to help you bowhunt this year in Kentucky:

- [2018 Fall Hunting Guide](#) (finalized regulations booklet)
- Maps of [Wildlife Management Areas and other public hunting areas](#)
- List of available [licenses and fees](#)

Thank you and good hunting!

Kentucky Department of Fish & Wildlife Resources

Message 2: Social Theme, Kentucky

Bowhunting in Kentucky is Quality Time

Make Memories This Hunting Season

Get Your License Today



Bowhunting season is upon us! Kentucky's deer archery season opens Saturday, Sept. 1.

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- Maps of [Wildlife Management Areas and other public hunting areas](#)
- List of available [licenses and fees](#)

Thank you and good hunting!

Kentucky Department of Fish & Wildlife Resources

Message 3: Social Theme, Kentucky

Bowhunting in Kentucky is Quality Time

Make Memories This Hunting Season

Get Your License Today



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- Maps of [Wildlife Management Areas and other public hunting areas](#)
- List of available [licenses and fees](#)

Thank you and good hunting!

Kentucky Department of Fish & Wildlife Resources

Message 4: Nature Theme, Kentucky

Connect to Nature

Go Bowhunting in Kentucky

Get Your License Today



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- Maps of [Wildlife Management Areas and other public hunting areas](#)
- List of available [licenses and fees](#)

Thank you and good hunting!

Kentucky Department of Fish & Wildlife Resources

Message 5: Nature Theme, Kentucky

Get Close to Nature

Go Bowhunting in Kentucky

Get Your License Today



Bowhunting season is upon us! Kentucky's deer archery season opens Saturday, Sept. 1.

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- [2018 Fall Hunting Guide](#) (finalized regulations booklet)
- Maps of [Wildlife Management Areas and other public hunting areas](#)
- List of available [licenses and fees](#)

Thank you and good hunting!

Kentucky Department of Fish & Wildlife Resources

Message 6: Recreation Theme, Kentucky

Join the Excitement

Go Bowhunting in Kentucky

Get Your License Today



Bowhunting season is upon us! Kentucky's deer archery season opens Saturday, Sept. 1.

Don't forget to buy or renew your license if you haven't already--[click here](#) to get your license today.

Here are some links to help you bowhunt this year in Kentucky:

- [2018 Fall Hunting Guide](#) (finalized regulations booklet)
- Maps of [Wildlife Management Areas and other public hunting areas](#)
- List of available [licenses and fees](#)

Thank you and good hunting!

Kentucky Department of Fish & Wildlife Resources

Message 7: Time Theme, Kentucky

Too Busy to Bowhunt?

See What You've Been Missing!

Get Your License Today



Bowhunting season is upon us! **Kentucky's deer archery season opens Saturday, Sept. 1.**

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- Maps of [Wildlife Management Areas and other public hunting areas](#)
- List of available [licenses and fees](#)

Thank you and good hunting!

Kentucky Department of Fish & Wildlife Resources

Message 8: Challenge Theme, Kentucky

Challenge Yourself

Go Bowhunting in Kentucky

Get Your License Today



Bowhunting season is upon us! **Kentucky's deer archery season opens Saturday, Sept. 1.**

Don't forget to buy or renew your license if you haven't already--[click here](#) to get your license today.

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- Maps of [Wildlife Management Areas and other public hunting areas](#)
- List of available [licenses and fees](#)

Thank you and good hunting!

Kentucky Department of Fish & Wildlife Resources

Message 9: Heritage Theme, Kentucky



Heritage.

Go Bowhunting in Kentucky

Get Your License Today



Bowhunting season is upon us! Kentucky's deer archery season opens Saturday, Sept. 1.

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- List of available [licenses and fees](#)


Thank you and good hunting!

Kentucky Department of Fish & Wildlife Resources


MARYLAND

Message 1: Social Theme, Maryland

Having trouble viewing this email? [View it as a Webpage](#)



MARYLAND DEPARTMENT OF NATURAL RESOURCES WILDLIFE AND HERITAGE SERVICE



Bowhunting in Maryland is Quality Time
Make memories this archery season


Get Your License Today

Archery season is upon us!

Don't forget to buy or renew your license if you haven't already done so; [click here](#) to get yours today!

Thank you,
Maryland Department of Natural Resources


[Home](#) [Hunting Guide](#) [News](#) [Magazine](#) [Store](#) [Wildlife & Heritage Service](#)




Larry Hogan, Governor | Mark Belton, Secretary

Message 2: Social Theme, Maryland

Having trouble viewing this email? [View it as a Webpage](#)



MARYLAND DEPARTMENT OF NATURAL RESOURCES WILDLIFE AND HERITAGE SERVICE



Bowhunting in Maryland is Quality Time
Make memories this archery season


Get Your License Today

Archery season is upon us!

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Thank you,
Maryland Department of Natural Resources


[Home](#) [Hunting Guide](#) [News](#) [Magazine](#) [Store](#) [Wildlife & Heritage Service](#)




Larry Hogan, Governor | Mark Belton, Secretary

Message 3: Social Theme, Maryland

Having trouble viewing this email? [View it as a Webpage](#)



MARYLAND DEPARTMENT OF NATURAL RESOURCES WILDLIFE AND HERITAGE SERVICE



Bowhunting in Maryland is Quality Time
Make memories this archery season


Get Your License Today

Archery season is upon us!

Don't forget to buy or renew your license if you haven't already done so; [click here](#) to get yours today!

Thank you,
Maryland Department of Natural Resources


[Home](#) [Hunting Guide](#) [News](#) [Magazine](#) [Store](#) [Wildlife & Heritage Service](#)




Larry Hogan, Governor | Mark Belton, Secretary

Message 4: Nature Theme, Maryland

Having trouble viewing this email? [View it as a Webpage](#)



MARYLAND DEPARTMENT OF NATURAL RESOURCES WILDLIFE AND HERITAGE SERVICE



Connect with Nature
Go bowhunting in Maryland


Get Your License Today

Archery season is upon us!

Don't forget to buy or renew your license if you haven't already done so; [click here](#) to get yours today!

Thank you,
Maryland Department of Natural Resources

[Home](#) [Hunting Guide](#) [News](#) [Magazine](#) [Store](#) [Wildlife & Heritage Service](#)




MARYLAND
DEPARTMENT OF
NATURAL RESOURCES


Larry Hogan, Governor | Mark Belton, Secretary

Message 5: Nature Theme, Maryland

Having trouble viewing this email? [View it as a Webpage](#)



MARYLAND DEPARTMENT OF NATURAL RESOURCES WILDLIFE AND HERITAGE SERVICE



**Get Close to Nature
Go bowhunting in Maryland**


Get Your License Today

Archery season is upon us!

Don't forget to buy or renew your license if you haven't already done so; [click here](#) to get yours today!

Thank you,
Maryland Department of Natural Resources


[Home](#) [Hunting Guide](#) [News](#) [Magazine](#) [Store](#) [Wildlife & Heritage Service](#)




Larry Hogan, Governor | Mark Belton, Secretary

Message 6: Recreation Theme, Maryland

Having trouble viewing this email? [View it as a Webpage](#)



MARYLAND DEPARTMENT OF NATURAL RESOURCES WILDLIFE AND HERITAGE SERVICE



**Join the Excitement
Go bowhunting in Maryland**


Get Your License Today

Archery season is upon us!

Don't forget to buy or renew your license if you haven't already done so; [click here](#) to get yours today!

Thank you,
Maryland Department of Natural Resources

[Home](#) [Hunting Guide](#) [News](#) [Magazine](#) [Store](#) [Wildlife & Heritage Service](#)




MARYLAND
DEPARTMENT OF
NATURAL RESOURCES


Larry Hogan, Governor | Mark Belton, Secretary

Message 7: Time Theme, Maryland

Having trouble viewing this email? [View it as a Webpage](#)



MARYLAND DEPARTMENT OF NATURAL RESOURCES WILDLIFE AND HERITAGE SERVICE



Too Busy to Bowhunt?
See what you've been missing!


Get Your License Today

Archery season is upon us!

Don't forget to buy or renew your license if you haven't already done so; [click here](#) to get yours today!

Thank you,
Maryland Department of Natural Resources


[Home](#) [Hunting Guide](#) [News](#) [Magazine](#) [Store](#) [Wildlife & Heritage Service](#)




Larry Hogan, Governor | Mark Belton, Secretary

Message 8: Challenge Theme, Maryland

Having trouble viewing this email? [View it as a Webpage](#)



MARYLAND DEPARTMENT OF NATURAL RESOURCES WILDLIFE AND HERITAGE SERVICE



Challenge Yourself
Go bowhunting in Maryland


Get Your License Today

Archery season is upon us!

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Thank you,
Maryland Department of Natural Resources


[Home](#) [Hunting Guide](#) [News](#) [Magazine](#) [Store](#) [Wildlife & Heritage Service](#)




Larry Hogan, Governor | Mark Belton, Secretary

Message 9: Heritage Theme, Maryland

Having trouble viewing this email? [View it as a Webpage](#)



MARYLAND DEPARTMENT OF NATURAL RESOURCES WILDLIFE AND HERITAGE SERVICE



Heritage.
Go bowhunting in Maryland


Get Your License Today

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Thank you,
Maryland Department of Natural Resources

[Home](#) [Hunting Guide](#) [News](#) [Magazine](#) [Store](#) [Wildlife & Heritage Service](#)



MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Larry Hogan, Governor | Mark Belton, Secretary

NEBRASKA**Message 1: Social Theme, Nebraska**

**Bowhunting in Nebraska
Is Quality Time**
Make Memories This Hunting Season

Get Your Permit Today

Bowhunting season is upon us! Don't forget to buy or renew your permit if you haven't already—[click here](#) to get your permit today.

Thank you,
Nebraska Game and Parks Commission



Nebraska Game and Parks
Commission
2200 N. 33rd St.
Lincoln, NE 68503

Message 2: Social Theme, Nebraska



**Bowhunting in Nebraska
Is Quality Time**
Make Memories This Hunting Season

Get Your Permit Today

Bowhunting season is upon us! Don't forget to buy or renew your permit if you haven't already—[click here](#) to get your permit today.

Thank you,
Nebraska Game and Parks Commission



Nebraska Game and Parks
Commission
2200 N. 33rd St.
Lincoln, NE 68503

Message 3: Social Theme, Nebraska

Bowhunting in Nebraska Is Quality Time

Make Memories This Hunting Season

Get Your Permit Today

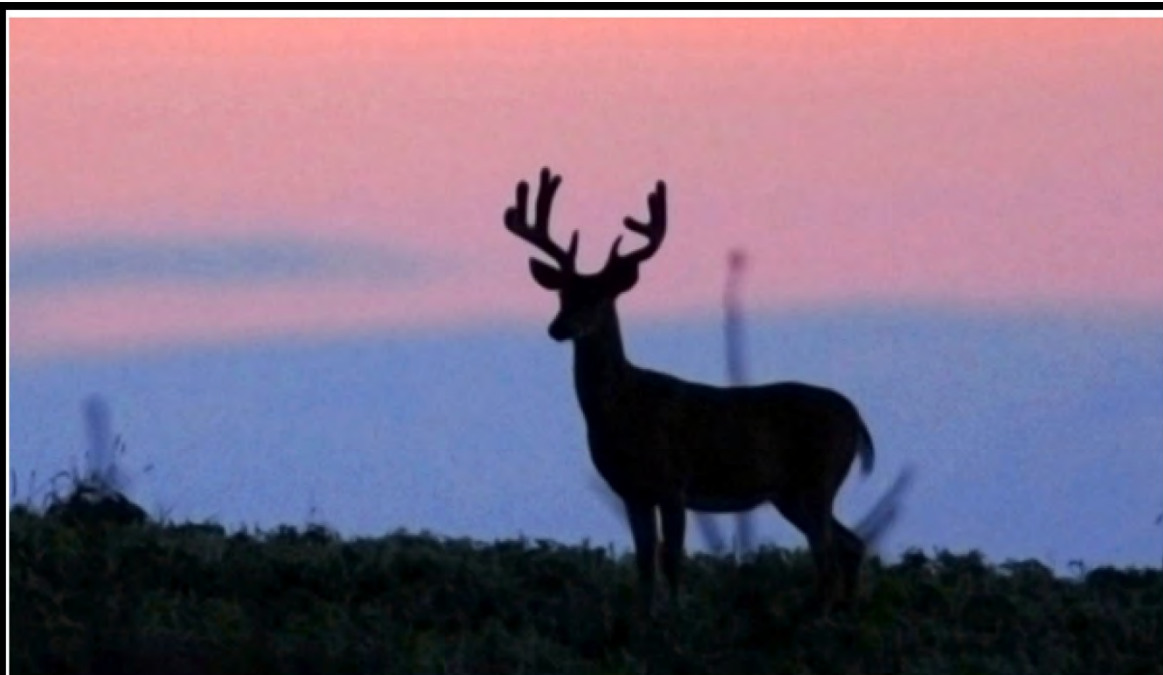
Bowhunting season is upon us! Don't forget to buy or renew your permit if you haven't already—[click here](#) to get your permit today.

Thank you,
Nebraska Game and Parks Commission



Nebraska Game and Parks
Commission
2200 N. 33rd St.
Lincoln, NE 68503

Message 4: Nature Theme, Nebraska



Connect to Nature
Go Bowhunting in Nebraska

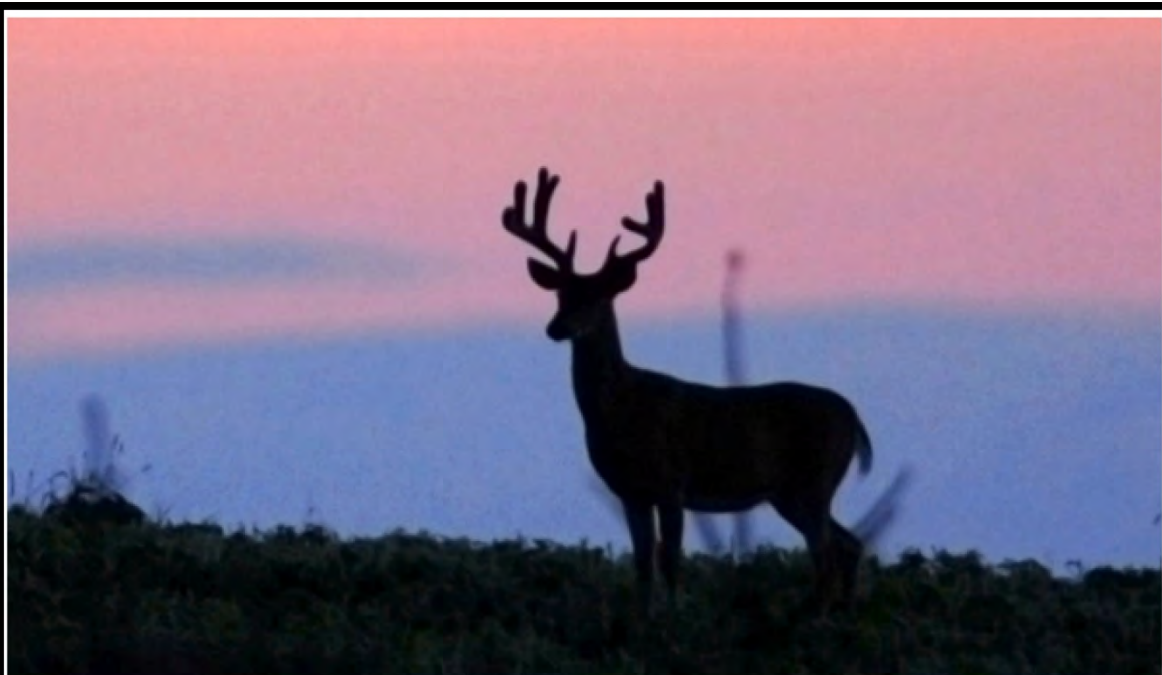
Get Your Permit Today

Bowhunting season is upon us! Don't forget to buy or renew your permit if you haven't already—[click here](#) to get your permit today.

Thank you,
Nebraska Game and Parks Commission



Nebraska Game and Parks
Commission
2200 N. 33rd St.
Lincoln, NE 68503

Message 5: Nature Theme, Nebraska

Get Close to Nature
Go Bowhunting in Nebraska

Get Your Permit Today

Bowhunting season is upon us! Don't forget to buy or renew your permit if you haven't already—[click here](#) to get your permit today.

Thank you,
Nebraska Game and Parks Commission



Nebraska Game and Parks
Commission
2200 N. 33rd St.
Lincoln, NE 68503

Message 6: Recreation Theme, Nebraska



Join the Excitement
Go Bowhunting in Nebraska

Get Your Permit Today

Bowhunting season is upon us! Don't forget to buy or renew your permit if you haven't already—[click here](#) to get your permit today.

Thank you,
Nebraska Game and Parks Commission



Nebraska Game and Parks
Commission
2200 N. 33rd St.
Lincoln, NE 68503

Message 7: Time Theme, Nebraska

Too Busy to Bowhunt?

See What You've Been Missing!

Get Your Permit Today

Bowhunting season is upon us! Don't forget to buy or renew your permit if you haven't already—[click here](#) to get your permit today.

Thank you,
Nebraska Game and Parks Commission



Nebraska Game and Parks
Commission
2200 N. 33rd St.
Lincoln, NE 68503

Message 8: Challenge Theme, Nebraska



Challenge Yourself
Go Bowhunting in Nebraska

Get Your Permit Today

Bowhunting season is upon us! Don't forget to buy or renew your permit if you haven't already—[click here](#) to get your permit today.

Thank you,
Nebraska Game and Parks Commission



Nebraska Game and Parks
Commission
2200 N. 33rd St.
Lincoln, NE 68503

Message 9: Heritage Theme, Nebraska

Heritage.
Go Bowhunting in Nebraska

Get Your Permit Today

Bowhunting season is upon us! Don't forget to buy or renew your permit if you haven't already—[click here](#) to get your permit today.

Thank you,
Nebraska Game and Parks Commission



Nebraska Game and Parks
Commission
2200 N. 33rd St.
Lincoln, NE 68503

New Jersey

Message 1: Social Theme, New Jersey



Bowhunting in New Jersey Is Quality Time

Make Memories This Hunting Season

Bowhunting season is upon us! Don't forget to buy or renew your license, if you haven't already.

[Get Your License Today](#)

Thank you,
New Jersey Division of Fish & Wildlife



Message 2: Social Theme, New Jersey

**Bowhunting in New Jersey
Is Quality Time**
Make Memories This Hunting Season

Bowhunting season is upon us! Don't forget to buy or renew your license, if you haven't already.

[Get Your License Today](#)

Thank you,
New Jersey Division of Fish & Wildlife



Message 3: Social Theme, New Jersey



**Bowhunting in New Jersey
Is Quality Time**
Make Memories This Hunting Season

Bowhunting season is upon us! Don't forget to buy or renew your license, if you haven't already.

[Get Your License Today](#)

Thank you,
New Jersey Division of Fish & Wildlife



Message 4: Nature Theme, New Jersey

Connect to Nature

Go Bowhunting in New Jersey

Bowhunting season is upon us! Don't forget to buy or renew your license, if you haven't already.

[Get Your License Today](#)

Thank you,
New Jersey Division of Fish & Wildlife



Message 5: Nature Theme, New Jersey



Get Close to Nature
Go Bowhunting in New Jersey

Bowhunting season is upon us! Don't forget to buy or renew your license, if you haven't already.

[Get Your License Today](#)

Thank you,
New Jersey Division of Fish & Wildlife



Message 6: Recreation Theme, New Jersey

Join the Excitement

Go Bowhunting in New Jersey

Bowhunting season is upon us! Don't forget to buy or renew your license, if you haven't already.

[Get Your License Today](#)

Thank you,
New Jersey Division of Fish & Wildlife



Message 7: Time Theme, New Jersey

Too Busy to Bowhunt? *See What You've Been Missing!*

Bowhunting season is upon us! Don't forget to buy or renew your license, if you haven't already.

[Get Your License Today](#)

Thank you,
New Jersey Division of Fish & Wildlife



Message 8: Challenge Theme, New Jersey

Challenge Yourself

Go Bowhunting in New Jersey

Bowhunting season is upon us! Don't forget to buy or renew your license, if you haven't already.

[Get Your License Today](#)

Thank you,
New Jersey Division of Fish & Wildlife



Message 9: Heritage Theme, New Jersey



Heritage.
Go Bowhunting in New Jersey

Bowhunting season is upon us! Don't forget to buy or renew your license, if you haven't already.

[Get Your License Today](#)

Thank you,
New Jersey Division of Fish & Wildlife



NEW MEXICO

Message 1: Social Theme, Fall Turkey Season and Javelina Season, New Mexico



Bowhunting in New Mexico Is Quality Time

Make Memories This Hunting Season

Get Your License Today

Bowhunting season for turkey is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Check all available hunts in the [rules and information booklet](#).

Thank you,

[New Mexico Department of Game & Fish](#)



New Mexico Department of Game & Fish
1 Wildlife Way
Santa Fe, NM 87507
(888) 248-6866 (toll free)

Message 2: Social Theme, Fall Turkey Season and Javelina Season, New Mexico



**Bowhunting in New Mexico
Is Quality Time**
Make Memories This Hunting Season

Get Your License Today

Bowhunting season for turkey is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Check all available hunts in the [rules and information booklet](#).

Thank you,

[New Mexico Department of Game & Fish](#)



New Mexico Department of Game & Fish
1 Wildlife Way
Santa Fe, NM 87507
(888) 248-6866 (toll free)

Message 3: Social Theme, Fall Turkey Season and Javelina Season, New Mexico**Bowhunting in New Mexico
Is Quality Time**

Make Memories This Hunting Season

Get Your License Today

Bowhunting season for turkey is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Check all available hunts in the [rules and information booklet](#).

Thank you,

[New Mexico Department of Game & Fish](#)



New Mexico Department of Game & Fish
1 Wildlife Way
Santa Fe, NM 87507
(888) 248-6866 (toll free)

Message 4: Nature Theme, Fall Turkey Season, New Mexico



Connect to Nature
Go Bowhunting in New Mexico

Get Your License Today

Bowhunting season for turkey is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Check all available hunts in the [rules and information booklet](#).

Thank you,

[New Mexico Department of Game & Fish](#)



New Mexico Department of Game & Fish
1 Wildlife Way
Santa Fe, NM 87507
(888) 248-6866 (toll free)

Message 4: Nature Theme, Javelina Season, New Mexico

Connect to Nature
Go Bowhunting in New Mexico

Get Your License Today

Bowhunting season for javelina is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Check all available hunts in the [rules and information booklet](#).

Thank you,

[New Mexico Department of Game & Fish](#)



New Mexico Department of Game & Fish
1 Wildlife Way
Santa Fe, NM 87507
(888) 248-6866 (toll free)

Message 5: Nature Theme, Fall Turkey Season, New Mexico



Get Close to Nature
Go Bowhunting in New Mexico

Get Your License Today

Bowhunting season for turkey is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Check all available hunts in the [rules and information booklet](#).

Thank you,

[New Mexico Department of Game & Fish](#)



New Mexico Department of Game & Fish
1 Wildlife Way
Santa Fe, NM 87507
(888) 248-6866 (toll free)

Message 5: Nature Theme, Javelina Season, New Mexico

Get Close to Nature
Go Bowhunting in New Mexico

Get Your License Today

Bowhunting season for javelina is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Check all available hunts in the [rules and information booklet](#).

Thank you,

[New Mexico Department of Game & Fish](#)



New Mexico Department of Game & Fish
1 Wildlife Way
Santa Fe, NM 87507
(888) 248-6866 (toll free)

Message 6: Recreation Theme, Fall Turkey Season and Javelina Season, New Mexico



Join the Excitement
Go Bowhunting in New Mexico

Get Your License Today

Bowhunting season for turkey is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Check all available hunts in the [rules and information booklet](#).

Thank you,

[New Mexico Department of Game & Fish](#)



New Mexico Department of Game & Fish
1 Wildlife Way
Santa Fe, NM 87507
(888) 248-6866 (toll free)

Message 7: Time Theme, Fall Turkey Season and Javelina Season, New Mexico

Too Busy to Bowhunt?
See What You've Been Missing!

Get Your License Today

Bowhunting season for turkey is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Check all available hunts in the [rules and information booklet](#).

Thank you,

[New Mexico Department of Game & Fish](#)



New Mexico Department of Game & Fish
1 Wildlife Way
Santa Fe, NM 87507
(888) 248-6866 (toll free)

Message 8: Challenge Theme, Fall Turkey Season and Javelina Season, New Mexico



Challenge Yourself
Go Bowhunting in New Mexico

Get Your License Today

Bowhunting season for turkey is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Check all available hunts in the [rules and information booklet](#).

Thank you,

[New Mexico Department of Game & Fish](#)



New Mexico Department of Game & Fish
1 Wildlife Way
Santa Fe, NM 87507
(888) 248-6866 (toll free)

Message 9: Heritage Theme, Fall Turkey Season and Javelina Season, New Mexico**Heritage.**

Go Bowhunting in New Mexico

Get Your License Today

Bowhunting season for turkey is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Check all available hunts in the [rules and information booklet](#).

Thank you,


[New Mexico Department of Game & Fish](#)



New Mexico Department of Game & Fish
1 Wildlife Way
Santa Fe, NM 87507
(888) 248-6866 (toll free)


OKLAHOMA

Message 1: Social Theme, Oklahoma



Bowhunting in Oklahoma is Quality Time


Make Memories this Hunting Season




Archery season is upon us! Don't forget to buy or renew your license if you haven't already. Get your license today.

[Get Your License Today](#)

Message 2: Social Theme, Oklahoma




Bowhunting in Oklahoma is Quality Time
Make Memories this Hunting Season



Archery season is upon us! Don't forget to buy or renew your license if you haven't already. Get your license today.


Get Your License Today

Message 3: Social Theme, Oklahoma



Bowhunting in Oklahoma is Quality Time


Make Memories this Hunting Season




Archery season is upon us! Don't forget to buy or renew your license if you haven't already. Get your license today.

[Get Your License Today](#)

Message 4: Nature Theme, Oklahoma




Connect to Nature
Go Bowhunting in Oklahoma




Archery season is upon us! Don't forget to buy or renew your license if you haven't already. Get your license today.

Get Your License Today

Message 5: Nature Theme, Oklahoma



Get Close to Nature
Go Bowhunting in Oklahoma



Archery season is upon us! Don't forget to buy or renew your license if you haven't already. Get your license today.


Get Your License Today

Message 6: Recreation Theme, Oklahoma

The logo of the Oklahoma Department of Wildlife Conservation. It features a blue shield with a yellow border. Inside the shield is a stylized orange and black sun with a green leafy branch and a yellow arrow. Below the shield is a yellow banner with the text "DEPARTMENT OF WILDLIFE CONSERVATION" in blue.

Join the Excitement


Go Bowhunting in Oklahoma

A photograph of a person in camouflage gear aiming a bow in a field of tall grass. The person is in the foreground, and the background is a field of tall grass under a clear sky.

Archery season is upon us! Don't forget to buy or renew your license if you haven't already. Get your license today.



Get Your License Today

Message 7: Time Theme, Oklahoma



Too Busy to Bowhunt?

See What You've Been Missing!



Archery season is upon us! Don't forget to buy or renew your license if you haven't already. Get your license today.

Get Your License Today

Message 8: Challenge Theme, Oklahoma



Challenge Yourself


Go Bowhunting in Oklahoma




Archery season is upon us! Don't forget to buy or renew your license if you haven't already. Get your license today.

Get Your License Today

Message 9: Heritage Theme, Oklahoma



Heritage.
Go Bowhunting in Oklahoma



Archery season is upon us! Don't forget to buy or renew your license if you haven't already. Get your license today.

Get Your License Today

PENNSYLVANIA

Message 1: Social Theme, Pennsylvania



Bowhunting in Pennsylvania Is Quality Time

Make Memories This Hunting Season

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already – [click here](#) to get your license today.

Thank you,

Pennsylvania Game Commission



Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

Message 2: Social Theme, Pennsylvania



**Bowhunting in Pennsylvania
Is Quality Time**

Make Memories This Hunting Season

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already – [click here](#) to get your license today.

Thank you,

Pennsylvania Game Commission



Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

Message 3: Social Theme, Pennsylvania

Bowhunting in Pennsylvania Is Quality Time

Make Memories This Hunting Season

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already – [click here](#) to get your license today.

Thank you,

Pennsylvania Game Commission



Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

Message 4: Nature Theme, Pennsylvania



Connect to Nature

Go Bowhunting in Pennsylvania

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already – [click here](#) to get your license today.

Thank you,

Pennsylvania Game Commission



Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

Message 5: Nature Theme, Pennsylvania**Get Close to Nature**

Go Bowhunting in Pennsylvania

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already – [click here](#) to get your license today.

Thank you,

Pennsylvania Game Commission



Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

Message 6: Recreation Theme, Pennsylvania



Join the Excitement
Go Bowhunting in Pennsylvania

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already – [click here](#) to get your license today.

Thank you,

Pennsylvania Game Commission



Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

Message 7: Time Theme, Pennsylvania**Too Busy to Bowhunt?**

See What You've Been Missing

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already — [click here](#) to get your license today.

Thank you,

Pennsylvania Game Commission



Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

Message 8: Challenge Theme, Pennsylvania



Challenge Yourself

Go Bowhunting in Pennsylvania

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already – [click here](#) to get your license today.

Thank you,

Pennsylvania Game Commission



Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

Message 9: Heritage Theme, Pennsylvania**Heritage.**

Go Bowhunting in Pennsylvania

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already — [click here](#) to get your license today.

Thank you,

Pennsylvania Game Commission



Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

SOUTH DAKOTA

Message 1: Social Theme, South Dakota



Bowhunting in South Dakota is Quality Time

Make Memories This Hunting Season

Bowhunting season is upon us!
Don't forget to buy your license if you haven't already.

Get Your License Today

Message 2: Social Theme, South Dakota**Bowhunting in South Dakota is Quality Time*****Make Memories This Hunting Season***

Bowhunting season is upon us!

Don't forget to buy your license if you haven't already.

Get Your License Today

Message 3: Social Theme, South Dakota



Bowhunting in South Dakota is Quality Time

Make Memories This Hunting Season

Bowhunting season is upon us!
Don't forget to buy your license if you haven't already.

Get Your License Today

Message 4: Nature Theme, South Dakota

Connect to Nature

Go Bowhunting in South Dakota

Bowhunting season is upon us!
Don't forget to buy your license if you haven't already.

[Get Your License Today](#)

Message 5: Nature Theme, South Dakota



Get Close to Nature

Go Bowhunting in South Dakota

Bowhunting season is upon us!

Don't forget to buy your license if you haven't already.

Get Your License Today

Message 6: Recreation Theme, South Dakota

Join the Excitement

Go Bowhunting in South Dakota

Bowhunting season is right now!

Get out this weekend ahead of the rifle hunting seasons and share your memories with us using #SDintheField.

[Get Your License Today](#)

Message 7: Time Theme, South Dakota



Too Busy to Bowhunt?

See what you have been missing!

Bowhunting season is upon us!

Don't forget to buy your license if you haven't already.

[Get Your License Today](#)

Message 8: Challenge Theme, South Dakota

Challenge Yourself

Go bowhunting in South Dakota

Bowhunting season is upon us!

Don't forget to buy your license if you haven't already.

[Get Your License Today](#)

Message 9: Heritage Theme, South Dakota



Heritage.

Make Memories. Go Bowhunting in South Dakota.

Bowhunting season is upon us!

Don't forget to buy your license if you haven't already.

Get Your License Today

VIRGINIA

Message 1: Social Theme, Virginia



CONSERVE. CONNECT. PROTECT.



Bowhunting in Virginia Is Quality Time

Make Memories This Hunting Season

[Get Your License Today](#)

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Virginia Department of Game & Inland Fisheries

Message 2: Social Theme, Virginia



CONSERVE. CONNECT. PROTECT.



Bowhunting in Virginia Is Quality Time

Make Memories This Hunting Season

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Virginia Department of Game & Inland Fisheries

Message 3: Social Theme, Virginia

CONSERVE. CONNECT. PROTECT.



Bowhunting in Virginia Is Quality Time

Make Memories This Hunting Season

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Virginia Department of Game & Inland Fisheries

Message 4: Nature Theme, Virginia



CONSERVE. CONNECT. PROTECT.



Connect to Nature

Go Bowhunting in Virginia

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Virginia Department of Game & Inland Fisheries

Message 5: Nature Theme, Virginia

CONSERVE. CONNECT. PROTECT.



Get Close to Nature

Go Bowhunting in Virginia

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Virginia Department of Game & Inland Fisheries

Message 6: Recreation Theme, Virginia



CONSERVE. CONNECT. PROTECT.



Join the Excitement

Go Bowhunting in Virginia

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Virginia Department of Game & Inland Fisheries

Message 7: Time Theme, Virginia

CONSERVE. CONNECT. PROTECT.



Too Busy to Bowhunt?

See What You've Been Missing!

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Virginia Department of Game & Inland Fisheries

Message 8: Challenge Theme, Virginia



CONSERVE. CONNECT. PROTECT.



Challenge Yourself

Go Bowhunting in Virginia

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Virginia Department of Game & Inland Fisheries

Message 9: Heritage Theme, Virginia

CONSERVE. CONNECT. PROTECT.



Heritage.

Go Bowhunting in Virginia

Get Your License Today

Bowhunting season is upon us! Don't forget to buy or renew your license if you haven't already—[click here](#) to get your license today.

Thank you,
Virginia Department of Game & Inland Fisheries

ABOUT RESPONSIVE MANAGEMENT

Responsive Management is an internationally recognized survey research firm specializing in attitudes toward natural resource and outdoor recreation issues. Our mission is to help natural resource and outdoor recreation agencies, businesses, and organizations better understand and work with their constituents, customers, and the public.

Since 1985, Responsive Management has conducted telephone, mail, and online surveys, as well as multi-modal surveys, on-site intercepts, focus groups, public meetings, personal interviews, needs assessments, program evaluations, marketing and communication plans, and other forms of research measuring public opinions and attitudes. Utilizing our in-house, full-service survey facilities with 75 professional interviewers, we have conducted studies in all 50 states and 15 countries worldwide, totaling more than 1,000 projects and almost \$60 million in research.

Responsive Management has conducted research for every state fish and wildlife agency and most of the federal resource agencies, including the U.S. Fish and Wildlife Service, the National Park Service, the U.S. Forest Service, the Bureau of Land Management, the U.S. Coast Guard, and the National Marine Fisheries Service.

We have also provided research for many nonprofit and nongovernmental organizations, including the National Wildlife Federation, the National Shooting Sports Foundation, the National Rifle Association, the Archery Trade Association, the Izaak Walton League, the Rocky Mountain Elk Foundation, Ducks Unlimited, SCI, and Dallas Safari Club. Other nonprofit and NGO clients include Trout Unlimited, the Sierra Club, the American Museum of Natural History, the Ocean Conservancy, the National Association of State Boating Law Administrators, and the BoatUS Foundation.

Responsive Management conducts market research and product testing for numerous outdoor recreation manufacturers and industry leaders, such as Winchester Ammunition, Vista Outdoor (whose brands include Federal Premium, CamelBak, Bushnell, Primos, and more), Trijicon, Yamaha, and others.

Responsive Management also provides data collection for the nation's top universities, including Auburn University, Colorado State University, Duke University, George Mason University, Michigan State University, Mississippi State University, North Carolina State University, Oregon State University, Penn State University, Rutgers University, Stanford University, Texas Tech, University of California-Davis, University of Florida, University of Montana, University of New Hampshire, University of Southern California, Virginia Tech, West Virginia University, and many more.

Our research has been upheld in U.S. Courts, used in peer-reviewed journals, and presented at major wildlife and natural resource conferences around the world. Responsive Management's research has also been featured in many of the nation's top media, including *Newsweek*, *The Wall Street Journal*, *The New York Times*, CNN, and on the front pages of *The Washington Post* and *USA Today*.

responsivemanagement.com