

THESIS

EFFECTS OF VISUAL DESIGN IN BEEF SEEDSTOCK ADS ON TRUST, CREDIBILITY,
AND INTENT TO SEEK MORE INFORMATION

Submitted by

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ABSTRACT

EFFECTS OF VISUAL DESIGN IN BEEF SEEDSTOCK ADS ON VIEWER'S TRUST, CREDIBILITY, AND INTENT TO SEEK MORE INFORMATION

This study was intended to analyze the effect of a visual design on the viewer's trust, credibility, and intent to seek more information among Angus cattle producers. To test this relationship, 561 beef producers were recruited from Angus Media subscribers. The independent variables in this study were comprised of graphic design principles – unity, emphasis, and perceptual forces. A post-test only with control group experimental design was conducted to gather experimental data. Our results show the graphic design of a beef seedstock ranch ad promoting an upcoming bull sale did not influence viewers perceptions of trust and credibility or intent to seek more information. However, one of our research questions did reveal stronger designed ads are significantly related to trust. We suggest the study results were influenced by a first impression established through the brand description presented to all treatment groups. For future studies, we recommend a replication of this study with no brand description used in the experiment. Additional studies could compare mediocre design to superb design implemented within an ad. In other areas of study, we recommend information measures and impacts of a first impression through different brand descriptions.

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TABLE OF CONTENTS

ABSTRACT.....ii

ACKNOWLEDGEMENTS.....iii

LIST OF TABLES.....viii

LIST OF FIGURES.....ix

CHAPTER 1. INTRODUCTION.....1

 1.1 Advertising Beef Seedstock Cattle.....1

 1.2 Purpose of the Study.....5

 1.3 Organization of Thesis.....6

CHAPTER 2. LITERATURE REVIEW.....7

 2.1 Advertising in General.....7

 2.1.1 Advertising in the Livestock Business.....9

 2.1.2 Advertising Credibility.....11

 2.1.2.1 Credibility Operationalized.....13

 2.1.2.2 Relationship Between Credibility and Trust.....14

 2.1.3 Advertising Trust.....14

 2.1.3.1 Trust Operationalized.....17

 2.2 Visuals in Advertising.....18

 2.2.1 Design Principles.....20

 2.2.1.1 Unity.....21

 2.2.1.2 Emphasis.....24

 2.2.1.3 Perceptual Forces.....27

 2.2.2 Design Effects on Trust and Credibility.....31

 2.3 Hypotheses and Research Questions.....32

 2.4 Trust and Credibility Effects on Behavior.....34

 2.4.1 Information-seeking Behavior.....35

 2.4.2 Information-seeking Behavior Operationalized.....39

CHAPTER 3. METHODS.....41

 3.1 Instrument and Variables.....43

3.1.1 Independent Variables.....	43
3.1.2 Dependent Variables.....	47
3.1.2.1 Brand Trust.....	47
3.1.2.2 Ad Credibility.....	49
3.1.2.3 Intent to Seek More Information.....	50
3.1.3 Exploratory Questions.....	51
3.1.4 Demographic Variables.....	52
3.2 Sample and Recruitment.....	52
3.2.1 Institutional Review Board Approval.....	54
3.3 Data Collection Procedure.....	54
3.3.1 Pretest.....	56
3.4 Data Analysis.....	57
CHAPTER 4. RESULTS.....	58
4.1 Sample Characteristics.....	58
4.2 Manipulation Checks.....	62
4.3 Hypotheses 1-3: Trust as DV.....	63
4.4 Hypotheses 4-6: Credibility as DV.....	65
4.5 Research Questions.....	67
4.6 Exploratory Analyses.....	68
CHAPTER 5. DISCUSSION.....	71
5.1 Discussion.....	71
5.2 Practical Implications.....	76
5.3 Limitations.....	78
5.4 Areas for Future Research.....	80
5.5 Conclusion.....	81
REFERENCES.....	83
APPENDIX A: INVITATION TO PARTICIPATE.....	105
APPENDIX B: FIRST REMINDER EMAIL.....	106
APPENDIX C: SECOND REMINDER EMAIL.....	107
APPENDIX D: IRB APPROVAL.....	108
APPENDIX E: CONSENT FORM – PRETEST.....	109

APPENDIX F: CONSENT FORM – FINAL LAUNCH.....	111
APPENDIX G: QUESTIONNAIRE.....	113

LIST OF TABLES

TABLE 1. BREAKDOWN OF EXPERIMENTAL DESIGN.....	41
TABLE 2. BRAND TRUST SCALE 1 INTER-ITEM CONSISTENCY STATISTICS.....	48
TABLE 3. BRAND TRUST SCALE 2 INTER-ITEM CONSISTENCY STATISTICS.....	48
TABLE 4. COMBINED BRAND TRUST INTER-ITEM CONSISTENCY STATISTICS.....	49
TABLE 5. AD CREDIBILITY SCALE INTER-ITEM CONSISTENCY STATISTICS.....	50
TABLE 6. INTENT INFO SCALE INTER-ITEM CONSISTENCY STAT.....	51
TABLE 7. BREAKDOWN OF INVOLEMENT IN THE BEEF CATTLE INDUSTRY.....	59
TABLE 8. BREAKDOWN OF INFORMATION PREFERENCES.....	60
TABLE 9. BREAKDOWN OF ADDITIONAL EXPLORATORY DEMOGRAPHICS.....	61
TABLE 10. MANIPULATION CHECK MEANS AND SD.....	63

LIST OF FIGURES

FIGURE 1. EXAMPLE OF A RECENTLY PUBLISHED BEEF SEEDSTOCK ADVERTISEMENT.....	4
FIGURE 2. WHITE SPACE.	20
FIGURE 3. SIMPLE EXAMPLE OF REPETITION.	24
FIGURE 4. CONTRAST EXAMPLE.....	25
FIGURE 5. RULE OF THIRDS EXAMPLE.....	28
FIGURE 6. FIGURE-GROUND EXAMPLE.....	30
FIGURE 7. CLOSURE EXAMPLE.....	31
FIGURE 8. UNITY STIMULI.....	44
FIGURE 9. EMPHASIS STIMULI.....	45
FIGURE 10 PERCEPTUAL FORCES STIMULI.....	46
FIGURE 11. BRAND DESCRIPTION.....	47
FIGURE 12. BAR GRAPH SHOWING THE EFFECT OF DESIGN ON TRUST & CREDIBILITY.....	67

CHAPTER 1. INTRODUCTION

In an era of information overload, garnering attention to ads through effective layout and design is crucial. Visual communication capabilities have accelerated in the past decade thanks to digital media channels and more user-friendly tools and templates to help people create designs relatively fast and cheap (Allen, 2012; Tselentis, 2017). Print advertising also benefits from this trend. Despite changes in design aesthetics over time, we noted much of the print advertising design aesthetics within the beef cattle industry has maintained a certain style of its own – one that does not consistently follow good design principles described in visual communication theory and best practices. This is despite the fact these ads are selling products of high value (beef seedstock cattle). Thus, we question whether the design aesthetic commonly used for livestock ads is a function of the industry culture rather than accidental poor design. This study seeks to test how different executions of print ad design affect beef cattle producers' evaluations (i.e., trust and credibility) and intent to seek more information for a brand and product (i.e., a ranch and Angus bulls).

1.1 Advertising Beef Seedstock Cattle

The beef seedstock industry has been singled out for this study because of its growing use of advertising. A beef seedstock operation refers to the sector of the beef industry responsible for providing the breeding stock or genetics to other sectors, most often being commercial cow/calf producers. Seedstock cattle are typically animals registered with a breed association (The Beef Site, 2009). Livestock producers' decisions to advertise are multi-faceted. Reasons producers place an ad can include: “to sell livestock, to create brand awareness and recognition, to promote the positive goodwill efforts of a ranch or farm, to create awareness and recognition for a

specific animal, to inform the public about a business or product, and to educate clients about the benefits of purchasing animals produced” (Cutrer, 2011, p. 31). For this study, we will focus on the first two points, to sell livestock and create brand awareness and recognition.

No matter what reasons cattle producers choose, it is common for design principles not to be fully executed in these types of ads. Seedstock ads are typically bombarded with pictures and textual information about the ranch and cattle. Although the livestock advertising business has improved immensely since its beginning, there is still room for improvement (Cutrer, 2011). Prominent industry leaders have acknowledged the researchers’ claims and support research investigating how the beef seedstock industry should re-evaluate how graphic design is utilized in advertising (R. Cozzitorto, personal communication, July 20, 2017).

There is competing visual information everywhere we look. How a company chooses to present itself through the design of an ad plays a significant role on ad campaign success (Payoo, 2016). Graphic design is used to communicate ideas, information, and experiences by combining visuals and text into an aesthetic package (In the Box Marketing, 2016). It is rooted in persuasion (Sharfman, 2015). Communication is the most effective when the objectives of the business coordinate with the visual aesthetics because it establishes brand recognition (Sharfman). Some industries are still working to fill the gaps and embody modern design in their overall brand appearance.

Until this century, livestock producers believed increased profit meant increased production (Cowan, 2012; Cutrer, 2011). Today, success not only results from numbers, but also a commitment to invest in a marketing plan. The following paragraphs will outline how industry professionals have encouraged livestock producers to promote their cattle.

Grant (2002) listed several methods to market seedstock cattle, including print, radio, direct mail, and telephone marketing. With the evolution of technology and innovative ways to promote livestock, Cutrer (2011) supplements Grant's list by adding outdoor and web-based advertising, as well as other ways such as apparel, give-a-aways, sponsorships, and even text messages. Perhaps the most well-recognized and utilized method is print advertising. Because print advertising is the most popular method, we have focused on print ads and will discuss best practices in the beef industry in the following paragraphs.

The goal of a print ad is to motivate people to want more information, and, ultimately, make a purchase (Grant, 2002). The design and layout of an ad must reflect the brand, be affordable, and contain consistent messaging and branding elements (i.e., colors, logo, artwork) (Grant). Livestock producers must consider the following for print ads: design/layout, photographs/artwork, copy, performance and production data of the cattle, size of the ad, use of customer testimonials, and advertisement type (Cutrer, 2011; Grant). Because beef seedstock ads contain a lot of information (i.e., photographs, pedigrees, brand philosophy, etc.), the design can become difficult to execute well. Many ads will utilize trendy designs, which may result in a busy and cluttered design, but these ads can also be incredibly "boring and dull" (Cutrer, p. 59). Below, Figure 1 shows an example of seedstock ads in a popular beef cattle industry newsletter. The ad is a representative example for what is seen in current beef seedstock ads announcing upcoming production sales. The ad below utilizes an extensive amount of copy, creating clutter for the viewer and increased cognitive processing.

Figure 1. Example of a recently published beef seedstock advertisement. Note. Names of ranches and producers have been blurred to protect their identity.

Beef seedstock ads tend to be cluttered from the use of too many words or copy. It is common for advertising clients to fill up all the ad space they are paying for (Olsen, Precejus, O’Guinn, 2012), but communication professionals advise to choose copy carefully because the breeder should want to leave the viewer wanting more and copy should support the visuals (Grant, 2002). The text components of a livestock advertisement should contain a headline, a short blurb (i.e., one to four sentences) explaining the purpose of the ad (Cutrer, 2011), and a way to contact the livestock producer selling the cattle.

One of the most important pieces of information/copy a seedstock producer can include in an ad are the expected progeny differences (EPDs). The EPDs refer to the difference in

performance that can be expected from one bull's progeny compared to the performance of another bull's progeny (Select Sires, 2017). Using EPDs is important for producers to make quick genetic improvement within a herd. Grant (2002) states that an average of 75 to 90% of commercial producers make purchasing decisions after evaluating the EPDs. Besides brand information and EPDs, the remainder of the ad's design is determined by the seller and/or designer. Given current ad design practices, we wondered whether beef seedstock ad design aesthetics, despite sometimes violating general design principles, are effective because they fit norms within the culture of livestock production pertinent to establishing belonging and trust, or if they could be more effective if they were to better execute design principles. Research on how the layout and design aspects influence producers would be beneficial for providing best practices to designers of livestock ads.

1.2 Purpose of the Study

The overarching purpose of the proposed study was to determine how the design of a beef seedstock ad influences producers' evaluations (brand trust, ad credibility) and relevant behavioral intentions (intent to seek more information). We tested several different variations of a beef seedstock ad by manipulating the use of key design principles (unity, emphasis, and perceptual forces). As will be discussed in the literature review, trust and credibility are important cognitive outcomes to assess since design patterns can communicate culturally-specific feedback to target audiences. With a survey instrument, we measured self-reported intent to seek more information. Results from this study offered conceptual and empirical evidence regarding how consumers respond to the visual communication of a beef seedstock ad. Such research is useful for creative practitioners working inside and outside agricultural communications. The study analyzed different considerations graphic designers must weigh

when creating a visual communications product targeted toward beef seedstock producers and their customers.

1.3 Organization of Thesis

This proposal will go through a series of chapters all directed at shaping a study to answer the hypotheses and research questions. Chapter 2 discusses the theoretical framework used to build the basis of this study by explicating trust, credibility, and information seeking behavior in advertising, but also the primary design principles (i.e., unity, emphasis, and perceptual forces) used by graphic designers. Chapter 3 outlines the method used to conduct the proposed experiment, as well as the population, sampling method, procedure, and how the researchers analyzed the data gathered. Chapter 4 discusses the findings of the study. Chapter 5 will discuss why the results occurred, practical implications, limitations, and future recommendations.

CHAPTER 2. LITERATURE REVIEW

Ample research can be found for each of the study's dependent variables: credibility, trust, and intent to seek more information (i.e., examined here as information seeking behavior). To create a visually aesthetic design, ad creatives rely on the principles of graphic design. With regards to print advertising, gaps in literature suggest a need to investigate the relationship between the dependent and independent variables under consideration in this study. This chapter explicates each of the dependent and independent variables to build a better understanding of the relationships each one holds, as well as any holes in the literature. Because no scholarly research has been published regarding advertising within the animal agriculture industry and livestock producers' perceptions in relation to an ad's design, we make inferences and draw conclusions for what we expect to find through this study.

2.1 Advertising in General

Advertising has evolved in the recent century with rapid technological innovation. While one of the first definitions of advertising was as simple as selling in print (Starch, 1923), it has grown from print to include mass media (Nan & Faber, 2004). Over the years, many scholars have debated how to adequately redefine advertising to fit the growing platforms where it is used (i.e., magazines/publications, newspapers, internet, social media, email, direct mail, billboards, etc.) (e.g., Carlson, 2015; Dahlen & Rosengren, 2016; Kerr & Schultz, 2010; Nan & Faber, 2004; Richards & Curran, 2002). Dahlen and Rosengren suggest a new working definition for advertising as: "Brand-initiated communication intent on impacting people" (p. 343). All advertising strives to represent a brand in hopes of influencing people to buy into its service or product. Still, their definition seems broad. Although advertising scholars and practitioners have

started the conversation, no single, accepted definition for advertising has been agreed upon across disciplines. Turning to agricultural business for a definition, advertising is “mass communication with potential customers, usually through public communications media such as television, radio, newspapers, magazines, or the Internet” (Barnard, Akridge, Dooley, Foltz, & Yeager, 2016, *The Marketing Mix* chapter, Advertising section, para. 1). In Cutrer’s (2011) book about livestock merchandising, she says advertising is used to sell a product. For the sake of this study, we are focusing on advertising as mass communication with potential customers to sell a product.

In the field of communications, researchers have extensively studied the effects of media messages. However, relatively less research is available analyzing the effects of the actual visual design utilized in the creation of a message or ad. Fields such as marketing and advertising employ an appropriate balance of audience driven aesthetics, graphics that engage the viewer, and practical legibility to reach communication objectives (Kotler & Keller, 2012). Theoretical framework is needed in the livestock industry for advertising practitioners to follow to create consistent advertising strategies.

Agricultural communicators have an increasingly complex role in society. Agricultural communicators focus on science communication and deal with everything from farming, food, fiber, livestock, and natural resources between stakeholders within and outside of agriculture (Boone, Meisenbach, & Tucker, 2000). There are opportunities for improvement within the livestock industry and how information in an ad is presented; however, current design patterns — despite violating general design principles — may signal cultural acuity and belonging to producers (Smith, Ginton, & Burrell, 2015). The utility of “improving” their design requires empirical examination.

2.1.1 Advertising in the Livestock Business

Some people would speculate livestock advertising has been around since the prehistoric period with cave paintings (Cutrer, 2011). Before there were computers and high-tech design software, such as InDesign and Photoshop, advertisements relied on the “basic principles of readability, clarity, and text-based information” (Cutrer, p. 33). In the beginning, ads were printed in black and white, but in recent years color printing has become popular and the use of colored advertisements in livestock magazines and publications emerged (Cutrer). Today, it is common practice to see full-color print advertisements in every livestock industry magazine.

Any business looking to invest in an advertising campaign must ask themselves the same basic questions: who, what, where, when, and why (Cutrer, 2011). Perhaps the most important question is *who*; to successfully promote a product, the advertiser must know *who* is going to be interested and potential customers (H20 Media Inc, n.d.). The advertiser must also know *where* the best outlet is to reach his or her audience (H20 Media Inc.).

Producers may choose from a list of many reasons *why* they choose to place an advertisement. Rachel Cutrer, founder of Ranch House Designs – perhaps the most respected and successful livestock promotion agency offering full services in website design and graphic design – states many reasons a livestock producer may place an ad, including:

1. “To sell livestock
2. “To create brand name awareness and recognition
3. “To promote the positive goodwill efforts of a ranch or farm
4. “To create awareness and recognition for a specific animal
5. “To inform the public about a business or product

6. “To educate clients about the benefits of purchasing animals produced” (Cutrer, 2011, p. 31)

For this study, we are interested in the first two reasons listed: selling livestock and creating brand awareness and recognition.

Livestock producers may choose from several outlets to place an ad (i.e., print, outdoor, broadcast, web-based, etc.), but we are focused on print ads placed in magazines. According to Cutrer (2011), it is almost a requirement to run an ad to be a successful seedstock producer. Agribusiness outlets and publications for producers to place an ad range from industry wide publications such as *Drovers*, national breed associations like the *Angus Journal*, regional and state cattlemen’s publications, and local and state newspapers. Once the decision is made as to *where* an ad is to be placed, many options are offered from single-page to multi-page foldouts ranging from a couple hundred (Angus Media, 2017b) to several thousand dollars (Cutrer).

In general, there are several ways to ensure your ad gets noticed. Quality is the number one reason advertisers should invest in advertising (H2O Media Inc., n.d.). Advertisers want to run ads that are creative because people see thousands of ads each day (H2O Media Inc.). When advertising livestock, Cutrer (2011) offers four suggestions to keep in mind to start: color, the bigger the better, photographs, and testimonials and examples. Research supports the use of color attracts more attention to the ad (Meyers-Levy & Paracchio, 1995), as well as the size of the ad (Homer, 1995). Being able to display the product being advertised gives people a reason to read the ad, which can then lead to the viewer seeking more information from the advertiser.

Testimonials and examples from previous customers helps distinguish a brand from other similar brands with similar products. This serves to highlight success/results, build trust, and provide credibility (McKenna, 2017). As an owner of a company, ensuring great testimonials takes

understanding customer expectations, keeping promises, going the extra mile, and assisting the client in saving money, time, and anything else they value when making a transaction (McKenna).

Whenever a consumer is presented an advertisement, he or she first decides whether to dismiss or process the ad. Some ads can be misleading; but it becomes the consumers' choice to trust the ad or not. They also determine whether they find it credible. While the amount of literature and research investigating trust in advertising is limited (Soh, Reid, & King, 2009), the related concept of advertising credibility is well developed (e.g., Lutz, 1985; MacKenzie & Lutz, 1989; Sandage & Leckenby, 1980; Shavitt, Lowrey, Haefner, 1998). The following section explicates credibility in advertising.

2.1.2 Advertising Credibility

Credibility in advertising has been the subject of many discussions and a heavy focus of research in advertising literature. Advertising credibility has been based on whether consumers find ad claims truthful (Kavanoor, Grewal, & Blodgett, 1997) and believable (Lutz, 1985). Whenever consumers develop positive attitudes toward a brand, it affects their intent to make a purchase (MacKenzie, Lutz, & Belch, 1986). A plethora of research has been published regarding the medical field and drug advertisements (e.g., Cho & Boster, 2008; Huh, LeLorme, & Reid, 2004; Salmon & Paek, 2007), while other advertising fields have not been studied as thoroughly. Throughout communication literature, credibility has consistently been conceptualized three ways: source credibility, (i.e., trustworthiness or expertise of message spokesperson) (Lafferty & Goldsmith, 1999; Sternthal, Phillips, & Dholakia, 1978); ad content credibility (i.e., perceptions of truth and believableness of the ad message) (O'Cass, 2002;

Roering & Paul, 1976); and more generally, advertising credibility (i.e., relativeness, responses, social and economic dimensions) (Soh, Reid, & King, 2009).

Not only does ad credibility relate to the products being advertised, but also the medium where the ad is delivered (Prendergast, Liu, & Poon, 2009). Kiouisis (2001) states medium credibility involves how believable a channel is where an ad is placed. Research shows advertisements presented on the web and received via direct mail are less credible than printed mediums, such as newspapers or magazines (e.g., Belch & Belch, 2007; Digiday, 2017; Flanagin & Metzger, 2007; Marshal & Na, 2003; Prendergast, Liu, & Poon, 2009). For this reason, we decided to focus on printed advertisements for this study.

Message credibility is not clearly explicated or as widely researched as source credibility and general advertising credibility. Appleman and Sundar (2015) defined message credibility as: “an individual’s judgement of the veracity of the content of communication” (p. 63). They arrived at this definition after an in-depth explication of previous research. Concepts composing message credibility are also not clearly identified (Appelman & Sundar). Some examples in previous research outline subconcepts of message credibility, including competence, trustworthiness, fairness, objectivity, accuracy, believability, factual, etc. (Gaziano & McGrath, 1986; McCroskey & Teven, 1999; Sundar, 1999). Appleman and Sundar suggest message credibility is a state rather than a process. This draws attention to the importance of analyzing message credibility at the individual level (Appelman & Sundar) because different people who process the same message may perceive it to have varying levels of credibility (Hovland & Weiss, 1951). The level which the viewer interprets credibility may derive from social cues (Sundar, 2008). The source from which a message arrives may trigger the bandwagon heuristic to make people think it is more important or credible (Sundar). While this seems to correspond

more strongly with source credibility, Appleman and Sundar suggest it should also be measured as part of message credibility.

Another way viewers determine the credibility of the message within an ad is by considering the motives of the advertiser. What an advertiser claims in an ad derives from his or her motives for the ads purpose. Credibility stems from the motives behind the claims presented in an advertisement. The context within an ad may need further consideration because either the advertiser claims are true, or the advertiser has made untruthful claims in hopes of increasing awareness of the brand, sales, or market share (Kelley, 1973). This applies no matter which medium is chosen to present an ad.

2.1.2.1 Credibility Operationalized

As previously discussed, ad credibility is often based off how truthful or believable the viewer perceives an ad. The three dimensions of advertising credibility include source credibility, (Lafferty & Goldsmith, 1999; Sternthal, Phillips, & Dholakia, 1978); message credibility (Appleman & Sundar, 2015; O’Cass, 2002; Roering & Paul, 1976); and general advertising credibility (Soh et al., 2009). Throughout many studies, credibility has been operationalized in several ways. The research studies are typically carried out through experiments. One of the most common measurements is the use of scales, typically in the form of semantic differential or Likert (e.g., Kavanoor, Grewal, & Blodgett, 1997; Lafferty & Goldsmith, 1999; Prendergast, Liu, & Poon, 2002; Roering & Paul, 1976).

In Appelman and Sundar’s (2015) study, they addressed the lack of a scale to measure message credibility. Through a within-subjects experiment, they proposed a model to measure message credibility by compiling measures entailing message credibility from previous research (e.g., Dochterman & Stamp, 2010; Kang & Yang, 2011; Metzger, Flanagin, & Medders, 2010;

Sundar, 1999 & 2008). Their study focused on message credibility regarding articles determined as highly credible or non-credible by journalists. They discovered message credibility can be measured through a rating system where participants rank a message as *accurate*, *authentic*, and *believable*. Study findings also suggest message credibility is related to other measures, such as “*authoritative, reliable, reputable, and trustworthy*” (Appleman & Sundar, p. 74). Because their scale proved to be reliable and valid, in addition to “parsimonious and theory-driven” (p. 73), Appleman and Sundar support the scale’s use outside of journalism. Thus is why we chose to adapt it to fit our study.

2.1.2.2 Relationship Between Credibility and Trust

Throughout advertising credibility literature, trust is a reoccurring concept. Soh et al. (2009) say “ad trust is a dimension of credibility” (p. 85) (i.e., trustworthiness, truthfulness, believability, etc.). Some scholars claim trustworthiness is a component of credibility (Ohanian, 1990), while others believe trust incorporates several additional factors (Doney & Cannon, 1997). As indicated by most behavioral and social science research, trust is a much deeper and complex construct compared to credibility (Soh et al.), but should be considered when making advertisement decisions. The following section explicates trust as it has been studied in advertising.

2.1.3 Advertising Trust

In a visually cluttered world (O’Connor, 2015), it is understandable how people may sometimes choose to ignore an advertisement or even find it untrustworthy. Our eyes process millions of bits of information every second, which assumes more cognitive thinking is required to process an ad with too little or too much information (Mortimer & Danbury, 2012). Mortimer and Danbury found the simpler and more straight-forward an advertisement is, the more likely it

will be trusted. A “simple” ad is one where information is “straight to the point” (Mortimer & Danbury, p. 3) and the message is clear to the viewer. The amount of information included in the ad, as well as size of the print, prices presented, and wording work together to build the ad’s message (Mortimer & Danbury). Once an ad is granted trust, then credibility is determined by the consumer. According to Fisher, Till, and Stanley (2010), “consumers want to do business with firms they can trust and that they believe will treat them fairly and honestly” (p. 133). But how do they determine whether a business is credible and can be trusted? The following paragraphs explicate the concept of trust as it relates to advertising.

Trust is a broad concept that has been conceptualized in a variety of ways depending on its context. Trust has been studied extensively by several disciplines, including behavioral and social scientists (Doney & Cannon, 1997; Johnson & Grayson 2005; Morgan & Hunt, 1994; Rotter, 1967), economics (Morgan & Hunt), and marketing (Mortimer & Danbury, 2012). According to prior conceptualizations of trust, it consists of cognitive, emotional, and behavioral dimensions (Lewis & Weigert, 1985). Morgan and Hunt defined trust as “when one party has confidence in an exchange partner’s reliability and integrity” (p. 23). For this study, we chose to look at trust as it relates to economic transactions, but also cognitive trust.

Trust serves as the basis for which customers make a purchasing decision by evaluating the uncertainty or perceived risk that goes along with a purchase (Morgan & Hunt, 1994). When evaluating trust based on economic transactions, trust is a consumer’s belief the entity selling the product will fulfill its transactional obligations (Kim, Ferrin, & Raghav, 2008). In an article written by Fisher et al. (2010), they suggested customers may rely on personal referrals to gain insight about an unfamiliar seller. Positive feedback about a business may signal the potential customer that he or she can trust the business to uphold their end of a deal when making a

purchase. Another factor relaying trust is the length of time in business (Fisher et al.; Moorman, Deshpandé, & Zaltman, 1993). If a business has been established longer, the more likely a customer will trust it. Our level of trust often determines whether we commit to a purchase or are willing to process a message. If we are willing to trust a business entity will uphold its end of a transaction, then a person would be a step closer to trusting the business in a deeper sense than solely economics.

Cognitive trust has been found to positively relate to sales effectiveness (Johnson & Grayson, 2005). In support of previous research (e.g., Johnson & Grayson), Soh et al. (2009) found trust in advertising correlates strongly with cognitive trust because it is a more extensive version of the construct seen in “continuing trust relationships with secondary groups” (p. 99), such as business relationships and social systems. This form of trust is based off predictability (Rempel, Homes, & Zanna, 1985) and reliableness (Johnson-George & Swap, 1982). It encompasses whether one will uphold financial obligations based on incomplete knowledge about the business (Johnson & Grayson). However, if a business has a strong reputation, cognitive trust can be built in fewer interactions (Johnson & Grayson). Because in some instances a potential customer may never have heard or done business with an entity, he or she must make a decision whether to trust the business. The cognitive state of trust occurs when someone assumes another’s behavior will not have negative outcomes upon him or her without actual evidence that is what will happen (Pearce, 1974). Based on a seller’s competence and reliability, cognitive trust represents a customer’s willingness to rely on the seller without requiring thought or rationale (Fisher et al., 2010). Because people cannot conduct business with every entity selling a similar product or service, customers must decide, often based on trust, whether something negative will happen.

Singh and Jain (2015) defined consumer trust as the “emotional security in terms of fulfilment of tangible (i.e., retailer, employees, products, etc.) and intangible (i.e., policies, communication, relationship quality, etc.) expectations and a belief that dealings with the firm will be reliable, dependable, and safe” (p. 971). In Soh et al.’s (2009) study, they defined trust in advertising as “confidence that advertising is a reliable source of product or service information and willingness to act on the basis of information conveyed by advertising” (p. 83). Soh et al. definition is the most relevant for the proposed study.

2.1.3.1 Trust Operationalized

Scholars examining trust have done so in several ways. Soh et al. (2009) measured trust through a series of steps that included both qualitative interviews and quantitative surveys with a variety of Likert and semantic differential scales. What resulted was a 20-item scale they named the ADTRUST Scale (Soh et al.) and has been used by other scholars studying marketing and advertising (Sæmundsson, 2012). Trust has commonly been measured through single-item measures or multiple-item scales (Menon, Deshpande, Perri, & Zinkhan, 2003; Morgan & Hunt, 1994; Ohanian, 1990). Singh and Jain (2015) attempted to create a 14-item scale measuring consumer trust in a retail store based off an extensive review of the existing literature. Trust has also been measured through open-ended questions in interviews and focus groups (Morgan & Hunt, 1994).

The ways in which trust and credibility have been measured in advertising support how important the two concepts are in the industry. Customers are more likely to make a purchase once they have developed a positive attitude toward a brand (MacKenzie et al., 1986). Potential customers may find an ad credible or trustworthy for several reasons (i.e., belief of reliability and dependability, reputation, perceived risk; motives; media source, etc.) (e.g., Johnson-George &

Swap, 1982; Kelley, 1973; Morgan & Hunt, 1994; Rempel, Homes, & Zanna, 1985; Soh et al., 2009).

Understanding how trust and credibility have been measured in advertising helps paint a clear picture of how consumers process ads. Still, the researchers strive to fill the gaps in the literature. The following section describe the types of visuals and graphic design principles used when creating ads and how a design affects the viewer's perceptions.

2.2 Visuals in Advertising

Ads are one communication strategy businesses use to create company/product awareness, establish initial impressions and particular attitudes among consumers, and ultimately persuade consumers to act. The process of creating a print advertisement is extensive and should involve a graphic designer to ensure it is visually appealing. To create an ad, many design principles should be followed and applied for optimal visual communication. What results has the power to influence the customer's first impression, and sometimes lasting impression, of the brand represented.

Previous research on visuals in advertising focuses narrowly on the visual design executed within an ad. First and foremost, an ad must be noticed for it to then be processed. Both the visual and verbal aspect of an ad are capable of eliciting a more positive attitude from the viewer (Rossiter & Percy, 1980). Rossiter and Percy defined attitude as overall preference toward the ad. Along the same line, larger ads are easier to remember (Homer, 1995). Because a larger ad is the result of paying a higher advertising cost, the advertiser is often believed to be more credible by the viewer (Moriarty, 1986).

Increased visual content in an ad (i.e., how many illustrations were used) results in increased readership (Assael, Kofron, & Burgi, 1967; Greenberg & Garfinkle, 1962, 1963).

Childers and Houston (1984) found ads containing pictures are more likely to be recalled, especially when measured over time. However, using fewer images in an ad can be just as effective as using a lot of images (Singh, Lessig, Kim, & Hocutt, 2000). Singh et al. also found increasing the number of exposures to a shorter ad resulted in greater message memory. While there are contradictory research results, more studies reveal positive results regarding visuals used in ads (i.e., illustrations, graphics, and pictures) for brand and message retention.

An important design element to mention, especially in ad layouts, is white space. White space became popular during the minimalist movement in the mid-twentieth century (Pracejus, Olsen, & O'Guinn, 2006). Increased white space is effective at clearing the clutter in an ad (Feasley & Stuart, 1987), resulting in the ad being noticed because it helps direct the eye (Olsen et al., 2012). Design creatives believe the use of white space is a desired artistic goal (Olsen et al.). Many ads are visually cluttered with text and visual elements, but the use of white space creates contrast because “white space ads look different and are easily set apart from the background” (Olsen et al., p. 858). White space also implies quality (Homer, 1995; Olsen et al.; Pracejus et al.). In modern advertising, white space alludes “trust, integrity, reliability, quality, fashionable, nature, leadership, elite nature, modern, and upscale” (Olsen et al., p. 858). Olsen and colleagues found study participants identified products where white space should be used most often and they answered, “all products” (p. 858). In advertising, white space is not as utilized as it should be because of how much advertisers are investing to place an ad on a page. Client-based concerns are the most frequent issues design creatives experience because clients think since they paid to have a large ad, they must fill the space entirely (Olsen et al.). While previous research regarding white space or empty space surrounding an image will increase an ads effectiveness at reaching the viewer how it is intended (Pracejus et al.), a recent study by

Kwan, Dai, and Wyer Jr. (2017) found contradicting results regarding text and empty space (i.e., white space). A message surrounded by empty space is less persuasive and the viewer is “less likely to act on its implications” (Kwan et al., Abstract, p. 448). While white space should strongly be considered during creation of an ad, it must be used appropriately to be effective. Below is an example of how white space can be used when placing text on a page. Whenever text has a lot of white space it is set apart and separated from other information. White space does not have to be established through an outline; it can be established by how far away, or the proximity, other text is positioned.

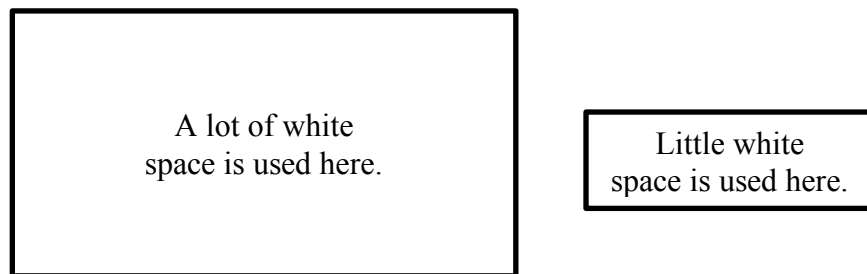


Figure 2. White space. Examples of space manipulation when creating white space around text.

Existing research lacks attention to investigating specific design principles. The following section will first outline the proposed study’s independent variables: unity, emphasis, and perceptual forces. The end of this section will discuss previous research supporting the impact a design has on a person’s perception of trust and credibility.

2.2.1 Design Principles

“Vision trumps all the senses. Half of the brain’s resources are dedicated to seeing and interpreting what we see. What our eyes physically perceive is only one part of the story. The images coming in to our brains are changed and interpreted. It’s really our brains that are “seeing” (Weinschenk, 2011, p. 1).

More than anything else, humans see. We constantly use our vision to see and take in information, making graphic design a critical concept in advertising. The principles comprising a strong design are essentially the different parts that, when combined, create visual art. The principles of design are “formal rules and concepts for optimizing the arrangement and presentation of two-dimensional visual elements” (Costello, Youngblood, & Youngblood, 2013, p. 114). For clarification, a design is comprised of “elements” and “principles”. Costello et al. explains it as recipe: the elements of design are the “ingredients” used together to create visual art and principles are the recipe for “combining elements within a visual space” (p. 114). Broad categories of principles can be determined (unity, emphasis, and perceptual forces), each of which are comprised of individual principles. The following paragraphs discuss in detail the design principles that fall into each category.

2.2.1.1 Unity

The concept of unity can be thought of like the common saying, “the whole is greater than the sum of its parts” (Costello et al., 2013, p. 114). Each individual part of a design works in harmony to create a unifying effect without distracting the viewer from the point of interest (Costello et al.). As humans, we see items placed close together as if they belong together (Hekkert, 2006; Weinschenk, 2011). When parts of the design are disorganized, it takes the viewer longer to make sense of what they are seeing, but when information is well organized, the

brain can quickly interpret the message. Thus, the cognitive burden is reduced. The unity principle of a design becomes important in the design of an advertisement. Unifying principles include proximity, alignment, similarity, and repetition (Costello et al.).

The law of proximity refers to the idea that similar objects are more often perceived as such when placed closely together (Costello et al., 2013). Proximity is one of the primary principles outlined in Gestalt theory (Graham, 2008; Todorovic, 2008), which will be discussed later in this section. An example by Costello et al. representing proximity are results from the Google search engine. Whenever Google returns a list of results from a search, it is organized in a way that the viewer can quickly see which bits belong together based on the spacing of the information.

Proximity helps organize information within an ad making it easier for the viewer to understand the intended structure (Cutrer, 2011). According to Graham (2008), whenever irregular spacing in a list of words or body of text exists, the reader may “interpret textual materials in unexpected ways” (p. 4). White space, or negative space if it is black, is a primary component related to proximity. Too much white space between components in a design may cause the viewer to not make the connection (Costello et al., 2013). However, clutter may occur when not enough white space is utilized, which makes it difficult for the viewer to see each individual design element as its own source of information. Clutter often causes the viewer to not know where to look first and dismiss an ad. Objects should be placed close together on a page without over-crowding but leaving enough white space for the viewer to know which items go together based on proximity (Graves, 2005).

Alignment encourages a designer to place items that go together along a common edge, whether visible or implied (Costello et al., 2013). The visual objects can consist of text or

graphics. Text is often aligned left, right, center, or justified (Graves, 2005; Costello et al.). Within a single design, the alignment of such objects needs to be consistent. An example from Costello et al. is when mixing graphics with text. If a graphic is used in the design, then the caption should be left aligned with the left edge of the graphic to achieve a sense that the two belong together.

According to Costello et al. (2013), “the law of similarity states that the brain will perceive visual objects as belonging together when their style attributes are similar and uniform” (p. 116). Graham (2008) points out when talking about Gestalt theory that even if items are spatially separated, they can still be seen as belonging together if they are similar in shape, size, color, proximity, and direction. A lack of similarity may result in poor organization and hurt the readability of the text. If objects are styled similarly, then they will more likely be recognized as part of a group. This does not mean designers should style all text in a design the same (Costello et al.). Quite contrarily, it means designers should take advantage of creating emphasis through varied styling techniques.

Repetition is closely related to similarity, but is more focused on repeating visual components, such as lines, colors, shapes, and patterns (Costello et al., 2013). Whenever the visual elements in a design are repeated, it strengthens the design’s unity. Costello et al. emphasize repetition’s role in branding to help the viewer recognize when a design is representing a specific brand. Repetition can be implemented by using the same fonts, graphics, colors, and shapes throughout a design to help create a cohesive look (Cutrer, 2011).

Because our eyes receive input every second, our ability to recognize a pattern helps make quick sense of what we are seeing (Weinschenk, 2011). Because repetition is naturally occurring in the world around us, our “eyes and brain want to create patterns, even when no real

patterns” (Weinschenk, p. 7) are there to be seen. When creating a design, it is good to use patterns often, since we naturally look for them. Below is an example of a repeating pattern. Once our eyes see a pattern, we expect it to repeat.

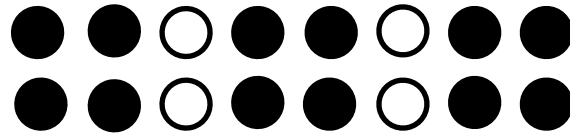


Figure 3. Simple example of repetition.

2.2.1.2 Emphasis

The principle of emphasis revolves around the idea that a design has a primary focal point (Costello et al., 2013). A viewer’s eye is drawn to the main subject or message in a design based on emphasis. A headline is a good example of emphasis in a design because it is typically a larger or bolder font size, which catches the viewer’s attention (Costello et al.). Principles that create emphasis include contrast, color, depth, and proportion (Costello et al.).

One of the key principles in a design is contrast. Contrast also helps us see the “dissimilarities between features or objects that are close, but do not belong together” (Hekkert, 2006, p. 167). When viewers can identify objects in a design, it helps the complex process of perception, which allows us to process visual data (Goldstein, 1996; Hoffman, 1998; Livingstone, 2002; O’Connor, 2015). Contrast is one of the easiest ways to create emphasis (Costello et al., 2013) and reflects how 2 or more colors interact (Graves, 2005). High contrast occurs when colors are nearly opposite of each other and are easily distinguished, such as black on white (Graves). Low contrast occurs when colors are nearly the same shade and often the design elements become hard to read (Graves). O’Connor claims lighter colored text against a darker background makes it appear to advance, while darker colors on lighter backgrounds

appear to recede. Each of the components can be perceived as two separate segments “differing not only in color, but in some other phenomenal characteristics as well” (Todorovic, 2008). Our eyes naturally are attracted to contrast in our environment (O’Connor). The following figure illustrates the difference in legibility when using different levels of contrast.



Figure 4. Contrast example. Example of color contrast.

In visual design, color plays a powerful role in creating emphasis. Different manipulations of color can create emphasis and unity, while also conveying additional meaning (Costello et al., 2013) Although, it is worth noting colors do not carry universal meanings; the context in which the color is used is more important (Elliot & Maier, 2014). For example, red is seen as threatening when viewed on an opponent and “evokes avoidance-relevant affect, cognition, and behavior” (Elliot & Maier, p. 109). However, red elicits “positive, appetitive meaning when seen on a potential mate and facilitates approach-relevant responding” (Elliot & Maier, p. 109). In consumer marketing, color plays an undeniable role in consumer behavior (Sable & Akay, 2011). When used in stores, blue posits relaxation, reduced crowds, and trustworthiness (Alberts & van der Geest, 2011; Gorn, Chattopadhyay, Sengupta, & Tripathi, 2004; Lee & Rao, 2010, Yuksel, 2009). Unsurprisingly, blue is one of the most commonly used colors for logos (Labrecque & Milne, 2013). Whenever a price of a product is shown in red text, it is assumed there are greater savings than when the price is shown in black (Puccinelli, Chandrashekar, Grewal, & Suri, 2013). Colors used for certain products are also better perceived when the color is associated with the product. For instance, blue is associated with

functional products and water, while red is preferred for luxury items (Bottomley & Doyle, 2006; Hanss, Böhm, & Pfister, 2012; Ngo, Piqueras-Fiszman, & Spence, 2012). By understanding how the consumer interprets different colors, designers can create a captivating visual that elicits a specific response.

In livestock advertising, and all advertising, the use of color increases the chances that an advertisement will be not only noticed, but also retained (Cutrer, 2011). In publications where hundreds of pages and possibly hundreds of advertisements from other producers are present, increasing the chances of being noticed becomes very important so the viewer actually processes, rather than dismisses, the information in the ad.

Another aspect of color important to mention is the use of photographs. In advertising, the use of colored photographs in an ad has been shown to help in the processing of information, but black-and-white ads resulted in more favorable product attitudes (Meyers-Levy & Peracchio, 1995). However, when a consumer lacks motivation to process an ad, then “the use of full or partial color in the ad spawns more favorable product attitudes” than a completely black-and-white ad (Meyers-Levy & Peracchio, p. 134). Using photographs of the actual product in an ad also encourages people to stop turning pages and look at the ad, which could then provide an incentive to contact the business (Cutrer, 2011). In the cattle industry, choosing to use or not use a photograph could make or break any ad (Cutrer) because the products being offered are almost always live cattle and phenotype is important.

Another design principle under emphasis is depth. In graphic design, Costello et al. (2013) describe how depth of field can be created by using techniques such as drop shadows, lighting, and perspective to a graphic. Depth can also be exhibited by the size of an image or

illustration and its placement in relation to another image. In Gestalt principles, depth of field is paramount in figure-ground segregation (Costello et al.), which is discussed in a later section.

Finally, scale also creates emphasis in a design. The scale of an object in relation to other elements in a visual design establishes its proportion within a composition (Costello et al., 2013). We perceive an object's size relative to its position and size compared to other objects in the image. By making an image smaller, it appears to be further away. On the contrary, increasing the size of an image makes it appear closer. Position of the object in an image also impacts our perception of its proportion. Objects near the top of the screen appear to be further away, while objects placed near the bottom of the screen seem to be closer (Costello et al.). The proportion of objects in a design may also make the viewer think a larger object is better or more important than a smaller object in the same ad.

2.2.1.3 Perceptual Forces

The perceptual forces we experience when viewing a visual design derive from psychology. Costello et al. (2013) claim “our brains are constantly processing the relative push and pull of perceptual field forces within the visual space” (p. 121). Visual perception begins with the eye. It receives incoming information from light-waves, which is received by rod and cone receptors embedded in the human retina (Goldstein, 1996; Kolb, 2003). Perceptual forces tend to draw heavily from Gestalt psychology research.

During the 1920s, Gestalt psychology was developed by three German psychologists, Wertheimer, Koffka, and Kohler (Graham, 2008). Gestalt theory explains why “shifts in spacing, timing, and configuration can have a profound effect on the meaning of presented information” (Graham, p. 1). Many graphic designers apply Gestalt when creating visual communication

products to account for a greater understanding and interpretation of the message embedded in the design.

As humans, we experience perceptual forces through the principles of balance, continuation, figure-ground, and psychological closure (Costello et al., 2013). Balance in a visual design can be achieved when both sides of the frame have equal visual weight (Costello et al.). Elements affecting how we view the balance include size, color, and the position of graphics. Obtaining a balanced composition can be done through the symmetrical or asymmetrical approach.

Symmetrical balance is achieved when “objects of similar shape, color, and size are weighted equally on opposite sides of the frame” (Costello et al., 2013, p. 122). Symmetrical compositions of a design are predictable and typically less creative. An asymmetrical balance is achieved when “objects of differing size, color, and tone” (Costello et al., p. 122) are in off-centered positions. Following the rule of thirds can achieve asymmetrical balance (Composition Study, n.d.). Below is an example of how to take a photo using the rule of thirds.



Figure 5. Rule of thirds example. This figure illustrates the rule of thirds when used in photography to balance a photo asymmetrically.

The law of continuation describes the way human brains process what we see as “predictable, and free of obstacles, and that don’t abruptly change direction” (Costello, et al., 2013, p. 124). Continuation serves as a directional force within a design, drawing our eyes through a design. In Gestalt theory, the human eye is naturally drawn to these connections between shapes (Graham, 2008). Continuation is often most utilized to create visual hierarchy in a design.

In advertising, continuation can be achieved through the Ogilvy or Z-layout. Made famous by advertising expert David Ogilvy, the Ogilvy method is a successful, basic design that focuses on five elements: visual, caption, headline, copy, and signature (Bear, 2017). The ad needs to arrange information in order of most important from top to bottom (Bear), where the headline may be at the top, followed by a photo, text, call-to-action, and then the signature or logo (Bear; Cutrer, 2011). In beef seedstock ads, this form of advertising is often popular for sire ads. The Ogilvy layout is a good example of using a grid system to organize information. The grid system is useful when information can be broken into smaller, editable parts on horizontal and vertical lines (Costello et al., 2013). Another form of layout is the Z-layout. As the viewer looks at the page, the information and attention start at the top left corner, moves across the top to the right, diagonally down the page, then finishes at the bottom right corner, thus causing the eyes to move across the page in a Z-format (Costello et al.; Cutrer). For ads that contain multiple photos, the Z-layout may be the better option.

Figure-ground is a fundamental law in Gestalt theory because it helps viewers identify objects or words in a design. It can be articulated as two components, the *figure* being an object and the *ground* that surrounds it. Figure-ground relies heavily on contrast (Graham, 2008). Whenever figure-ground is successfully achieved, the viewer is easily able to distinguish the

elements in the frame leaving them less confused and overwhelmed (Costello et al., 2013).

Figure 6 illustrates a common example of figure-ground. Initially some people may see a vase, whereas others see two faces staring at each other.



Figure 6. Figure-ground example. This figure illustrates figure-ground when used in design (Costello et al., 2013, p. 125).

Eyes are constantly taking in sights and sending information to our brain, which “processes it and gives you a realistic experience of ‘what’s out there’” (Weinschenk, 2011, p. 2). Psychological closure refers to the ability of our brains to complete gaps in a design (Costello et al., 2013). Psychological closure is our brains working to create meaningful order out of chaos. According to Graham (2008), humans have a “natural tendency to close gaps in a form, especially in familiar forms... we will focus on what is present, ignore the missing parts, and fill in the gaps” (p. 7). People create these shortcuts to quickly make sense of the world; it draws on past experiences to guess what is being seen (Weinschenk). Figure 6 illustrates closure through Kaniza’s Triangle to suggest a triangle is laid over the three circles.

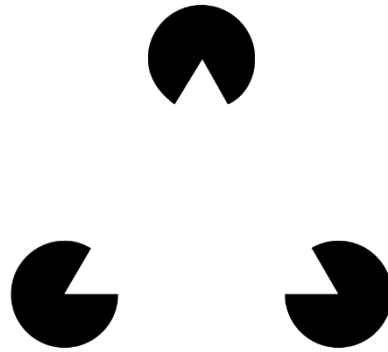


Figure 7. Closure example. This figure illustrates closure in a design (Costello et al., 2013, p. 126).

2.2.2 Graphic Design Effects on Trust and Credibility

Research has shown the use of visual imagery in advertising can positively increase consumers' attitudes along with verbal content (Rossiter & Percy, 1980). To my knowledge, little literature exists investigating how the visual design of a print ad effects the viewer's perception of trust and credibility. However, sufficient scholarly research supporting this idea in website design is available.

The relationship between trust, credibility, and graphic design is limited in the literature. However, literature regarding attitudes formed based from the design of websites has been published. Specifically, Sillence, Briggs, Harris, and Fishwick (2006) conducted a longitudinal study with participants who had been diagnosed with hypertension to investigate the trust or mistrust in health websites based on design factors. Participants rejected a health website as being untrustworthy, where 83% of the comments related directly to design factors (i.e., poor first impression of look and feel, color, text size, layout, etc.). Although the health website may

have been deemed as untrustworthy initially, participants made final decisions to trust a website based off the content. Although this example is based on the design of a website, it emphasizes the importance the design can make on a person's first impression. In some instances, the viewer's first impression of a poor design may result in he or she dismissing and ignoring the information.

While Kuzheleva-Sagan and Suchkova (2016) investigated how trust is generated through graphic design on the Internet, graphic design is still visual art whether it is printed or viewed on the Internet. According to Kuzheleva-Sagan and Suchkova, the practitioners of Google Material Design generate trust in a virtual environment through graphic design when they practice "realism, predictability, and simplicity" (p. 387). The use of color, graphics, corporate design, high-quality illustrations, etc., result gained trust (Kuzheleva-Sagan & Suchkova).

Research supports that when website content is presented in varying levels of aesthetic treatment, content perceived as highly aesthetic is thought to be more credible (e.g., Robins & Holmes, 2008). Robins and Holmes termed this the *amelioration effect*. When a person is given the same content in multiple treatments, the one with higher aesthetic appeal will be perceived with increased credibility. This occurred within seconds of seeing a treatment (Robins & Holmes).

2.3 Hypothesis and Research Questions

Although no literature was found supporting the same for print advertisements, because design has been proven to affect a consumer's perception of trust and credibility in a website we believe the same may apply to print ads. Based on the literature review, we offer the following hypotheses and research question:

Hypothesis 1: Strong use of unity principles will result in higher levels of brand trust relative to weak use of unity.

Hypothesis 2: Strong use of emphasis principles will result in higher levels of brand trust relative to weak use of emphasis.

Hypothesis 3: Strong use of perceptual force principles will result in higher levels of brand trust relative to weak use of perceptual forces.

Hypothesis 4: Strong use of unity principles will result in higher levels of ad credibility relative to weak use of unity.

Hypothesis 5: Strong use of emphasis principles will result in higher levels of ad credibility relative to weak use of emphasis.

Hypothesis 6: Strong use of perceptual force principles will result in higher levels of ad credibility relative to weak use of perceptual forces.

Research Question 1: Does the use of strong graphic design principles result in different levels of trust and credibility with the viewer?

The use of “strong” design is determined by applying the design principles comprising unity, emphasis, and perceptual forces. The researcher will create the stimuli for the proposed experiment by implementing entirely or not at all each of the design principles in the ad. “Weak” design principles will be the result of lack of design principles being applied in an ad’s design.

Most evidence from the advertising and visual communication literature supports making these hypotheses; however, other literature points to the importance of the cultural fit of ads to their intended audiences. Although not under direct examination in the proposed study, the cultural aspect of the design of beef seedstock ads is relevant for discussion. As mentioned earlier, we wondered whether the current design practices may be effective with target audiences

because they demonstrate livestock/agriculture cultural acuity, and perhaps convey a sense of belonging to the social group. A social group's beliefs, values, and norms refers to the knowledge shared by a culture and everyone in the cultural group (D'Andrade, 1987; Resnick, 1991; Rose, 2001). The dominant culture of a society can be further broken down into subcultures (Brumbaugh, 2002). Brumbaugh examined the effects source and nonsource cues in advertising have on cultural and subcultural knowledge. Source cues relate to the people featured in an ad (i.e., race, hairstyle, facial structure, etc.), while nonsource cues are unrelated (i.e., background, language, etc.). Brumbaugh's experiment results shows ads containing both the dominant culture and subculture source and nonsource cues make viewers feel a connection with the ad and develop a more positive attitude toward the ad. Interestingly, whenever a viewer's dominant culture was presented alongside a subculture's nonsource cues, the viewer was unfazed by the subculture nonsource cues. Similar results have been seen through advertising professionals. To target a specific audience, ads need to tap into their cultural values, demographics, and schemas (Smith et al., 2015).

Although the proposed study is not measuring the effect culture has on attitude toward the ad, it is a driving force behind why the researchers chose this research topic. Farmers and ranchers, the population for this study, can be identified as a subculture within the dominant American culture. Ads used in marketing beef seedstock cattle often employ similar designs, eliciting a nonsource cue effect, which could potentially explain why these ads are not following modern advertising design aesthetics and principles.

2.4 Trust and Credibility Effects on Behavior

Trust has been studied as it stems from people's attitudes and emotions (e.g., Fishbein & Ajzen, 1975; Jones & George, 1998; Komiak & Benbasat, 2006). In this realm, trust can have an

impact on someone's intention to do something. In their theory of reasoned action, Fishbein and Ajzen determined someone's behavior can be predicted by his or her intention. Here, intention is influenced by the attitude and subjective norms toward the behavior. Komiak and Benbasat conceptualized cognitive trust as a belief and used their study to understand a person's intentions. Their findings supported that trust positively effects intentions. These studies prove a person's trust in something can influence their intention to perform a specific behavior, such as seek information.

Credibility has been studied in close relation with purchase intentions (e.g., Flanagin, Metzger, Pure, Markov, & Hartsell, 2014; Wang & Yang, 2010). In many studies, source credibility is under investigation (i.e., product endorser or spokesperson). Hu and Sundar (2009) studied the effect credibility of online health sources has on behavioral intentions. Their research showed people were more likely to find a health website more credible and had greater behavioral intentions toward its information. Similar to trust, how credible a person finds information, whether online or printed, can also help determine their intention to perform a behavior.

With the previous studies supporting that attitudinal and emotional aspects of trust and credibility can predict behavior, we chose to apply it in this study by looking at viewers' intent to seek more information. While research on purchase intention is easy to find in advertising literature (e.g., Brown, Pope, & Voges, 2003; Chang & Chen, 2008; Laroche, Kim, & Zhou, 1996), the intent to seek more information about a product or brand has not been widely studied. The purpose of this study is not to better understand whether the potential customer has intentions to make a purchase, but rather do they have intentions to learn more about the brand and product. The following section discusses information-seeking behavior.

2.4.1 Information-seeking Behavior

Trust and credibility are primarily seen as emotional constructs but can also relate to a behavioral perspective. Moorman, Deshpandé, and Zaltman (1993) incorporated the behavioral aspect of trust when they conceptualized the construct. A willingness to act in some form or fashion relates the behavioral intentions based on trust (Morgan & Hunt, 1994). It seems the next logical step in the decision-making process after encountering an ad is whether the consumer will seek more information about the brand and product.

Information-seeking behavior has been studied by many disciplines, including economics (e.g., Ratchford, 1987; Rosen, 1978; Weitzman, 1979), politics (e.g., Faber, Tims, & Schmitt, 1993; Kaid, 2002; Valentino, Hutchings, & Williams, 2004), psychology (e.g., Bauer & Green, 1998), and advertising and marketing (e.g., Kiel & Layton, 1981; Punj & Staelin, 1983). The first model examining information-seeking behavior was developed by Krikelas (1983). He suggested information proceeded by first perceiving a need, searching for information, finding information, and then using the information to make a decision, which results in satisfaction or dissatisfaction (Krikelas; Weiler, 2005). This model exhibits information-seeking behavior at its most fundamental level. A second model by Kuhlthau (1991) employed a similar model, except it also considered the thoughts, feelings, and actions that occur during the information-seeking process.

The actual process of information-seeking is hard to explain because of the highly complex factors involved in the information-seeking process (Weiler, 2005). The actual act of information seeking is a subjective process, which requires prior knowledge, opinions, and cognitive thinking (Weiler). Perhaps one of the most complex models on information-seeking is from Eisenberg and Berkowitz (1992). Their model is nonlinear and includes the “Big Six

Skills” of task definition, information seeking, implementation, use, synthesis, and evaluation (Eisenberg & Berkowitz; Weiler).

The proposed study relies more on intention to seek information after being presented an ad. Whenever a consumer is seeking information about a specific product, they have motives behind their search. Consumers seek information to make a “better, more satisfying purchase decision” (Punj & Staelin, 1983). According to Kiel and Layton (1981), information-seeking behavior consists of five dimensions – time, retailer, media, interpersonal, and deliberative search. Compared to studies before, Kiel and Layton’s study revealed the relationship between search behavior and its predictors is complex.

The sources which people go to for information can include “retailer search, media search, and interpersonal search” (Kiel & Layton, 1981, p. 234). Retailer search refers going to the specific advertiser or seller of the interested product or service to acquire additional information. Advertising alone can be used as a source of information (Nelson, 1974). The information conveyed through an ad may be enough to persuade the viewer towards making a purchase decision. If not, the consumer may go ahead and search additional media or other people. Whenever a consumer conducts a media search they are turning to online, radio, or television sources to learn more about the brand or product. An interpersonal search refers to when people seek information from other people, most often being family and friends (Nelson). If a consumer does choose to seek information from personal sources, then they will less likely respond to advertising.

Brand research is conducted to help the consumer understand the personality and expectations of a potential purchase. The time dimension refers to the length of time consumers seek any information about a product (Kiel & Layton, 1981). In the case of this study, social

validation may play a pertinent role in the intent to seek more information. Social validation refers to seeking information from “social objects, persons, and groups” (Jucks & Thon, 2017, p. 375). People in the beef industry may seek information about a brand from members of breed associations, other local producers, and industry professionals.

The search for new information may be shortened if a purchase decision needs to be made immediately (Engel, Blackwell, & Kollat, 1978). Costs associated with acquiring information (i.e., indirect and direct) may also shorten the information-seeking process because the consumer may not want to spend money traveling or dealing with an incompetent salesperson (Downs, 1961). The number of available products the consumer is interested in may also limit information-seeking behavior because it may help the consumer establish a cut-off or elimination between products (Punj & Staelin, 1983).

A consumer’s information-seeking behavior may be better understood through the purchase’s economic incentives (Ratchford, 1982). In this form of behavior, it is believed consumers select one brand from a list of several alternatives offering similar products or services (Ratchford; Rosen 1978). A consumer may conduct a search to learn more information about a product’s costs and benefits and then decide based off optimal amount of information obtained or the consumer may make a choice based on the least-cost method of seeking information (Ratchford). Several variables (i.e., advertising, store visits, personal sources, or consumer reports) contribute to a consumer’s information-seeking behavior to determine the best choice among many products (Ratchford). Beef seedstock producers’ customers may seek information through advertising, ranch visits, telephone calls, and personal connections.

In a study conducted by Kiel and Layton (1981), they closely examined individual predictors indicating a consumer’s search behavior. They found consumers can be characterized

by their search behavior: low searchers, high searchers, or selective searchers. In the case of ranchers, if a cattle producer already has an established relationship with a seedstock breeder then they will more likely be categorized as a low searcher because they are not looking for other breeders to purchase bulls. In the case of the proposed study, the sample could also be characterized as selective searchers because they may only be looking for Angus breeders. In the beef industry, if one producer wants to know more information about a specific brand (i.e., ranch) then he or she will most likely make a phone call to a source they trust.

According to the book *100 Things Every Designer Needs to Know About People* (Weinschenk, 2011), when it comes time for people to seek information, they are “inherently lazy” (p. 132). People want to perform the least amount of work when completing a task. However, once we decide to seek information, dopamine – a hormone created by the human brain critical to brain functions such as attention, thinking, moving, motivation, seeking, and reward – fuels our search for information (Weinschenk). It causes people to “want, desire, seek out, and search” (Weinschenk, p. 121). Weinschenk argues if you make information easy to find, people will engage in more information-seeking behavior.

2.4.2 Information-seeking Behavior Operationalized

When writing a paper about the evolution of information-seeking literature, Weiler (2005) found few studies examining information-seeking behavior qualitatively (e.g., Borgatti & Cross, 2003; Young & Seggern, 2001). Several quantitative studies investigating information-seeking behavior exist (e.g., Kiel & Layton, 1981; Punj & Staelin, 1983). Many measured information-seeking behavior through scales (e.g., Borgatti & Cross; Locander & Hermann, 1979).

Borgatti and Cross's (2003) study examined more closely how people seek information from relationships. Not only did they conduct focus groups with researchers in information science and a global pharmaceutical organization, but they also conducted electronic surveys to all participants. Their study provided more information about the relational characteristics that urge information seeking: "(1) knowing what another person knows, (2) valuing what the other person knows in relation to one's work, and (3) being able to gain timely access to that person's thinking" (Borgatti & Cross, p. 440). This study points out that people like to go to others for information when they know the kind of response they will receive.

Based on the literature discussed above, information seeking behavior can be fueled by a customer's perception of trust and credibility of a brand. If a person desires to make a large purchase, he or she will typically want to do their own research to find the best deal or product (Krikelas, 1983; Weiler, 2005). Once a potential customer finds the information, they are more satisfied with a purchase decision (Punj & Staelin, 1983).

Contrary to consumer purchasing behavior, intent to seek information about a brand or product is less understood. For this reason, we are interested in the following research questions:

Research Question 2: Does the viewer of an advertisement have a different intent to seek information from the brand represented in an ad when controlling for perceptions of trust and credibility?

To summarize, we expect to find a relationship between individual design principles (unity, emphasis, and perceptual forces) and viewers' attitudes toward the beef seedstock ad (trust, credibility, and intent to seek more information). The following chapter will describe the research method chosen for the proposed study and data collection procedures.

CHAPTER 3. METHODS

To investigate the hypotheses and research questions, a post-test only with control group experimental design was used to analyze how the design and layout of a beef seedstock print ad influences producers' evaluations of the brand and product advertised and behavioral intentions. The experiment involved the following independent variables: unity, emphasis, and perceptual forces. The independent variables were manipulated using six print advertisements representing the stimuli as: strong unity, weak unity; strong emphasis, weak emphasis; strong perceptual forces, and weak perceptual forces. Additionally, the questionnaire included the dependent measures – trust in the brand, credibility in the ad, and intent to seek more information. To operationalize the dependent variables, semantic differential and Likert-type scales were used. Table 1 outlines the design of the experiment and each experimental group. The control group did not receive an ad. Dependent measures questions were phrased in a way that would allow control group subjects to respond on the basis of the brand description alone.

Table 1. Breakdown of experimental design

Group	Random Assignment	Stimulus	Output
1	R	X _{1a}	O ₁₋₃
2	R	X _{1b}	O ₁₋₃
3	R	X _{2a}	O ₁₋₃
4	R	X _{2b}	O ₁₋₃
5	R	X _{3a}	O ₁₋₃
6	R	X _{3b}	O ₁₋₃
Control 7	R		O ₁₋₃

The following list defines each stimulus used in the experiment as shown in Table 1, which are further discussed later in the independent variables section.

X_{1a} – Strong unity design

X_{1b} – Weak unity design

X_{2a} – Strong emphasis design

X_{2b} – Weak emphasis design

X_{3a} – Strong perceptual forces design

X_{3b} – Weak perceptual forces design

The following list defines the expected outcomes from the hypotheses and research question expected for the experiment. How the researcher intends to measure each of the outcomes is further outlined in the dependent variables section later in the chapter.

O₁ – The design of the ad influences the viewer's trust in the brand.

O₂ – The design of the ad influences the viewer's credibility in the ad.

O₃ – The design of the ad influences the viewer's intent to seek more information.

According to Campbell and Stanley (1963), a post-test only with control group experimental design has been used since roughly the 1920s. Because a post-test only experiment can be delivered to participants in one sitting, maturation and history experienced by participants is equally affected (Wimmer & Dominick, 2013). This was also a favorable design because it helps reduce participant bias and sensitizing subjects (Wimmer & Dominick). Experiments are known to implement the strongest design in support of internal validity because of the cause-effect nature (Trochim, 2006). Similarly, Wimmer and Dominick claim experimental designs allow the researcher to have more control over confounding variables and thus can determine causal relationships. As with any study, experimental designs also have limitations, such as generalizability and researcher bias (Campbell & Stanley; Wimmer & Dominick). External validity for this study will be addressed through randomization of participant assignment to the

comparison groups, which will be further discussed later in this chapter (see Sample and Recruitment).

3.1 Instrument and Variables

Trust, credibility, and intent to seek more information were the variables used to measure how the design and layout of an ad influences the viewer's evaluations of the brand and a print ad among Angus cattle producers and beef industry professionals. Before being exposed to the stimulus, participants read a brand description (Figure 11) allowing them to become familiar with the featured brand. The brand – Glory Angus Ranch– was a fictional ranch developed by the researcher for the purpose of this study. Glory Angus Ranch was chosen by searching for ranch names until there were no Google hits or websites for the chosen name.

3.1.1 Independent Variables

For this experiment, three independent variables were used drawing from graphic design literature – unity, emphasis, and perceptual forces. Each variable was implemented as a separate design piece, with two levels of each – strong unity (X_{1a}), weak unity (X_{1b}); strong emphasis (X_{2a}), weak emphasis (X_{2b}); strong perceptual forces (X_{3a}), weak perceptual forces (X_{3b}).

Unity of a design was measured as one independent variable. Drawing from the literature, unity is comprised of proximity, alignment, similarity, and repetition (Costello et al., 2013). Each of the principles comprising unity were manipulated in the visual design of an ad to result in what was considered a “strong” representation and a “weak” representation. The first stimulus (X_{1a}) represented strong unity and was used as the stimulus for the first experimental group. It implemented a consistent typography, uniform text alignment, similar text styles within paragraphs and lines, and repetition using lines, spacing, fonts, and colors (Figure 8). The second stimulus (X_{1b}) represented weak unity and was used as the stimulus for the second experimental

group. Although the color scheme was consistent between all stimuli, the design was manipulated by adjusting the proximity of the copy, text was assigned varying font sizes, similarity was disrupted by using different fonts and colors within a paragraph, and alignment and repetition was not consistent (Figure 8).



Figure 8. Unity stimuli. The ad on the left exemplifies strong unity (X1a) and the ad on the right exemplifies weak unity (X1b).

The second independent variable in this experiment was emphasis, which is comprised of contrast, color, depth, and proportion (Costello et al, 2013). Emphasis was executed as “strong” emphasis and “weak” emphasis. The third stimulus (X_{2a}) was shown to the third experimental group. Strong emphasis was developed by creating contrast in the text through color and font size to create headlines emphasizing important information in the ad. Depth was already implemented in the ad because the photo of the bull has a shallow depth of field, but a drop shadow was added to the transparent box over the picture providing the pictured bull’s registered

name. Text was also proportionally distributed to create greater emphasis on important parts of the copy (Figure 9). The fourth stimulus in the experiment (X_{2b}) was shown as a stimulus for the fourth experimental group. Weak emphasis was created styling the text the exact same throughout the entire ad (Figure 9).

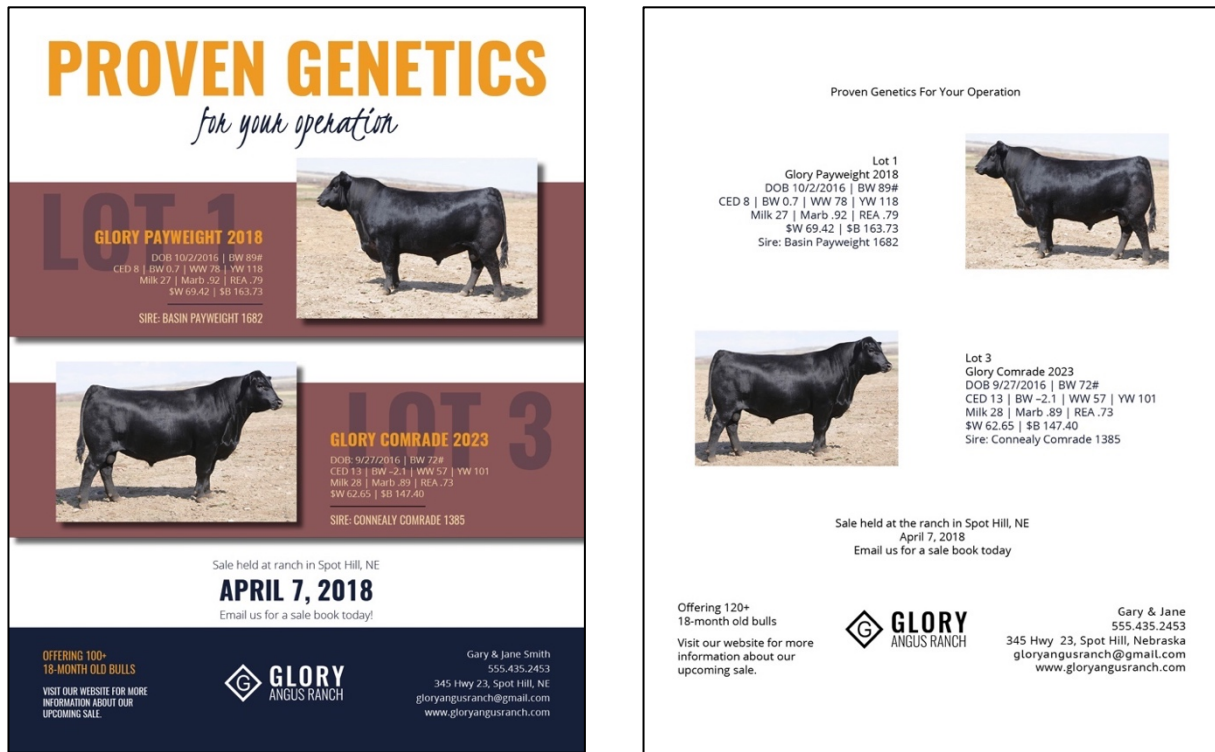


Figure 9. Emphasis stimuli. The ad on the left shows the use of strong emphasis (X_{2a}) and the ad on the right shows the use of weak emphasis (X_{2b}).

The third independent variable was perceptual forces. Perceptual forces are implemented in a design through balance, continuation, figure-ground, and psychological closure (Costello et al., 2013). Two designs were created to exhibit “strong” and “weak” perceptual forces. The fifth stimulus (X_{3a}) representing strong perceptual forces was shown to the fifth experimental group. Strong perceptual forces were exhibited by implied closure in the text at the top of the ad, similar styles used throughout the page, strong figure-ground employed through contrast in the white

background and dark text, and symmetrical balance (Figure 10). The sixth stimulus (X_{3b}) represented weak perceptual forces. Weak perceptual forces were created by adding a bold and distracting background. This made it difficult for the viewer to distinguish the figure (i.e., text) from the ground (i.e., background image) because of lacking contrast. The page was also unbalanced because all text and images are left aligned (Figure 10).



Figure 10. Perceptual forces stimuli. The ad on the left utilizes strong perceptual forces (X_{3a}), while the ad on the right shows weak perceptual forces (X_{3b}).

The control group in the experiment was shown a stimulus. Participants in the control group were asked to answer the questionnaire after reading the brand description (Figure 11). The brand description below provides a brief summary of who the brand is represented in the ad and how long they have been producing Angus cattle.

Glory Angus Ranch is a fifth-generation ranch located in Spot Hill, Nebraska. Gary and his wife Jane work together with their three kids and hired-hand to manage a 600-head Angus seedstock cowherd. They are long-standing members in the American Angus Association and dedicate their time to improving the genetics of their herd so they can sell quality bulls to commercial cattlemen and other seedstock producers.

They focus on raising functional, stout, pasture-ready bulls. No matter what you are looking for, Glory Angus Ranch has a bull for you – calving-ease, growth, maternal traits, and docility. All of their cows are bred through artificial insemination to proven bulls ranked in the top 10 percentiles for maternal, growth, carcass, and docility traits within the Angus breed.

They sell approximately 150 bulls a year to stockmen primarily throughout the Midwest. Before bulls are offered for sale, they must pass a rigorous bull test to make sure they are fit and ready for the job. Every spring, the family holds a production bull sale, at which time they sell most of their bulls. Additional bulls are sold private treaty.

Figure 11. Brand description. This figure outlines the brand description all subjects were shown.

3.1.2 Dependent Variables

The dependent variables in this study included brand trust, ad credibility, and intent to seek more information. Trust and intent to seek more information were measured drawing from previously used scales and questions summarized and cited from scholarly literature in Bruner's (2012) Marketing Scales Handbook, but word choice was slightly altered to fit the current study. Credibility was measured using scales established by Appelman and Sundar (2016).

3.1.2.1 Brand Trust

To measure brand trust (referred to as trust), participants were asked questions reflecting trust in the brand represented in the ad. In previous research, Sirdeshmukh, Singh, and Sabol (2002) measured trust in a company using ten-point semantic differentials. In their study, an alpha of 0.96 was reported, and Vlachos et al. (2009) reported construct reliability as 0.94 when they used the same scale. For this study, the scale was collapsed to a five-point semantic differential scale and word choice was modified. The scale had a high level of internal consistency, as determined by a Cronbach's alpha of .95. We chose to use five-point scales in

this study to reduce the cognitive burden for respondents (Dillman, Smyth, & Christian, 2014) (Table 2).

Table 2. Brand Trust Scale 1 Inter-Item Consistency Statistics

	<i>M</i>	<i>SD</i>	Corrected Item-Total Correlation	Alpha if Item Deleted
Glory Angus Ranch is dependable/undependable.	3.64	.91	.89	.92
Glory Angus Ranch is competent/incompetent.	3.70	.95	.86	.93
Glory Angus Ranch has high integrity/low integrity.	3.63	.93	.90	.92
Glory Angus Ranch is responsive/unresponsive to customers.	3.54	.93	.83	.94

Note: Scale 1 = Completely distrusted and 5 = Completely trusted; $\alpha = .95$ for entire scale

More general trust has been measured using only two items (Thomson, 2006, p. 688). When Thomson used the scale, he reported an alpha of .92. For this study, the scale was reduced to five-points and word choice was modified. The scale had a high level of internal consistency, as determined by a Cronbach's alpha of .94 (Table 3).

Table 3. Brand Trust Scale 2 Inter-Item Consistency Statistics

	<i>M</i>	<i>SD</i>	Corrected Item-Total Correlation	Alpha if Item Deleted
How much can you count on Glory Angus Ranch?	3.34	.90	.89	--
How much do you trust Glory Angus Ranch?	3.36	.88	.89	--

Note: Scale 1 = Not at all trusted to 5 = Completely trusted; $\alpha = .94$ for entire scale

For final analysis, brand trust scales 1 and 2 were combined into a single scale after reverse coding the items in scale 2. The combined scale reported a Cronbach's alpha of .91 (Table 4).

Table 4. Combined Brand Trust Inter-Item Consistency Statistics

	<i>M</i>	<i>SD</i>	Corrected Item-Total Correlation	Alpha if Item Deleted
Glory Angus Ranch is dependable/undependable.	3.64	.91	.84	.89
Glory Angus Ranch is competent/incompetent.	3.70	.95	.80	.89
Glory Angus Ranch has high integrity/low integrity.	3.63	.93	.85	.88
Glory Angus Ranch is responsive/unresponsive to customers.	3.54	.93	.78	.89
How much can you count on Glory Angus Ranch?	3.34	.90	.63	.92
How much do you trust Glory Angus Ranch?	3.36	.88	.65	.91

Note: Scale 1 = Not at all trusted to 5 = Completely trusted; $\alpha = .91$ for entire scale

3.1.2.2 Ad Credibility

Ad credibility was also measured as a dependent variable. To measure ad credibility (referred to as credibility), a five-point scale was utilized, which was modified from a study conducted by Appelman and Sundar (2016). They reported a Cronbach's alpha of .87. For the current study, a high internal consistency was determined by a Cronbach's alpha of .95. These items include five-point semantic differential scales with the following bipolar adjectives (Table 5). Originally, *credibility* was a separate question: *How credible is the ad?* After conducting a

pretest and running reliabilities (discussed later in this chapter), *credible/not credible* was added to the ad credibility scale.

Table 5. Ad Credibility Scale Inter-Item Consistency Statistics

	<i>M</i>	<i>SD</i>	Corrected Item-Total Correlation	Alpha if Item Deleted
Information in the ad is accurate/inaccurate.	3.91	.95	.84	.95
Information in the ad is authentic/not authentic	3.82	1.00	.87	.94
Information in the ad is believable/unbelievable.	3.94	1.01	.9	.93
Information in the ad is credible/not credible.	3.84	1.02	.91	.92

Note: Scale 1 = Completely not credible and 5 = Completely credible; $\alpha = .95$ for entire scale

3.1.2.3 Intent to Seek More Information

The last dependent variable was participants' intent to seek more information. Jones and Reynolds (2006) conducted a study investigating a person's interest to have more information; their target interest was a retail store. In their study, three, seven-point Likert-type scales were used to operationalize the variable. Jones and Reynolds reported a construct reliability of .89. For this study, the scale has been reduced to a five-point Likert scale and word choice was modified. The Cronbach's alpha coefficient was .92 for the current study (Table 6).

Table 6. Intent to Seek More Information Scale Inter-Item Consistency Statistics

	<i>M</i>	<i>SD</i>	Corrected Item-Total Correlation	Alpha if Item Deleted
I would like to learn more about cattle from Glory Angus Ranch.	3.81	.94	.85	.87
I would like to know more about Glory Angus Ranch genetic program.	3.95	.99	.86	.86
Learning more about Glory Angus Ranch would be useful.	4.01	1.00	.80	.92

Note: Scale 1 = Weak intent to seek more information to 5 = Strong intent to seek more information; $\alpha = .92$ for entire scale

3.1.3 Exploratory Questions

Exploratory questions were included in the questionnaire to glean willingness to pay and respondents information channel preferences. Two interval, close-ended questions measured subjects' expected cost of the bulls presented in the ad and how much the participant would be willing to pay. Channel preferences were measured through ordinal, close-ended questions asking how the participant preferred to view or find information in a beef seedstock ad (see Appendix G for complete questionnaire).

Manipulation checks were included to ensure the independent variables were manipulated appropriately and measuring the dependent variables. One ordinal question asked how often the participant saw beef seedstock ads with a visual design similar to the stimuli. A Likert-type scale measured the effectiveness of the design manipulation within the ads. The scale used as the manipulation check was created by the researchers for this study. The scale had a high level of internal consistency, as determined by a Cronbach's alpha of .89.

3.1.4 Demographic Variables

Basic demographic questions were used to determine descriptive statistics of the sample. Demographic questions included one nominal, close-ended question regarding ethnicity; one open-ended question asking year of birth; one nominal, close-ended question regarding gender; one open-ended question regarding years he or she has been in the cattle business; one open-ended question asking how many head of cattle he or she manages; and one close-ended question regarding whether cattle production was respondents primary source of income. Additional demographics included open-ended questions asking years in the cattle business and head of cattle owned or managed, as well as a close-ended question for the traits valued when selecting new breeding bulls (see Appendix G for complete questionnaire).

3.2 Sample and Recruitment

The target population for the experiment was composed of beef producers who sell and purchase cattle directly from seedstock ranches. More specifically, the population for this study will be American Angus Association (AAA) members, Angus breeders, and other cattle industry professionals because the researchers have access and support from the Association to conduct the study with its members. The AAA is the largest beef breed organization in the world, with over 25,000 members (American Angus Association, 2017). Angus Media is the full-service media component owned by the AAA. Its team of professionals produce industry-leading products, such as the *Angus Journal* magazine, *The Angus Report* weekly television show, sale books, among other print and digital products designed to provide valuable content to cattle producers (Angus Media, 2017a). Angus Media agreed to distribute the questionnaire to a list of its purebred breeder and commercial breeder subscribers.

A census sample of names from Angus Media's listserv was used to distribute the experiment. The listserv consists of those subscribed to the AJ Daily newsletter (primarily purebred breeders) and the Beef Bulletin subscribers (primarily commercial producers) (approximately 11,273 email addresses). The experiment was disguised as an email survey to the participants. A census sample method was chosen for this study because it was the most convenient way to distribute the experiment in our partnership with Angus Media to assist with distribution and provide access to the sample. Participants were randomly assigned by Qualtrics to one of seven conditions.

The advantage to using the Internet as opposed to mailing the experiment was cost savings by eliminating the printing costs and mailing postage (Cobanoglu, Warae, & Moreo, 2001). Savings in time and cost when electronically delivering the questionnaire were instrumental (Kaplowitz, Hadlock, & Levine, 2004) working with Angus Media. The disadvantage to conducting the experiment via the Internet was decreased response rate (Dillman et al., 2013; Kaplowitz et al.).

Randomness is key to the success of an experiment (Trochim, 2006) and essential for achieving a balanced representation of the population (Campbell & Stanley, 1963). However, it is also important to recognize while experiments focus heavily on internal validity, this tends to result in reduced external validity (Campbell & Stanley). By using both the census sample and random assignment methods, the heterogeneous nature of the sample was increased, thus ensuring external validity.

To ensure an increased response rate, Angus Media provided two incentives valued at a \$2,500 in total. Angus Media offered incentives through discounted prices in its marketing and advertising services. One option was an advertising package, consisting of a full-page ad

designed by Angus Media to be placed in the *Angus Journal* or *Beef Bulletin*, 2 email blasts, and if needed, photos taken by Angus Media at cost. The second option was a web design package, which included web design up to \$1,000 by Angus Media and photos taken at cost if needed. Incentive information will be provided in the invitation and reminder emails, and the informed consent information. At the end of the questionnaire, participants were given the option to click on a link to an external online form separate from their experiment data to enter their contact information for the lottery. All identifying information collected was deleted after notifying and confirming the winners.

3.2.1 Institutional Review Board Approval

The study was conducted in compliance with human subject protocol approved by Colorado State University's Institutional Review Board. The University must meet federal regulations whenever research is conducted involving human subjects (Colorado State University, n.d.). Every year the University must meet the requirements for the Office for Human Research Protections. In compliance with this policy, this experiment was approved to ensure the welfare and rights of the subjects are being protected. Approval was granted January 10, 2018 (Appendix D).

3.3 Data Collection Procedure

The experiment was emailed to the sample by Angus Media, where it then became the potential participant's consideration whether to respond. Dillman et al. (2014) survey design and respondent contact methods were used to support potential participants' interest and likelihood of participating. This included a series of correspondence with the sample to encourage completion of the experimental instrument during the two weeks it was open, from February 28 through March 14, 2018. First, respondents were emailed the survey with an invitation to participate

(Appendix A). An email reminder (Appendix B) was sent 5 days later to the entire list of emails, then a final reminder (Appendix C) was sent seven days after the first. The researcher chose to send the second reminder seven days after the first reminder because five days after fell on the weekend and the email had to be sent during weekday office hours. Angus personnel were responsible for disseminating the experiment and sending email reminders.

The experiment began after the participant selected the Qualtrics link from the invitation or reminder email to take the survey. The statement informing the participant of their choice of whether to participate, study parameters and expectations, and the freedom to stop completing the study at any time were listed at the start of the questionnaire.

Once the participant agreed to participate and to be 18 years or older, the procedure went as follows:

1. Participants begin the experiment by answering a brief series of introductory questions to gauge the participant's involvement in cattle production.
2. Next, the participant was provided the brand description. After reading the brand description, a prompt at the bottom of the page asked the participant to continue. This prompt was included after every section.
3. Participants were then randomly assigned to one of the treatment conditions or control group. Those in the treatment conditions were shown a beef seedstock ad from the brand featured on the previous page. Those in the control group proceeded direct to the next phase.
4. Participants answered questions relating to the information they had seen (brand description or brand description + ad). The items included in the questionnaire were

- scales related to the dependent measures of brand trust, credibility, and intent to seek more information.
5. Participants continued to the final questions measuring their willingness to pay, channel preferences, manipulation checks, and, finally, demographic questions.
 6. Upon completion of the questionnaire, participants were given the option to go to an external link to enter their contact information for the incentive.

3.3.1 Pretest

Prior to executing the full experiment, the researcher ran a pretest of the final version of the experiment to test its design and address outstanding issues from wordiness, question confusion, or any other major issues. It included a series of open-ended questions to invite pretest participants' feedback. The pretest was distributed to livestock industry professionals who were knowledgeable about livestock ads. The pretest addressed reliability and validity issues to ensure the survey design was adequate (Wimmer & Dominick, 2013). It was also used to correct any ambiguous questions or design considerations, test manipulation checks in the ad, and determine the effectiveness of the experimental design. Corrections were made to the final test questionnaire before administering the final version.

The pretest received 80 responses, of which, 75 were useable and complete. Changes were made to the ads based off feedback from the pretest. Ad changes included removing one bull and its data so all ads represented 2 bulls, changing photos to different bulls of more moderate quality to better reflect the type of ranch represented, bull names were changed to reflect its sire, actual birthweight and date of birth numbers were added, text on how to access a sale book was added, and the sale date was updated. The second credibility question was added

to the ad credibility scale to improve consistency and reliability. Once these changes were made, the survey was sent to the final sample for data collection by Angus Media.

3.4 Data Analysis

Data was analyzed using Statistical Package for Social Sciences (SPSS) to test the relationships between the stimuli and dependent variables – trust, credibility, and intent to seek more information. Descriptive statistics and frequencies were used to analyze the demographics of the study’s participants to provide a simple summary of the sample and measures used (Trochim, 2006). Inferential statistical tests were conducted to infer general speculations about the population (Trochim). Independent-samples *t*-tests were conducted to determine the differences between strong and weak executions of the design principles on the dependent variables (Laerd Statistics, 2015). An ANOVA was used to analyze the manipulation checks and exploratory analyses.

CHAPTER 4. RESULTS

The purpose of this study was to determine whether the design of a beef seedstock ad announcing an upcoming production sale influenced the viewer's perceptions and behavioral intentions. We begin with a presentation of the sample's characteristics for the purposes of making judgements of the transferability of our results to other similar populations, followed by the analyses for the hypotheses and research questions, and end with results of some exploratory analyses.

4.1 Sample Characteristics

A total of 561 beef producers participated in the study. The usable sample size was reduced to 512 after deleting those who stopped responding after the dependent variable scales or completed the survey in under 4 minutes (median completion time was 9.68 minutes).

The majority of respondents were male (79.8%, $n = 398$). Ages ranged from 19-years-old to 88-years-old. The mean age of participants was 53 ($SD = 14.65$) and the median age was 56.

Most respondents self-identified "white" as their race (93.4%, $n = 478$). The second highest race reported was "American Indian or Alaskan native" (2.3%, $n = 12$).

The following were asked as introductory questions focused on involvement in cattle production with the exception of whether they earn their primary income from beef cattle production, which was asked with demographic questions at the end of the questionnaire. Almost all own or manage beef cattle ($n = 490$, 95.7%). Nearly all were the primary decision makers when purchasing new breeding bulls for the operation ($n = 450$, 92.4%) and pay attention to ranch ads in publications ($n = 470$, 91.8%). More than half indicated involvement with seedstock

and commercial cow/calf production. Most of the respondents indicated cattle production is not their primary source of income ($n = 298$, 59.8%) (Table 7).

Table 7. Breakdown of involvement in the beef cattle industry

Demographic Variable	<i>n</i>	%
Manage Beef Cattle Operation		
Yes	490	95.7
No	22	4.3
Primary Decision Maker		
Yes	450	92.4
No	37	7.6
Operation Type		
Seedstock	297	58
Commercial cow/calf	261	51
Stocker	34	6.6
Feedlot	33	6.4
Other	18	3.5
Pay Attention to Ads		
Yes	470	91.8
No	42	8.2
Primary Income from Beef Cattle Production		
Yes	196	39.4
No	298	59.8
I don't know	4	.8

Note. $n = 512$. Operation Type percentages do not add up to 100 because participants could choose more than one answer.

Exploratory demographic questions were asked to gauge information channel preferences. Most respondents indicated they “somewhat prefer” to view or find ads on digital mediums (such as social media pages, ranch websites, or other industry websites) ($n = 157$, 31.1%) and print mediums (such as the Angus Journal, Drovers, BEEF, Progressive Cattlemen,

etc.) ($n = 147$, 28.7%). Direct contact with the seller ($n = 258$, 51.5%) is the most preferred way to contact for more information (Table 8).

Table 8. Breakdown of information preferences

Demographic Variable	<i>n</i>	%
Print Mediums (such as the Angus Journal, Drovers, BEEF, Progressive Cattlemen, etc.)		
Not at all preferred	28	5.5
Slightly preferred	88	17.4
Moderately preferred	96	19.0
Somewhat preferred	147	29.1
Most preferred	146	28.9
Digital Mediums (such as social media pages, ranch websites, or other industry websites)		
Not at all preferred	52	10.3
Slightly preferred	102	20.2
Moderately preferred	117	23.2
Somewhat preferred	157	31.1
Most preferred	77	15.2
Consulting Others		
Not at all preferred	43	8.5
Slightly preferred	83	16.4
Moderately preferred	117	23.2
Somewhat preferred	162	32.1
Most preferred	100	19.8
Websites		
Not at all preferred	16	3.2
Slightly preferred	68	13.4
Moderately preferred	142	28.1
Somewhat preferred	196	38.7
Most preferred	84	16.6
Social Media		
Not at all preferred	126	25.0
Slightly preferred	108	21.4
Moderately preferred	120	23.8
Somewhat preferred	115	22.8
Most preferred	36	7.1

Print Ads	Not at all preferred	27	5.3
	Slightly preferred	78	15.4
	Moderately preferred	111	21.9
	Somewhat preferred	182	36.0
	Most preferred	108	21.3
Direct Contact with Seller	Not at all preferred	12	2.4
	Slightly preferred	38	7.5
	Moderately preferred	54	10.7
	Somewhat preferred	143	28.3
	Most preferred	258	51.1

Note: $n = 512$

Additionally, other exploratory demographic questions included how much the participant paid for an Angus bull within the last 5 years, years in the cattle business, size of operation, and priority traits valued when selecting breeding bull (Table 9).

Table 9. Breakdown of additional exploratory demographic questions

Demographic Variable	<i>Minimum</i>	<i>Maximum</i>	<i>M</i>	<i>SD</i>
Average Price Paid for an Angus Bull in the Last 5 Years	1,000	25,000	6,368.26	4,172.38
Years in the Cattle Business	0	74	29.36	16.41
Operation Size by Head of Cattle	0	13,000	280.86	829.56
Priority Traits Valued		<i>n</i>		
	Carcass	297		
	Growth	373		
	Maternal	399		
	Docility	379		

4.2 Manipulation Checks

Participants were randomly assigned to each treatment group with approximately 71 participants in the strong unity group, 77 participants in the weak unity group, 72 participants in the strong emphasis group, 68 participants in the weak emphasis group, 73 participants in the strong perceptual forces group, 70 participants in the weak perceptual forces group, and 66 participants in the control group. The researcher developed a scale with 8 questions to measure whether the design manipulations were operating as intended. The questions measured participants' evaluations of the ad's design quality. Participants responded to these questions after having completed the dependent variable measures. As previously mentioned, the scale had a high level of internal consistency, as determined by a Cronbach's alpha of .89.

A one-way analysis of variance (ANOVA) showed a significant difference at the $p < .05$ level among treatment groups, $F(6, 490) = 8.37, p < .001$. Results showed a medium effect size, partial $\eta^2 = .09$. Post-hoc comparisons using the Tukey HSD test indicated the mean score for weak perceptual forces was significantly lower than all other treatment groups ($p < .001$) except weak unity (Table 9). Additionally, the mean score for weak unity was significantly lower than the mean score for strong emphasis ($p < .001$) (Table 9). The manipulation check revealed the weak perceptual forces design was operating as intended, however, the weak emphasis group did not differ from the strong design principle groups nor control. The exception was the difference between strong emphasis and weak unity, in which case both groups operated as intended when compared to the other.

Table 10. Manipulation check (design quality perceptions) means and standard deviations

	<i>M</i>	<i>SD</i>
Strong Emphasis	3.34	.91
Strong Perceptual Forces	3.18	.90
Weak Emphasis	3.13	.85
Strong Unity	3.05	.87
Control	3.03	.69
Weak Unity	2.76	.96
Weak Perceptual Forces	2.44	.89

Note: 1 = lower design quality, 5 = higher design quality

4.3 Hypotheses 1-3: Trust as DV

As discussed in Chapter 3, independent-samples *t*-tests were conducted to determine if ads employing separate strong and weak design principles (unity, emphasis, and perceptual forces) have different effects on trust, credibility, and intent to seek more information. Preliminary checks were run to test normality, linearity, outliers, and homogeneity of variances. There were 3 outliers, as assessed by inspection of a boxplot; the researcher proceeded with the *t*-test without transforming or removing the outliers. The Shapiro-Wilk's test works best with small samples (<50 participants) and the sample size was $n = 512$, therefore, graph outputs were used to determine normality. Trust scores were approximately normally distributed for all strong and weak experimental groups, as assessed by the visual inspection of Normal Q-Q Plots; the distribution of trust was moderately skewed, but the independent-samples *t*-test is generally

robust to this violation with large sample sizes (Laerd Statistics, 2015). There was homogeneity of variances, as assessed by Levene's test for equality of variances ($p > .05$).

A more detailed discussion of the results for H1, H2, and H3 follows.

Hypothesis 1: Strong use of unity principles will result in higher levels of brand trust relative to weak use of unity.

Little variation in trust existed among participants who were shown the strong unity ad ($M = 3.50, SD = .77$) and participants shown the weak unity ad ($M = 3.41, SD = .78$). The t -test results no significant differences in mean brand trust scores between the strong and weak unity groups, $M_{diff} = .09$ (95% CI, -.16 to .34), $t(145) = .7, p = .24, d = .11$. Therefore, H1 was not supported.

Hypothesis 2: Strong use of emphasis principles will result in higher levels of brand trust relative to weak use of emphasis.

Little variation in trust existed among participants shown the strong emphasis ad ($M = 3.77, SD = .75$) and participants shown the weak emphasis ad ($M = 3.58, SD = .79$). The t -test results no significant differences in mean brand trust scores between the strong and weak unity groups, $M_{diff} = .19$ (95% CI, -.07 to .44), $t(141) = 1.46, p = .07, d = .24$. Therefore, H2 was not supported.

Hypothesis 3: Strong use of perceptual force principles will result in higher levels of brand trust relative to weak use of perceptual forces.

Little variation in trust existed among participants shown the strong perceptual forces ad ($M = 3.41, SD = .73$) and those shown the weak perceptual forces ad ($M = 3.38, SD = .76$). The t -test results no significant differences in mean brand trust scores between the strong and weak

unity groups, $M_{diff} = .04$ (95% CI, $-.21$ to $.28$), $t(142) = .28$, $p = .39$, $d = .05$. Therefore, H3 was not supported.

4.4 Hypothesis 4-6: Credibility as DV

An independent-samples t -test was run to determine whether there were differences in brand trust and the strong and weak experimental groups. Preliminary checks were run to test normality, linearity, outliers, and homogeneity of variances. There were 3 outliers, as assessed by inspection of a boxplot; the researcher proceeded with the t -test without transforming or removing the outliers. Credibility scores are approximately normally distributed for both strong and weak unity, as assessed by the visual inspection of Normal Q-Q Plots; the distribution of trust was moderately skewed, but independent-samples t -test is generally robust to this violation with large sample sizes (Laerd Statistics, 2015). There was homogeneity of variances for H5 and H6, as assessed by Levene's test for equality of variances ($p > .05$), however, homogeneity of variances was violated for H4 ($p = .04$).

A more detailed discussion of the results for H4, H5, and H6 follows.

Hypothesis 4: Strong use of unity principles will result in higher levels of ad credibility relative to weak use of unity.

Little variation in credibility existed among participants shown the strong unity ad ($M = 3.96$, $SD = .93$) and participants shown the weak unity ad ($M = 3.75$, $SD = 1.08$). Because homogeneity of variances was violated, results were reported from the equal variances not assumed row from the SPSS output. The t -test results no significant differences in mean brand trust scores between the strong and weak unity groups, $M_{diff} = .21$ (95% CI, $-.11$ to $.54$), $t(147.74) = 1.31$, $p = .1$, $d = .21$. Therefore, H4 was not supported.

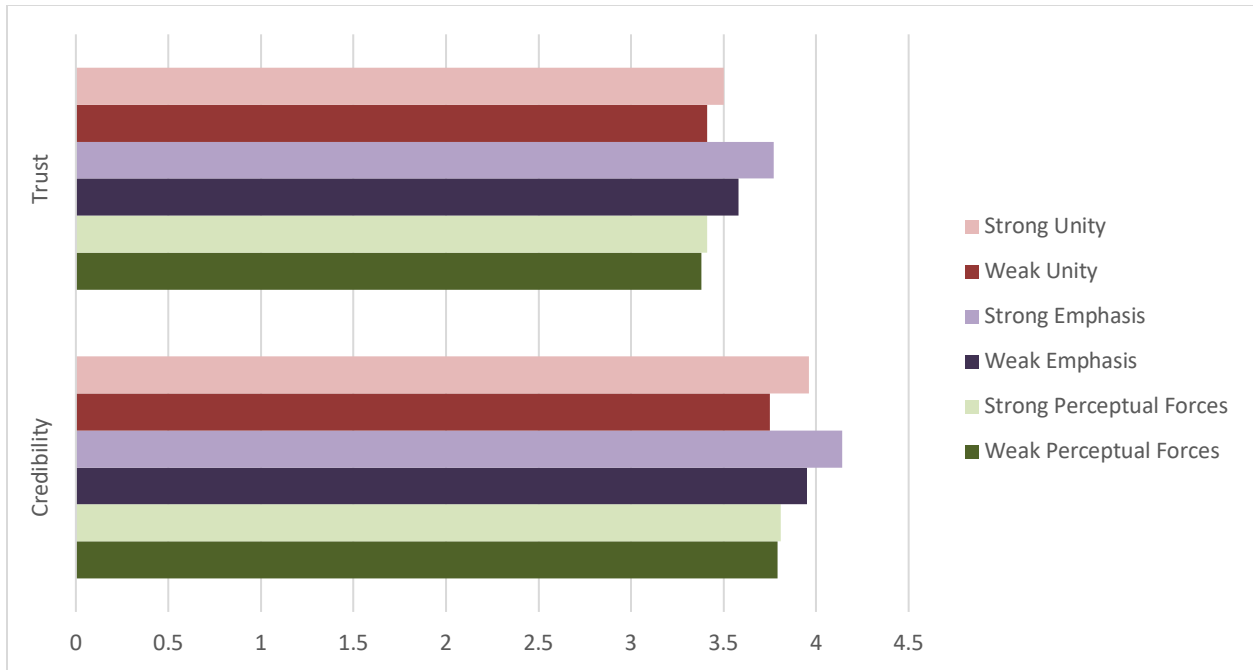
Hypothesis 5: Strong use of emphasis principles will result in higher levels of ad credibility relative to weak use of emphasis.

Little variation in credibility existed among participants shown the strong emphasis ad ($M = 4.14$, $SD = .90$) and participants shown the weak emphasis ad ($M = 4.00$, $SD = .90$). The t -test results no significant differences in mean brand trust scores between the strong and weak unity groups, $M_{diff} = .19$ (95% CI, $-.11$ to $.49$), $t(412) = 1.28$, $p = .1$, $d = .21$. Therefore, H5 was not supported.

Hypothesis 6: Strong use of perceptual force principles will result in higher levels of ad credibility relative to weak use of perceptual forces.

Little variation in credibility existed among participants shown the strong perceptual forces ad ($M = 3.81$, $SD = .94$) and participants shown the weak perceptual forces ad ($M = 3.79$, $SD = .92$). The t -test results no significant differences in mean brand trust scores between the strong and weak unity groups, $M_{diff} = .02$ (95% CI, $-.28$ to $.33$), $t(413) = .15$, $p = .44$, $d = .02$. Therefore, H6 was not supported.

See Figure 12 for results from the independent-samples t -test analysis.



Note. Each bar represents the mean score of strong unity, weak unity, strong emphasis, weak emphasis, strong perceptual forces, and weak perceptual forces. 1 = lower trust/credibility to 5 = greater trust/credibility.

Figure 12. Bar graph showing the effect of design on trust and credibility.

4.5 Research Questions

Research Question 1: Does the use of strong graphic design principles result in different levels of trust and credibility with the viewer?

To analyze RQ1, a univariate analysis of variance was conducted using trust and credibility as dependent variables and strong design treatment groups as the independent variable. Results show a significant difference in trust exists among strong design treatment groups, $F(2, 220) = 4.52, p = .01$. There was a small effect size, $\text{partial } \eta^2 = .04$. Post-hoc Tukey HSD comparisons indicated participants in the strong emphasis group ($M = 3.77, SD = .75$) had a higher level of trust than the strong perceptual forces ($M = 3.41, SD = .73$) group. Therefore, the

strong emphasis design was operating as intended in relation to stimulating stronger levels of trust with the viewer.

However, results show a significant difference in credibility does not exist among strong design treatment groups, $F(2, 220) = 2.39, p = .1$.

Research Question 2: Does the viewer of an advertisement have a different intent to seek information from the brand represented in an ad when controlling for perceptions of trust and credibility?

To analyze RQ2, a univariate analysis of variance was conducted using intent as the dependent variable, the strong and weak design treatment groups as the independent variable, and trust and credibility as covariates. Results show trust and credibility do significantly influence intent to seek more information ($p < .05$). However, no significant difference in intent existed among treatment groups, $F(5, 432) = .06, p = 1.00$.

4.6 Exploratory Analyses

After the main analysis, exploratory analyses were conducted to explain other potential causal relationships. An ANOVA was conducted using trust as the dependent variable and all treatment groups (including control) as the grouping variable. Results show a significant difference in trust exists among all treatment groups, $F(6, 497) = 2.95, p = .01$. There was a medium effect size, partial $\eta^2 = .03$. Post-hoc comparisons using the Tukey HSD test indicated the mean score for strong emphasis ($M = 3.77, SD = .75$) was significantly different than the mean score for strong perceptual forces ($M = 3.41, SD = .73$). As was found with Research Question 1, those exposed to the ad using the strong emphasis principles had greater brand trust than those exposed to the ad using strong perceptual forces. When the same test was ran using

credibility as the dependent variable, no significant differences existed among the treatment groups ($p > .05$).

An ANOVA was conducted using willingness to pay as the dependent variable and ad seen as the grouping variable. Results show a significant relationship exists among treatment groups, $F(6, 499) = 3.41, p = .003$. Results showed a small effect size, partial $\eta^2 = .04$. Post-hoc comparisons using the Tukey HSD test indicated the mean score for weak unity ($M = .31, SD = 1.46$) was significantly different from strong emphasis ($M = .89, SD = 1.45$) and the control group ($M = .90, SD = 1.32$). This reveals the strong emphasis and control group were willing to pay more than the weak unity group for a bull from Glory Angus Ranch.

Other individual exploratory ANOVA tests conducted used the dependent variables as cost expectancy, gender, age, primary income, average price paid for a bull, and attention to ads, and the independent variable was ad seen/control treatment groups. No significant differences were found between the dependent variables and treatment groups ($p > .05$).

Because few significant differences between treatment groups were found, we created a variable combining the strong design treatment groups, the weak design treatments, and control group. We ran an ANOVA with the new strong, weak, and control groups as the independent variable and the dependent variables as trust, credibility, and intent. The results showed a significant difference in intent to seek information exists among treatment groups, $F(2, 510) = 5.25, p = .006$. A small effect size existed, partial $\eta^2 = .02$. Post-hoc comparisons using the Tukey HSD test indicated the mean score for intent was significantly different between the weak design treatment group ($M = 2.19, SD = .94$) and the control group ($M = 1.78, SD = .79$). This reveals those who saw an ad with weak design principles had a higher intent to seek information

than those who saw no ad at all. There were no significant differences between the design treatments and control groups and trust and credibility ($p > .05$).

Finally, we ran an exploratory analysis with age as an independent variable. The age variable was split between 3 age categories, young (participant ages 19 to 45, $n = 148$), middle (participant ages 46 to 65, $n = 232$), and old (participant age 66 to 88, $n = 108$). An ANOVA was conducted using the new age variable as the independent variable and the dependent variable as trust, credibility, and intent. Results showed a significant difference in trust exists among age groups, $F(2, 487) = 3.97, p = .02$. A small effect size existed, $\text{partial } \eta^2 = .02$. Post-hoc comparisons using the Tukey HSD test indicated the mean score for middle-age group ($M = 3.43, SD = .73$) was significantly different than those in the old age group ($M = 3.64, SD = .84$). This reveals the middle age group had less trust in the brand than participants in the old age group. No significant differences were found between age groups and credibility and intent to seek information ($p > .05$).

CHAPTER 5. DISCUSSION

5.1 Discussion

Our study's findings showed beef producers evaluate brand trust and ad credibility similarly regardless of a beef seedstock ranch's ad being poorly or well-designed. Additionally, this study found producers' brand trust and ad credibility positively influence purchase intent just as other studies found (Basso et al, 2001; Cherny, 1999; Fisher, Till, & Stanley, 2010; Jarvenpaa & Tractinsky, 1997; MacKenzie, Lutz, & Belch, 1986); however, those variables did not affect producers' intent to seek more information about the brand advertised. The latter result contradicts Weinschenk's (2011) contention that making information easy to find/well-designed activates information-seeking behavior.

Advertisements must fit in with the typical aesthetics of the culture to exude the desired meaning (Olsen, Pracejus, & O'Guinn, 2012). Verbal and visual aspects within an ad can influence viewers' cognitive and affective processing (Costello, Youngblood, & Youngblood, 2013; Rossiter & Percy, 1980). Almost anyone can see an ad, but how the ad is perceived will vary between each person. When a print ad is placed on multiple sources, there is increased cognitive processing of the advertisement messages (Moore, Mowen, & Reardon, 1994; Moore & Reardon, 1987). Messages presented on multiple mediums may be deemed more credible and have more positive thoughts associated with them. Whenever a viewer encounters a familiar brand, less time is spent processing the ad because they already understand the brand well (Snyder & Stukas, 1999). Whereas an unfamiliar brand takes more cognitive resources to process and evaluate the brand (Hilton & Darley, 1991). Therefore, the repeated exposure to an unfamiliar ad tends to result in a wear out effect (Campbell & Keller, 2003).

Design principles can guide the manipulation of verbal and visual elements within an ad and serve as building blocks of a composition (Costello et al.). The effective application of design principles may reduce the cognitive effort of the viewer, attract attention, encourage information retention, and induce a favorable attitude toward the ad (Cook, 2006; Costello et al.; Peeck, 1993; Rossiter & Percy, 1980). When creating the ads used in the current study, we strictly applied the design principles (unity, emphasis, and perceptual forces) discussed by Costello et al. In “strong” treatments, the designs theoretically enhanced the relevant product information by making it more easily identifiable and more readable within a clear and natural visual hierarchy compared to the “weak” treatments. Studies show white space in an ad can assist in establishing trust with consumers, as well as other concepts related to credibility (Olsen, Pracejus, & O’Guinn, 2012). Sillence and colleagues (2006) found viewers of a website ultimately chose to trust a company based on content rather than look or design alone. Contradictory to this finding, Kuzheleva-Sagan and Suchkova (2016) found the use of graphic design can increase viewers’ trust. Likewise, Robins and Holmes (2008) found more aesthetically appealing web content generated higher levels of perceived credibility. The current study countered these results by suggesting the design of the ad did not matter, and those who saw an ad did not differ from those who did not (i.e., the control group). Thus, it aligns more with Sillence and colleagues’ (2006) findings. The volume of literature discussed here suggested our hypotheses should have been supported, but they were not. Therefore, we must reflect and discuss other literature that could explain our results and help inform future research in this area.

The discrepancy between the design treatment groups and perception of trust, credibility, and intent might be explained by the brand description each treatment was provided at the beginning of the study. Every study participant had a single exposure to the brand description.

The brand description shed a positive light on the ranch represented in the study by stating how long it had been in business and production practices. The brand description seemed necessary to provide additional background information on the fictional ranch being presented and to ensure the control group had more natural information to use in responding to the measures (as opposed to a completely unrelated ad). Duration in business can establish trust (Fisher, Till, & Stanley, 2010; Moorman, Deshpandé, & Zaltman, 1993) and the brand description stated Glory Angus Ranch was in its fifth generation, which could have been an influencing factor to establish positive attitudes with potential customers. First impressions can further formulate expectations for interpersonal encounters (Dipboye, Fontenelle, & Garner, 1984; Evans, Kleine, Landy, & Crosby, 2000; Harris & Rosenthal, 1985; Macan & Dipoye, 1988). Viewers of ads form brand impressions no matter if attention is paid to ads intentionally or not (Gressel, Carlston, & Oakley, 2013; MacInnis, Moorman, & Jaworski, 1991). In the case of the current study, the brand description could have created a positive first impression for study participants. Campbell and Pisterman (1996) stated that a positive first impression may lead the viewer to disregard negative impressions later, called confirmation bias. This first impression leads to the formation of hypotheses, and all new contradicting or supporting information is disregarded (Rabin & Schrag, 1999). Furthermore, Sheerman, Norman, and Orbell (1999) proposed individuals' attitude serves as a predictor of intention and visuals can play a mediating role to intention. This may explain why our participants were presented an ad, but the main analyses indicated the ad did not influence trust, credibility, or intent to seek more information. Their first impressions from the brand description were presumably strong enough that the ads simply did not influence them any further.

Besides the effects of the brand description in potentially establishing brand trust and ad credibility, cultural factors could have also had an influence. Recall that a partial impetus for the study was a question as to whether the current design practices within the beef seedstock advertising industry may be effective with target audiences because they demonstrate livestock/agriculture cultural acuity, and perhaps convey a sense of belonging to the social group. Brumbaugh (2002) found that so long as an ad viewer's dominant culture was presented via source cues like the people featured or described, nonsource cues like the background did not impact their attitudes or connection felt with the ad. Although not directly examined by Brumbaugh, the ad's layout and design would also be a type of nonsource cue. The photos of the bulls and the description of the ranch advertising the products would operate as the source cues to establish cultural fit, and those remained consistent across all groups. We only changed the manipulation of nonsource cues—the layout and design—which had no effect on beef producers' brand trust and ad credibility. Although we suspected the ad design itself to be a strong indicator of cultural affiliation with the beef cattle producers' culture, perhaps it is not, at least as operationalized in this study. Therefore, this study supports Brumbaugh's findings that cultural source cues are more powerful influencers than nonsource cues.

Although the findings from this study are not what we hoped to find, they still provide important insights to livestock marketing. If the design of an advertisement essentially does not matter, where should producers place added marketing emphasis? A potential customer's perception of trust and credibility toward a brand are important to gain if a producer wants them to seek more information about buying cattle and then "close the deal". But this study suggests trust and credibility are gained through interpersonal interactions, rather than having a well-designed ad.

Additionally, livestock producers are searching and processing these ads with a particular goal: to find cattle that would potentially fit into their own operations. Vakratsas and Ambler (1999) analyzed different categorizations of advertising. Information models propose consumer preferences and decisions are based on rationale. In this model, advertising aids in reducing search time because the consumer knows what he/she is looking for in advance (Vakratsas & Ambler). Bagozzi and Dholakia (1999) outlined a conceptual framework for how consumers set goals when searching for a product. A consumer first sets a goal with intention, plans how the goal may be achieved, initiates action, attainment or failure to achieve goal, and feedback reactions. Consumers are goal-oriented when they search for products. In the case of this study, search attributes may be price, breed, location of seller, and an individual animal's expected progeny differences (such as calving ease, birth weight, ribeye area, milk, marbling, weaning weight, and yearling weight).

The role of advertising is increasingly finding space on beef producers' budgets. Marketing livestock is about more than just the cattle, ultimately it is about the people behind the business. Anyone with a well-designed ad will garner attention from their audience, but true success comes from high quality cattle and a good reputation. Cutrer, founder and CEO of Ranch House Designs, has worked with a lot of ranchers to produce revolutionizing livestock marketing materials. There are many well-known and established brands that place mediocre ads regularly in publications such as the *Angus Journal*. But their audience has a deep understanding of the quality and reputation of the breeders (R. Cutrer, personal communication, April 7, 2018), so design does not play a role in reaching more potential customers. If these types of ranches have continued success with mediocre advertising, what kind of potential would they have if they employed better creative design in their advertising?

5.2 Practical Implications

The main analyses revealed design did not play a significant role in establishing trust, credibility, or intent to seek more information from a ranch advertising an upcoming bull sale. This finding should be taken with caution due to mixed results of the manipulation checks (see Limitations section). However, if our study's findings do indeed align with Brumbaugh (2002) and literature on first impressions and confirmation bias, then livestock marketers should worry less about ad design and more about strategically communicating information potential buyers desire to see. Ads should emphasize information about who is selling cattle (the ranch/branch), what is being sold is, when the cattle are available or sale date, where the cattle are, how to purchase, and why or what sets the product (the cattle) apart from others available.

Of the three dependent variables investigated (credibility, trust, and intent), only trust had any significant impact among treatment groups (including control). The exploratory analysis specifically revealed those exposed to an ad using strong emphasis had greater trust in the brand compared to those who saw an ad using strong perceptual forces. This was a surprising relationship to find, especially since these two groups were both strong design treatments. Throughout all of the analyses, strong emphasis was the closest predictor to influencing perceptions. Maybe this was due to information in the ad being easier to distinguish and find because it is emphasized more clearly. This may also point to the importance of the information (i.e., text) contained within the ad over the design in increasing brand trust. Therefore, designers should consider applying strong emphasis in designing ads to foster increased trust while ensuring the necessary information to create trust is communicated.

Additionally, an exploratory analysis revealed viewers of an ad employing weak unity were willing to pay less for a bull from the company advertised compared to those in the strong

emphasis and control groups. These results are intriguing and suggest emphasizing relevant information plays a role in establishing higher willingness to pay for bulls among Angus producers. The weak unity ad displayed the information with no order or structure making it difficult to find pieces of information and almost impossible to distinguish where it belonged. For those in that group, their initial impression of the ranch as established by the brand description was colored more negatively by the ad with weak unity. Although participants' brand trust and ad credibility were unfazed, perhaps the seeming lack of attention to making the ad easy to read made participants less willing to invest more in their bulls. When the information is easier to consume, as it was in the strong emphasis ad, producers are willing to pay a higher price for a bull.

Considering the role first impressions may have played in the current study, something to note is how livestock marketing could be further utilized. It is important to note here that Angus Media, the full-service media component owned by the Angus Association, produces high volumes of print ads. Because of the high volume of ads produced and the few creative staff available, there is limited graphic design creativity implemented in the creation of these ads. Many of the ads placed by well-established and highly successful ranches employ bland, out dated design, and do not feature pictures of cattle available. Perhaps a different marketing tactic for these kinds of ranches could be successfully utilized. Consider V8 Ranch in Texas. With the rising interest and use of social media, V8 Ranch has transitioned to using digital marketing as its primary outlet and reduced its print ads to a picture and logo to reinforce brand recognition. Over the last 3 years, V8 Ranch sales have doubled each year (R. Cutrer, personal communication, April 7, 2018). While this may not work for a new ranch where professionalism

in marketing materials is important, well-known brands could take V8 Ranch's testimony to more strategically market themselves.

5.3 Limitations

The sample for this study only represent American Angus Association members and commercial producers who focus on Angus genetics. There are many other breeds of beef cattle in the U.S. that producers can raise. Many producers are also classified as commercial cattlemen who do not own purebred cattle and instead raise crossbred beef cattle. Therefore, the sample does not represent the population as a whole.

Determining whether respondents answered the questionnaire based off what they read in the brand description versus the information and design of the ad is a limiting factor, even though questions prompted participants to answer based on the design of the ad or the information presented. As we previously mentioned, this could be because of the first impression formed from the brand description. By eliminating the use of an initial brand description, responses may have relied on the ads and the design of the ads could have been more accurately measured.

Another important limitation revealed by the manipulation checks was that not all of the ad stimuli were operating as intended. As previously mentioned, weak perceptual forces operated as intended. There was also a significant difference between strong emphasis and weak unity, although these two groups were not directly compared to each other in the main analyses. Because the manipulation was successful for the weak perceptual forces ad, theoretically, there should have been lower levels of trust and credibility from those assigned to that experimental group. But, that was not the outcome. Therefore, the study's results demonstrate other factors besides the design were at work in affecting brand trust and ad credibility.

Throughout the duration of data collection, those who received the invitation and reminder emails to participate had access to the researcher to ask questions and provide feedback. Fifteen participants contacted the researcher with concerns and comments via email and/or phone. A reoccurring concept mentioned was the complexity of trust and how it cannot be established without an interpersonal relationship of some kind. Scholars recognize that while trust is one dimension of credibility (Ohanian, 1990; Soh et al., 2009), it is much more complex (Doney & Cannon, 1997). Previous research suggested simple and straight-forward advertisements are more likely to positively influence trust (Mortimer & Danbury, 2012). As previously mentioned, the researcher applied the design principles and kept the “strong” treatments’ information more easily identifiable. However, there were still non-significant results for establishing trust, credibility, and intent to seek more information with the viewer. Some of the emails and calls from participants questioned how trust specifically could be measured based off a single ad. Additional feedback suggested livestock ads should focus more on presenting information rather than artwork. More information on how the cattle up for sale were raised and comparisons between contemporaries of the same age raised in similar conditions were also suggested as feedback. Designers of these ads and those creating key messages should take these suggestions into consideration when developing marketing materials. However, it also seems data desired varies from by producer and the information they most value to make a purchase decision. Establishing a balance with enough information and appropriate aesthetic appeal to satisfy each of these producers, or those within the target audience, should be considered when marketing livestock via ads.

5.4 Areas for Future Research

We recommend conducting an experiment similar to this one, except omitting the use of a brand description. Instead, only use ads as manipulations to the varying treatment groups. The use of the brand description was intended to provide information emphasizing what was in the ads but provided enough for the control group to answer the questionnaire without seeing a design treatment. Instead of a brand description for the control group, a random, unrelated ad could be used for something outside of the livestock industry. By not using a brand description within the experiment, perhaps the first impression may be alleviated and will encourage responses directly based off the ad seen.

Furthermore, we also suggest conducting the same experiment, but instead of a single brand description, use two different brand descriptions. One of the brand descriptions can describe a well-established, multi-generational ranch similar to the description used in the current study, while the other description can describe a first-generation ranch. Another option could be to describe a ranch that manages a large number of cattle (a few hundred or more cattle) versus a ranch that manages less than 100 cattle. Based off previous literature supporting that length of time in business helps establish trust (Fisher, Till, & Stanley, 2010; Moorman, Deshpandé, & Zaltman, 1993), the differences in the brand description could play a role in establishing varying first impressions.

As previously mentioned, one of the important limitations of the study was the lack of the design manipulations operating as intended. To combat this in the future, we recommend studies first establish the design manipulations are operating as intended before proceeding with final data collection. This would rule out design influences on trust and credibility.

Another consideration for future research focuses specifically on the ads. Currently, many of these mediocre ads are sufficient for the producers placing them and they think because they have an ad out that will be visible, that is good enough. Instead of comparing “strong” versus “weak” designs as stimuli like this study did, future studies should compare a mediocre ad design with an outstanding creative design to see whether attitudes or perceptions are swayed. Additionally, these ads are rarely viewed alone; they must compete for attention among a plethora of ads and media content in sales catalogs and industry publications. A more ecologically valid study would examine the ads within conditions closer to that reality.

Throughout feedback from both the pretest and final data collection, the information desired by the audience differs. This study did not measure effects of information, which seems to hold more influence than design. Future studies should compare different amounts and kinds of information presented in an ad. The most basic information required in an ad is who (the ranch/brand), what (heifers, bulls, breds, or pairs), when (sale date or when cattle are available), and why (what sets these cattle apart from their contemporaries). The depth of information provided is where future studies should investigate.

5.5 Conclusion

This study set out to uncover whether the design of a ranch ad influences Angus producers’ perceptions and behavioral intentions. Specifically, this study sought a better understanding of the role graphic design plays in livestock advertising in hopes of being able to suggest graphic design plays an important role in creating more favorable perceptions towards a brand and product.

Through the research, we discovered graphic design principles implemented in an ad do not influence viewer’s brand trust, ad credibility, or intent to seek more information in this

particular context of advertising beef seedstock to Angus producers. Many ranch ads are placed in publications dispersed throughout the livestock industry, making it important for graphic designers to create stunning ads to evoke attention and reduce the cognitive load to process information. Findings pointed to emphasis being an important graphic design principle to utilize in ads to induce stronger levels of trust, perhaps because emphasis makes pieces of information easier to find. Initial impressions of a brand seemed to have a role in influencing whether the design of the ads had an effect.

In the future, hopefully more research is conducted to form a better understanding of graphic design's role in livestock advertising.

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APPENDIX A: INVITATION TO PARTICIPATE – FIRST EMAIL

Dear Angus Member,

I am reaching out to you for help with a survey for my master's thesis about beef seedstock ads showcasing an upcoming production sale. I am a second-year master's student at Colorado State University studying agricultural communications. Growing up on a cow/calf operation myself, I know how valuable your time is when asking you to participate. You have been chosen to complete a short questionnaire about how you perceive a seedstock production sale ad. Your participation in this study will help me better understand how the design of an ad influences the viewer's perceptions of the brand and bulls advertised.

I am specifically looking for responses from cattle producers who purchase herd bulls from seedstock producers. If you are the primary decision maker for your operation when it is time for purchasing new breeding stock, then your input would be valuable to this study.

An incentive will be provided courtesy from Angus Media. One incentive is an advertising package in the Angus Journal or the Angus Beef Bulletin along with 2 eBlasts through the AJ Daily (approximately \$1,500 value). The second incentive package is \$1,000 toward a website design/hosting through the web services department at Angus Media. Two participants will be randomly chosen as winners. After completing the questionnaire, you will be taken to a separate link to fill out your name, email, and phone number to be entered into the drawing to win. This is to ensure your name will not be in association with your survey responses.

The survey will only take 10-15 minutes to complete. To begin the survey, please click the following link:

[LINK]

This survey is confidential, and your participation is voluntary. Every question in the survey is optional, and you may choose to skip a question if you prefer not to answer it. If you have any questions, comments, or concerns, please contact me by email at morgan.marley@colostate.edu or by calling 479-841-6975.

I sincerely appreciate your help with this survey. The results from my thesis will add valuable new research to the agricultural communications field to improve the design of ranch ads.

Thank you,

Morgan Marley
Public Communication & Technology M.S. Student
Colorado State University
Email: morgan.marley@colostate.edu
Phone: 479-841-6975

APPENDIX B: FIRST REMINDER EMAIL – SECOND EMAIL

Dear Angus Member,

I recently reached out to you asking for your participation in an online survey for my master's thesis about beef seedstock ad. If you have taken the survey, thank you for your participation. The last day to participate is Wednesday, March 14.

If you have not taken the survey, I hope you'll please do so at your earliest convenience. As a master's student conducting her thesis, your response is very valuable to me. The survey results will help me gain insight into how the design of beef seedstock ads influence the viewer's perception of the brand and product advertised.

An incentive will be provided courtesy from Angus Media with the American Angus Association. If you have already taken the survey, taking it again will not increase your chances of winning and will disrupt my thesis research. One incentive is an advertising package in the Angus Journal or the Angus Beef Bulletin along with 2 eBlasts through the AJ Daily (approximately \$1,500 value). The second incentive package is \$1,000 toward a website design/hosting through the web services department at Angus Media. Two participants will be randomly chosen as winners. After completing the questionnaire, you will be taken to a separate link that is not connected with the original survey to fill out your name, email, and phone number to be entered into the drawing to win. Your name will not be association with your survey question responses.

The survey will only take 10-15 minutes to complete and is confidential. To begin the survey, please click this link:

[LINK]

If you have any questions, comments, or concerns, please contact me by email at morgan.marley@colostate.edu or by calling 479-841-6975.

I sincerely appreciate your help with this survey.

Thank you,

Morgan Marley
Public Communication & Technology M.S. Student
Colorado State University
Email: morgan.marley@colostate.edu
Phone: 479-841-6975

APPENDIX C: SECOND REMINDER EMAIL – THIRD EMAIL

Dear Angus Member,

I sent an email last week asking for your participation in an online survey for my master's thesis about beef seedstock ads showcasing an upcoming production sale. If you have taken the survey, thank you for your participation. The survey closes at 12 a.m. on March 15.

While many people have responded, we are looking for a high response rate to fully represent the population. I hope you'll please participate at your earliest convenience. Conducting this survey is the last step for obtaining my master's degree, so your response is very valuable to me.

An incentive will be provided courtesy from Angus Media with the American Angus Association. If you have already taken the survey, taking it again will not increase your chances of winning and will disrupt my thesis research. One incentive is an advertising package in the Angus Journal or the Angus Beef Bulletin along with 2 eBlasts through the AJ Daily (approximately \$1,500 value). The second incentive package is \$1,000 toward a website design/hosting through the web services department at Angus Media. Two participants will be randomly chosen as winners. After completing the questionnaire, you will be taken to a separate link that is not connected with the original survey to fill out your name, email, and phone number to be entered into the drawing to win. Your name will not be associated with your survey question responses.

The survey will only take 10-15 minutes to complete and is confidential. To begin the survey, please click the following link:

[LINK]

If you have any questions, comments, or concerns, please contact me by email at morgan.marley@colostate.edu or by calling 479-841-6975.

Thank you so much for helping with my study.

Sincerely,

Morgan Marley
Public Communication & Technology M.S. Student
Colorado State University
Email: morgan.marley@colostate.edu
Phone: 479-841-6975

APPENDIX D: IRB APPROVAL



Research Integrity & Compliance Review Office
Office of Vice President for Research
Fort Collins, CO 80523-2011
(970) 491-1553
FAX (970) 491-2293

Date: January 10, 2018
To: Katie Abrams, Ph.D., Journalism & Media Communication
Morgan Marley, Journalism & Media Communication
From: IRB Coordinator, Research Integrity & Compliance Review Office
(RICRO_IRB@mail.colostate.edu)
Re: Improving the Design of Beef Seedstock Ads
Funding: Unfunded

IRB ID: 241 -18H **Review Date:** January 10, 2018
This project is valid from three years from the review date.

The Institutional Review Board (IRB) Coordinator has reviewed this project and has declared the study exempt from the requirements of the human subject protections regulations with conditions as described above and as described in [45 CFR 46.101\(b\)](#):

Category 2 - Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

The IRB determination of exemption means that:

- **This project is valid for three years from the initial review.** After the three years, the file will be closed and no further research should be conducted. If the research needs to continue, please let the IRB Coordinator know before the end of the three years. You do not need to submit an application for annual continuing review.
- You must carry out the research as proposed in the Exempt application, including obtaining and documenting (signed) informed consent if stated in your application or if required by the IRB.
- Any modification of this research should be submitted to the IRB through an email to the IRB Coordinator, prior to implementing any changes, to determine if the project still meets the Federal criteria for exemption.
- Please notify the IRB Coordinator (RICRO_IRB@mail.colostate.edu) if any problems or complaints of the research occur.

Please note that you must submit all research involving human participants for review by the IRB. **Only the IRB or designee may make the determination of exemption**, even if you conduct a similar study in the future.

APPENDIX E: CONSENT FORM – PRETEST

Informed Consent to Participate in a Research Project Colorado State University

Title of Study: Improving the design of beef seedstock ads

Principal Investigator: Dr. Katie Abrams: katie.abrams@colostate.edu

Co-Principal Investigator: Morgan Marley: morgan.marley@colostate.edu

Why am I being invited to take part in this research? Beef cattle seedstock and commercial producers are of interest with regard to their perceptions of beef seedstock ads.

Who is doing the study? The primary researcher is a graduate student at Colorado State University conducting the study for partial fulfillment of her master's thesis.

What is the purpose of the study? The purpose of the research is to contribute to the agricultural communication field, specifically to improve the design of beef seedstock ads.

What will I be asked to do? You will be asked questions about your attitude toward the ranch and information presented in the ad, as well as gauge your intention to seek more information. There will also be a short series of demographic questions.

How long will it last? The survey will take about 10 minutes to complete.

What are the benefits and risks from taking part in the study? The results from the study will provide practical applications to graphic designers and beef seedstock producers when designing a livestock advertisement. There are no risks to participating in this study.

Will I be compensated for participating? The survey is unfinished and your participation will be part of the pretest to ensure the questionnaire instrument is measuring what it is supposed to measure. Because this is the pretest, there will be no monetary compensation.

Who will see the information that I give? Your participation in this research will be completely confidential and anonymous, and your responses will be combined with other participants' responses and reported in aggregate. Your identifying information will not be linked to your survey answers in any way. Only the principal and co-principal investigator will see the results from the pretest.

Are there any reasons why I should not participate in this study? If you are under the age of 18, you are ineligible to participate in this study.

Who do I contact if I have questions about the study? Morgan Marley, graduate student, Department of Journalism and Media Communication, Colorado State University. Email morgan.marley@colostate.edu. Call 479-841-6975.

Who do I contact about my rights as a volunteer in this research? Contact the CSU IRB at RICRO_IRB@mail.colostate.edu or call 970-491-1553.

Please print a copy of this consent form for your records.

If you do NOT volunteer to participate in the survey and/or are 17 years or younger in age, please exit this window to close the survey.

[CHECKBOX] I have read the procedure described above and I voluntarily agree to participate in the survey. I also verify that I am 18 years or older in age.

APPENDIX F: CONSENT FORM – FINAL LAUNCH

Informed Consent to Participate in a Research Project Colorado State University

Title of Study: Improving the design of beef seedstock ads

Principal Investigator: Dr. Katie Abrams: katie.abrams@colostate.edu

Co-Principal Investigator: Morgan Marley: morgan.marley@colostate.edu

Why am I being invited to take part in this research? Beef cattle seedstock and commercial producers are of interest with regard to their perceptions of beef seedstock ads.

Who is doing the study? The primary researcher is a graduate student at Colorado State University conducting the study for partial fulfillment of her master's thesis.

What is the purpose of the study? The purpose of the research is to contribute to the agricultural communication field, specifically to improve the design of beef seedstock ads.

What will I be asked to do? You will be asked questions about your attitude toward the ranch and information presented in the ad, as well as gauge your intention to seek more information. There will also be a short series of demographic questions.

How long will it last? The survey will take about 15 minutes to complete.

What are the benefits and risks from taking part in the study? The results from the study will provide practical applications to graphic designers and beef seedstock producers when designing a livestock advertisement. There are no risks to participating in this study.

Will I be compensated for participating? The researcher is working with Angus Media to distribute the study and Angus Media is providing incentives to 2 participants.

What is the incentive? One incentive is an advertising package in the Angus Journal or the Angus Beef Bulletin along with 2 eBlasts through the AJ Daily (approximately \$1,500 value). The second incentive package is \$1,000 toward a website design/hosting through the web services department at Angus Media. Two participants will be randomly chosen as winners. Once the survey is completed, you will be directed to click on an external link to enter to win one of the incentive packages. This will keep your survey data separate from your identifying information, which will only be used for the drawing.

Who will see the information that I give? Your participation in this research will be completely confidential and anonymous, and your responses will be combined with other participants' responses and reported in aggregate. Your identifying information will not be linked to your survey answers in any way. Only the principal and co-principal investigator will see the results from the study.

Are there any reasons why I should not participate in this study? If you are under the age of 18, you are ineligible to participate in this study.

Who do I contact if I have questions about the study? Morgan Marley, graduate student, Department of Journalism and Media Communication, Colorado State University. Email: morgan.marley@colostate.edu. Call: 479-841-6975.

Who do I contact about my rights as a volunteer in this research? Contact the CSU IRB at RICRO_IRB@mail.colostate.edu or call 970-491-1553.

If you do NOT volunteer to participate in the survey and/or are 17 years or younger in age, please exit this window to close the survey.

[CHECKBOX] I have read the procedure described above and I voluntarily agree to participate in the survey. I also verify that I am 18 years or older in age.

APPENDIX G: QUESTIONNAIRE

Do you own/manage a beef cattle operation?

- Yes
- No

What would you categorize your primary operation as?

Check all that apply.

- Seedstock
- Commercial cow/calf
- Stocker
- Feedlot
- Other _____

Do you have a closed herd (do not buy replacement females and bulls) or an open herd (do buy replacement females and bulls)?

- I have a closed herd.
- I have an open herd.

Do you think you might have an open herd in the future?

- Yes
- No

Are you the primary decision-maker for purchasing new breeding stock for your operation?

- Yes
- No

Do you pay attention to production sale ads printed in *The Angus Journal* or other beef industry publications (Drovers, BEEF, Progressive Cattlemen, etc.)?

- Yes
- No

[PROMPT]

On the next page, you will read a short brand description for the ranch presented in the study. Please take a minute to fully read the brand description because you will be asked questions about it throughout the remainder of the survey.

We are interested in your opinions; there are no right or wrong answers.

[BRAND DESCRIPTION]

Glory Angus Ranch is a fifth-generation ranch located in Spot Hill, Nebraska. Gary and his wife Jane work together with their three kids and hired-hand to manage a 600-head Angus seedstock

cowherd. They are long-standing members in the American Angus Association and dedicate their time to improving the genetics of their herd so they can sell quality bulls to commercial cattlemen and other seedstock producers.

They focus on raising functional, stout, pasture-ready bulls. No matter what you are looking for, Glory Angus has a bull for you – calving-ease, growth, maternal traits, and docility. All of their cows are bred through artificial insemination to proven bulls ranked in the top 10 percentiles for maternal, growth, carcass, and docility traits within the Angus breed.

They sell approximately 150 bulls a year to stockmen primarily throughout the Midwest. Before bulls are offered for sale, they must pass a rigorous bull test to make sure they are fit and ready for the job. Every spring, the family holds a production bull sale, at which time they sell most of their bulls. Additional bulls are sold private treaty.

[PROMPT]

Next, you will see an example ad for Glory Angus Ranch. Please take a couple minutes to fully read the ad.

PROVEN GENETICS FOR YOUR OPERATION



LOT 1

GLORY PAYWEIGHT 2018

DOB 10/2/2016 | BW 81#
CED 8 | BW 0.7 | WW 78 | YW 118
Milk 27 | Marb .92 | REA .79
\$W 69.42 | \$B 163.73

SIRE: BASIN PAYWEIGHT 1682



LOT 3

GLORY COMRADE 2023

DOB 9/27/2016 | BW 72#
CED 13 | BW -2.1 | WW 57 | YW 101
Milk 28 | Marb .89 | REA .73
\$W 62.65 | \$B 147.40

SIRE: CONNEALY COMRADE 1385

SALE HELD AT THE RANCH IN SPOT HILL, NE

APRIL 7, 2018

EMAIL US FOR A SALE BOOK TODAY!

OFFERING 120+
18-MONTH OLD BULLS

VISIT OUR WEBSITE FOR
MORE INFORMATION ABOUT
OUR UPCOMING SALE.



GLORY
ANGUS RANCH

Gary & Jane Smith
555.435.2453
345 Hwy 23, Spot Hill, Nebraska
gloryangusranch@gmail.com
www.gloryangusranch.com



www.gloryangusranch.com

DOB 10/2/2016 | BW 81#
CED 8 | BW 0.7 | WW 78 | YW 118
Milk 27 | Marb .92 | REA .79
\$W 69.42 | \$B 163.73

GLORY PAYWEIGHT 2018

SIRE: BASIN PAYWEIGHT 1682

Lot 3

Proven **genetics**

for your **operation**



Visit our website for more information about our upcoming sale.

GLORY COMRADE 2023

SIRE: CONNEALY COMRADE 1385

DOB 9/27/2016 | BW 72#
CED 13 | BW -2.1 | WW 57 | YW 101
Milk 28 | Marb .89 | REA .73

Gary & Jane Smith

\$W 62.65 | \$B 147.40

EMAIL US FOR A **sale book** TODAY!

Sale held at the ranch in Spot Hill, NE

555.435.5698

April 7, 2018

345 Hwy 23m Spot Hill, Nebraska

Gary & JANE SMITH

gloryangusranch@gmail.com

PROVEN GENETICS

for your operation

LOT 1

GLORY PAYWEIGHT 2018

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Email us for a sale book today!

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Lot 3
Glory Comrade 2023
DOB 9/27/2016 | BW 72#
CED 13 | BW -2.1 | WW 57 | YW 101
Milk 28 | Marb .89 | REA .73
\$W 62.65 | \$B 147.40
Sire: Connealy Comrade 1385

Sale held at the ranch in Spot Hill, NE
April 7, 2018
Email us for a sale book today

Offering 120+
18-month old bulls

Visit our website for more
information about our
upcoming sale.



Gary & Jane
555.435.2453
345 Hwy 23, Spot Hill, Nebraska
gloryangusranch@gmail.com
www.gloryangusranch.com

PROVEN GENETICS

for your operation



GLORY PAYWEIGHT 2018

DOB 10/2/2016 | BW 89#
CED 8 | BW 0.7 | WW 78 | YW 118
Milk 27 | Marb .92 | REA .79
\$W 69.42 | \$B 163.73

SIRE- BASIN PAYWEIGHT 1682



GLORY COMRADE 2023

DOB 9/27/2016 | BW 72#
CED 13 | BW -2.1 | WW 57 | YW 101
Milk 28 | Marb .89 | REA .73
\$W 62.65 | \$B 147.40

SIRE- CONNEALY COMRADE 1385

SALE HELD AT THE RANCH IN SPOT HILL, NE

APRIL 7, 2018

EMAIL US FOR A SALE BOOK TODAY!

OFFERING 120+
18-MONTH OLD BULLS

VISIT OUR WEBSITE FOR MORE
INFORMATION ABOUT OUR
UPCOMING SALE.



GLORY
ANGUS RANCH

Gary & Jane Smith
555.435.2453
345 Hwy 23, Spot Hill, Nebraska
gloryangusranch@gmail.com
www.gloryangusranch.com

Please mark an answer for each of the following two questions.

	Not at all	Slightly	Somewhat	Mostly	Completely
How much can you count on Glory Angus Ranch?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How much can you trust Glory Angus Ranch?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Considering the ranch represented, to what degree would you say Glory Angus Ranch...

Please mark an answer for each item.

	Completely	Somewhat	Neutral	Somewhat	Completely	
	1	2	3	4	5	
is dependable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	is undependable
is competent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	is incompetent
has high integrity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	has low integrity
is responsive to customers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	is unresponsive to customers

[EXPERIMENTAL GROUPS WERE SHOWN AD AGAIN HERE]

To what degree would you say the information in the ad is...

Mark an answer for each item.

	Completely	Somewhat	Neutral	Somewhat	Completely	
	1	2	3	4	5	
Accurate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Not accurate
Authentic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Not authentic
Believable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unbelievable
Credible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Not credible

[EXPERIMENTAL GROUPS WERE SHOWN AD AGAIN HERE]

Based on what you know about Glory Angus Ranch, how much do you agree with each of the following statements?

Mark an answer for each item.

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
I would like to learn more about cattle for sale at Glory Angus Ranch.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to know more about the Glory Angus Ranch genetic program.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning more about Glory Angus Ranch would be useful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[EXPERIMENTAL GROUPS WERE SHOWN AD AGAIN HERE]

Based on the ad and information, about how much would you expect the cost to be for an Angus bull from Glory Angus Ranch relative to the market average?

- 100% or more above
- 50% above
- 25% above
- 10% above
- Market average
- 10% below
- 25% below
- 50% below
- 100% or more below

Based on the ad and information, about how much would you be **willing to pay** for an Angus bull from Glory Angus Ranch relative to the market average?

- 100% or more above
- 50% above
- 25% above
- 10% above
- Market average
- 10% below
- 25% below
- 50% below
- 100% or more below

Rank the channels below based on how you prefer to view or find beef seedstock ads.

Mark an answer for each item.

	Not at all preferred	Slightly preferred	Moderately preferred	Somewhat preferred	Most preferred
Print ads in industry publications (such as The Angus Journal, Drovers, BEEF, Progressive Cattlemen, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Digital ads (such as those on social media pages, ranch websites or other industry websites)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Rank the channels below based on how you prefer to view or find beef seedstock ads.
Mark an answer for each item.

	Not at all preferred	Slightly preferred	Moderately preferred	Somewhat preferred	Most preferred
Consulting others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Websites	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social Media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Print ads	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Direct contact with the seller	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[EXPERIMENTAL GROUPS WERE SHOWN AD AGAIN HERE]

Please rate your level of agreement/disagreement with each of the following statements about the ad.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
The design is appealing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The design would catch my attention.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The design makes it easy for me to identify the information the business wants to highlight.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The design makes it easy for me to identify the information I would want.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The design needs a lot of improvement to be more appealing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It takes a lot of effort for me to look at this ad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It takes a lot of effort for me to read this ad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The design suggests this business is potentially trustworthy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

About how often have you seen beef seedstock ads with a **visual design** similar to this one?

- Never
- Sometimes
- About half the time
- Most of the time
- Always

What is your race?

Select all that apply.

- American Indian or Alaskan native
- Asian
- Black or African American
- Hispanic or Latino
- White
- Other _____

Are you male or female?

- Male
- Female

In what year were you born? For example, 1968.

Is beef cattle production your primary source of income for your household?

- Yes
- No
- I don't know

What is the average price you paid for an Angus bull within the last 5 years?

- I paid about: _____
- I have not purchased an Angus bull within the last 5 years.

How many years have you been in the cattle business?

Approximately how many head of cattle do you currently own or manage?

What traits do you value most when selecting a bull to breed to your beef cows?

Select all that apply.

- Carcass
- Growth
- Maternal
- Docility