

MESSAGING, MARKETING, AND IDENTITY: CONTENT ANALYSIS OF WATERFOWL HUNTING VIDEOS

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Abstract

Media has been documented to significantly impact children and adolescents' behavior, attitudes, cultural norms, identity development, and normative behaviors. We conducted a content analysis of three waterfowl hunting videos to determine what images and words were being conveyed to hunters, and a mail survey of Illinois waterfowl hunters to test how age may influence viewing of waterfowl hunting media. In particular, we hypothesized that: 1) age will influence whether hunters have watched waterfowl hunting media, and 2) age will influence how often hunters watch them. Overall, 82% of waterfowl hunters had watched waterfowl hunting media. Age influenced whether hunters, and how often hunters, had watched them; younger hunters were more likely to have watched the media and watched them significantly more often. Media watching also influenced hunters' expectations, their identity as a waterfowl hunter, and their perception of the number of birds they harvest when compared to others. Results suggest that media influences waterfowl hunters' expectations, identity, and behavior, all of which play an important role in how we will manage for waterfowl hunters in the future.

1.0 Introduction

Each year, approximately 1 million hunters engage in waterfowl hunting in the United States (Raftovich, Wilkins, Williams, Spriggs, & Richkus, 2011). The traditional method of recruitment into hunting is through a family member (Bissell, Duda, & Young, 1998). However, with increased urbanization and an aging hunter population (Boxall, Watson, & McFarlane, 2001) there has been a decline in hunter recruitment. Simultaneously, the nation's affinity to media has increased. For example, in just one year (2010-2011) TV viewership increased 22 minutes/month/person (Nielsen Company 2011); children (2-11 years old) watched 117 hours of TV per month in the beginning of 2011, and adults (18-34 years old) watched 131 hours of TV per month. Many waterfowl hunting entrepreneurs have perceived that a market segment exists for the production of waterfowl hunting videos/shows (hereafter referred to as media). What these media convey to viewers has never been empirically measured; who is watching these media, and what effects they have on hunters is also unknown.

2.0 Methods

We conducted a content analysis of the three best-selling waterfowl hunting DVDs in the United States. We used program Express Scribe (version 5.4) to view the videos and manually convert audio to text; inaudible words were coded as "inaudible." Converted text was reviewed by the primary author where corrections were made. We also recorded several variables for analysis: words per minute, percent of movie engaged in shooting, mean length of shooting scene, shots taken per scene (1-3, 4-10, >10), and birds harvested per scene (1-3, 4-10, >10). To determine which words were used most often in the movie, we used program QDA Miner (version 4) and WordStat (version 6.1.4). We applied the English exclusion function in WordStat, to remove words with little semantic value (pronouns, conjunctions, etc.).

We coordinated the content analysis study with a mail survey of Illinois waterfowl hunters. A pre-season duck hunter survey was sent randomly between August and October 2011 to 12,000 waterfowl hunters who either purchased a state waterfowl stamp or were registered migratory bird hunters under the Harvest Information Program. Hunters were mailed a questionnaire (8 pages), cover letter, and a stamped return envelope followed 14 days later by a reminder/thank you postcard. Successive waves of questionnaire/postcard were mailed for a total of three questionnaires and two postcards (Dillman, Smyth, & Christian, 2009). Hunters who returned the pre-season survey were also sent a post-season duck survey, as we attempted to measure expectations and satisfaction with the duck seasons; the post-season survey followed the same mailing schedule as the pre-season survey.

We hypothesized: (H1), age of the hunter will influence whether they watch waterfowl hunting media, and (H2), age of the hunter will influence the frequency with which they watch waterfowl hunting media. Additionally, we measured hunters'

expectations of their upcoming season's total duck harvest, identity as a waterfowl hunter, and subjective evaluation of their typical duck harvest to others.

Respondents were first asked "Do you watch duck hunting shows or videos?" Response choices were binomial ("Yes"/"No"). To measure frequency of viewing, we asked respondents to answer the question: "If you watch duck hunting shows or videos, how often have you watched shows or videos in the past 12 months?" Response choices were "Every week," "About 3 times a month," "Between 5 and 12 times in the past year," and "Less than 5 times in the past year." Next, we asked video/show watchers "Which of the following best describes why you watch duck hunting programs?" Response choices were: "to learn new hunting techniques," "to get ideas where to take hunting trips," "to be entertained," "remind me of my own memorable hunts," "to learn about wildlife," "to see hunts in different locations," and "to watch ducks get harvested." We asked hunters in the pre-season survey to indicate if they hunted during the previous season (2010-11), and in the post-season survey if they hunted during the past year (2011-12). Lastly, we asked hunters their age: "Please give your age."

For their expectations, hunters were asked, "Please give your expectations for your total duck harvest in Illinois for the upcoming 2011-12 season compared to the last 5 seasons." We measured their response using a 7-point Likert-type scale from 1 (Much Lower) to 7 (Much Higher). Hunters were asked to identify themselves: "How would you rate yourself as a duck hunter." Responses were "Novice," "Intermediate," and "Advanced." Lastly, hunters were asked to compare their typical harvest to others: "How does the number of ducks you usually harvest compare with other hunters you know?" Responses were "Much less," "Slightly less," "Same," "Slightly more," and "Much more."

We tested our hypotheses using SPSS (version 19.0), by conducting Chi-square analyses and measuring effect sizes using Cramer's *V* (Vaske 2008). Significance was determined when a *p*-value of less than .05 was observed, and we only included respondents who hunted during the 2010-2011 or 2011-2012 waterfowl hunting seasons.

3.0 Results

3.1 Content Analysis

Content analysis took an average of 25 hours per video to convert the audio to text, and took the primary author an additional 2 hours to review and make corrections. Video-specific details can be found in Table 1. Video 1 had the most shooting (4.6% of total movie), the shortest shooting scenes on average ($M=1.5$ sec), and the fewest words uttered (81 words per minute). The five, most often used words for each video can be found in Table 2; "Em" was the most often spoken word for each video, followed by "Kill" for videos 1 and 2.

Table 1. Descriptive analysis of the three waterfowl hunting videos

	Video 1	Video 2	Video 3
% of video shooting	4.6	3.8	2.9
Mean length of shooting scene (seconds)	1.5	1.8	2.0
Words spoken per minute	81	113	90

Table 2. Five most-frequently spoken words for three waterfowl hunting videos

	Top five words				
	1	2	3	4	5
Video 1	'Em	Kill	Yeah	"Inaudible"	Duck
Video 2	'Em	Kill	Gonna	Man	Back
Video 3	'Em	Gonna	Ducks	"Inaudible"	Dont

There were significant differences among videos in the number of shots per scene ($\chi^2 = 22.46, p < .001, V = .17$) and the number of birds harvested per scene ($\chi^2 = 23.02, p < .01, V = .17$). For example, 67% of all the shooting scenes for Video 1 had between 1-3 shots/scene; Videos 2 and 3 had 45% of shooting scenes fall within the "1-3" shots/scene category (Table 3). The majority of birds harvested per scene fell within the "1-3" category for all three videos (Table 3); however, Video 1 had the highest proportion in the "4-10" and ">10" birds harvested per scene category.

Table 3. Comparisons of shots per scene and birds harvested per scene, by video

	Shots/Scene ¹			Harvest/Scene ²			
	1-3	4-10	>10	0	1-3	4-10	>10
Video 1	67%	22%	12%	1%	81%	17%	2%
Video 2	45	46	8	2	93	5	0
Video 3	45	40	15	6	80	15	0

¹($\chi^2 = 22.46, p < .001, V = .17$)²($\chi^2 = 23.02, p < .01, V = .17$)

3.2 Mail Survey

The survey response was 31.8% ($n=3,677$). Waterfowl hunting media were watched by 82% of waterfowl hunters in Illinois. Age of hunter significantly influenced whether they had watched these media in the past 12 months ($\chi^2 = 12.80, p < .01, V = .06$, Table 4) and how often they watched these media ($\chi^2 = 106.56, p < .001, V = .14$, Table 5). Thirty-two percent of hunters who watched these media indicated they watched them to learn new hunting techniques, and 32% watched them for entertainment.

Table 4. Relationship between age and watching waterfowl hunting media during the prior 12-month period

Age	Watch videos/shows?	
	Yes	No
< 32	80%	20%
32-47	78	22
48-62	75	25
> 62	73	27

 $(\chi^2 = 12.80, p < .01, V = .06)$ **Table 5. Relationship between age and frequency with which hunters watched waterfowl hunting media during the prior 12-month period**

Age	How often do you watch?			
	Every week	3 times a month	5-12 times a year	< 5 times a year
< 32	29%	22%	31%	18%
32-47	21	23	31	24
48-62	15	14	34	37
> 62	10	13	35	42

 $(\chi^2 = 106.56, p < .001, V = .14)$

There was a significant relationship between hunters' expectations for their duck harvest during the upcoming year and whether they watched waterfowl hunting media in the past 12 months ($\chi^2 = 29.25, p < .001, V = .13$, Table 6). Thirty-five percent of hunters who watched media had "higher" expectations, whereas 22% of hunters who did not watch media had "higher" expectations. Media watching also significantly influenced how hunters identified themselves: 48% of hunters who did not watch media identified themselves as novice hunters, whereas 18% of hunters who did watch media identified themselves as novice hunters ($\chi^2 = 153.41, p < .001, V = .27$, Table 7). Lastly, hunters who watched media indicated they harvest significantly more ducks than other hunters they knew ($\chi^2 = 139.60, p < .001, V = .26$, Table 8).

Table 6. Influence of waterfowl hunting media on hunter expectations for the 2011-2012 Illinois waterfowl season

Watch videos?	Expectation for duck harvest?						
	Much lower	Lower	Somewhat lower	Same	Somewhat higher	Higher	Much higher
Yes	2%	8%	10%	45%	26%	8%	1%
No	6	8	9	55	16	5	1

 $(\chi^2 = 29.25, p < .001, V = .13)$ **Table 7. Influence of waterfowl hunting media on hunter identity**

Watch videos?	Identify yourself as a hunter		
	Novice	Intermediate	Advanced
Yes	18%	50%	32%
No	48	36	17

 $(\chi^2 = 153.41, p < .001, V = .27)$

Table 8. Influence of waterfowl hunting media on perception of typical duck harvest compared with other hunters

Watch videos?	Compare your harvest to others				
	Much less	Slightly less	Same	More	Much more
Yes	20%	24%	33%	20%	4%
No	48	22	22	6	2

($\chi^2 = 139.60, p < .001, V = .26$)

4.0 Discussion and Conclusions

Results of this study showed that, overall, very little shooting actually occurs in waterfowl hunting videos (<5% of the movie), but the repetitive nature of certain words and of harvest may have an impact on viewers. Moreover, these results suggest that younger hunters, who may be more impressionable, are watching waterfowl hunting media more frequently than older hunters. These videos are having some impact on hunters' expectations, their identity, and their perception of their harvest compared to others. Hunters who did not watch the hunting media identified themselves as novice hunters more so than hunters who did watch the media. It is possible that media watching is a measure of interest in the sport. For example, a hunter who hunts waterfowl but identifies themselves as a deer hunter may not be as likely to watch waterfowl hunting videos as a hunter who identifies themselves as waterfowl hunter. Previous research has documented that media plays a significant role in developing young people's perceptions of social behavior and social reality and creates cultural norms (Strasburger 2004).

Hunters who watched media had higher expectations for their total duck harvest, and younger hunters watched the media more often. Since the younger hunters are replacing the older hunters in the population, hunters with higher expectations may be more dissatisfied if their expectations are not met. As younger hunters who watch these media enter the population, the expectations for duck harvest may continue to climb higher. Only one other study has addressed the effects of hunting shows on hunters' expectations. Agee and Miller (2009) showed that deer hunters who watched hunting shows on TV indicated that harvesting a trophy buck was more important to them than to hunters who did not watch hunting shows.

Future research on the effects of media on waterfowl hunters should be conducted, since it appears that media are playing a role in hunters' expectations, identity, and perception of harvest. As we become more urbanized and continue to increase our TV viewing, the role these videos/shows play in hunter development will be an increasingly important factor for management.

5.0 Citations

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