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DIRECT-TO-CONSUMER PHARMACEUTICAL PRINT ADVERTISING'S EFFECT ON
MOOD

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ABSTRACT

This paper examines the emotional manipulation of direct-to-consumer pharmaceutical print advertisements and how this manipulation affects consumers. Advertising is designed to change consumer opinion and behavior. When dealing with healthcare advertisements, it is especially important to be ethical. The researcher created 8 print advertisements for a fictional asthma brand and chose 3 that separately represented positive, negative, and informational emotional states. Respondents of a questionnaire were randomly assigned one of the three conditions. The results indicated that pre-exposure mood and post-exposure mood did not change within each group; however, significant results were obtained for brand attitude and purchase intention. Exposure to the positive ad yielded positive brand attitude while exposure to the negative ad produced higher purchase intention. In all, emotional manipulation of pharmaceutical advertisements has real effects that the industry and world at large must consider.

TABLE OF CONTENTS

LIST OF FIGURES	v
Figure 1: Pharmacy & Drug Store Sales in the US from 1992-2013	11
LIST OF TABLES	vi
Table 1: Basic Measures	24
Table 2: DTC Attitudes	25
ACKNOWLEDGMENTS	vii
Chapter 1 Introduction	1
Chapter 2 Literature Review	2
Introduction	2
A History of Pharmaceutical Advertising in the United States	2
Consumer Confusion in Regards to Regulation Control	4
Pros and Cons of Pharmaceutical Advertising	5
Proponents	5
Opponents	6
Medicalization of Society	7
Previous Research and Trends	8
US Attitudes About DTCPA Future Development	12
DTCPA and the American Youth	12
The Youth as this Study's Main Subject	14
Chapter 3 Hypotheses and Research Questions	15
Hypotheses	15
Research Questions	16
Chapter 4 Methods	18
Overview	18
Pretest	18
Procedure	19
Measures	19
Independent Variables	19

Dependent Variables	20
Manipulation Check	22
Demographics.....	22
Chapter 5 Results	23
Sample Description	23
Inferential Statistics.....	23
Chapter 6 Discussion	27
Limitations	30
Conclusion and Implications.....	31
Appendix A Pretest.....	32
Appendix B DTCPA Survey.....	34
Appendix C Pretest	51
Appendix D Three Chosen Advertisements and the Extra Ad	67
Appendix E Pretest Advertisements	71
BIBLIOGRAPHY.....	79

LIST OF FIGURES

Figure 1: Pharmacy and Drug Store Sales in the United States from 1992-2013	11
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LIST OF TABLES

Table 1: Basic Measures	24
Table 2: DTC Attitudes.....	25

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Chapter 1

Introduction

Important Terms:

DTC – Direct-to-Consumer

DTCPA – Direct-to-Consumer Pharmaceutical Advertising

OTC – Over-the-Counter

Pharmaceutical advertising refers to the promotion of drugs, both prescription and over-the-counter (OTC). This type of advertising is mainly targeted towards two groups: physicians and consumers. This paper focuses exclusively on direct-to-consumer pharmaceutical advertising (DTCPA) with a strong emphasis on prescription drugs.

There are many questions and criticisms surrounding DTCPA. Some believe that advertising prescription drugs is wrong. There are ethical concerns dealing with the ads, media, and vehicles themselves, along with consumer outcome (post ad exposure). Consumers also often do not know about current DTCPA regulations and processes. This paper will discuss these issues in detail.

It is important to understand that pharmaceuticals are products used by consumers and that consumer products are often promoted. Advertising may provide information and choice to the consumer, giving him or her power. The often debated problem with pharmaceutical advertising, as opposed to commercial goods advertising, is its direct effect on consumers' everyday health and, further, their mental statuses. Because of this, regulations exist and evolve.

Many studies have been done on DTCPA. The main focus is consumer health and the potential benefits this type of advertising brings to society. This study mainly examines a particular aspect of consumers, their mood, and makes implications about the future of the practice.

Chapter 2

Literature Review

Introduction

Pharmaceutical advertising exists in only two countries: The United States and New Zealand. Both countries defend their policies citing many benefits, the greatest of which being more information for consumers. The hundreds of countries opposed to DTCPA either lack proper government and infrastructure or feel that more harm than good would befall consumers. Before examining the pros and cons of DTCPA, it is vital to understand its evolution in the United States.

A History of Pharmaceutical Advertising in the United States

Drugs have been advertised in the United States for hundreds of years. Starting in the 18th and 19th centuries, patented medicine titles were displayed with lively text and made potentially false claims in newspaper ads. By the early 20th century, these ads accounted for almost half of newspapers' total advertising revenue. Finally, regulation began in 1906 when Congress passed the Pure Food and Drug Act. (Huh et al., 2010).

The Pure Food and Drug Act was the first of many evolutions of marketing regulations. This act affected product labels and had no jurisdiction on the potential deceptiveness of the ads (Huh et al., 2010). Furthering progress was the 1911 Supreme Court Case, *United States v. Johnson*, which forced manufacturers and salespeople to disclose the ingredients and identity of a drug (Mogul, 107, 2008). Again, this ignored advertising's ability to make false claims and skew the truth. In 1912 the Sherley

Amendment prohibited the inclusion of false claims on labels that were directly intended to defraud purchasers, but this was too difficult to prove in a court of law.

After many years of struggle, the US Food and Drug Administration (FDA) proposed a complete revision to the 1906 Act; however, action was not taken until a catastrophe occurred. The S.E. Massengill Company released a drug without testing and killed 107 people, mostly children. In response, Congress passed the Federal Food, Drug, and Cosmetic Act of 1938. Now manufacturers were required to prove that new drugs were safe and include directions on labels. Also, the Federal Trade Commission (FTC) gained permission to be the regulatory body for all marketing and advertising involving drugs. (Mogul, 107-108, 2008).

Drug advertising now had some effective restrictions, but it needed to get more specific. In 1951, the Durham-Humphrey Amendments were added to the Federal Food, Drug, and Cosmetic Act (Huh et al., 2010). This included identifying two very different types of drugs: over-the-counter (OTC) and prescription. It also created a list of drugs that required medical supervision and restricted sale of these drugs to licensed practitioners. As a result, advertising targeting shifted from the general public to those practitioners.

Drug advertising regulations in the United States were gaining public notice. One event in particular sparked great support for FDA regulations. A drug in Germany caused horrible effects to fetuses. This drug was banned in the US thanks to the 1938 law requiring testing. This event led to support for mandatory FDA approval in the form of the 1962 Kefauver-Harris Amendments and the FDA overtook the FTC as the regulatory body for prescription drug advertising.

In the coming years, the public wanted more knowledge. In 1967 Congress enacted the Fair Packaging and Labeling Act that forced manufacturers to display the quantity of contents and data, enabling value comparisons on packaging. This was a big step in the free market and promoted competition between brands. The consumers still desired more safety information and in 1970 the FDA

required the patient package insert containing information including risks and benefits. (Mogul, 108, 2008).

The consumers did get the information they wanted, yet advertisements by the pharmaceutical companies were still largely directed toward health care professionals (HCPs). Advertising to the public was perfectly legal, but the big manufacturers just cared about appeasing FDA demands and getting HCPs to prescribe their drugs. Once the companies figured out that they could increase sales by advertising to the consumer too, DTC took off. The FDA did place a three-year voluntary moratorium on DTC ads, but decided to allow them in 1985 (Huh et al., 2010). Since then, the trend has only increased.

DTC ads had to meet the same legal requirements as ads directed toward professionals. They had to include the drug's side effects, warnings, and precautions as well as split ad content equally – 50/50 – between risks and benefits. In 1997, the FDA drafted guidelines for broadcast DTC advertising (including television and radio). Advertisers were struggling to meet the 50/50 requirements on these mediums. The guidelines were finalized in 1999 and stated that advertisers could split time as they wanted, but major risks and common side effects must be mentioned in the audio and/or visual portion of the ad. Also, the FDA required sources with more information to be present. (Huh et al., 2010; Mogul, 109, 2008).

Consumer Confusion in Regards to Regulation Control

The FDA monitors pharmaceutical advertising today, but most consumers do not know the types or extent of regulations. In a nationwide survey, 28% of consumers believed that the federal government only permits the safest drugs for TV advertisements (Joseph, Spake, and Finney, 2008). Many people think the government only allows completely safe drugs to be advertised and unsafe drugs are not advertised at all. Additionally, over half the subjects from the previously mentioned nationwide survey thinks, “pharmaceutical advertising promotes the idea that prescription drugs are harmless” (Joseph et al., 235, 2005). Well, these notions are false.

Consumers are clearly confused about regulation processes, which leads to confusion about the ads to which they are exposed to later in this paper. Further research is detailed in the “Previous Research and Trends” Section.

Pros and Cons of Pharmaceutical Advertising

DTCPA is not likely to be disbanded and will continue to evolve as time continues. Public opinions of this practice help shape that evolution. The two opposing viewpoints -- for and against -- cite numerous arguments to support their positions.

Proponents

The proponents most often cite increased consumer awareness, increased education, and greater overall patient autonomy of their personal health and health care in support of DTCPA. DTCPA not only provides information, but also may stimulate information seeking behaviors. The ads may cause patients to pursue medical treatment for previously undiagnosed conditions because they recognized symptoms seen in an ad (Joseph, Spake, and Finney, 2008). Some ads promote new medications and/or new uses for existing medications. Patients may also be encouraged to stick with drug regimens and may be reminded to take their prescriptions as a result of DTCPA (Joseph, Spake, and Finney, 2008). Overall earlier detection and proper treatment reduce more extreme measures like hospitalizations (van de Pol, G.A. de Bakker, 2010). This may save lives and reduce the overall national cost of healthcare.

Also, ads have been proven to facilitate better conversation and a better relationship between a patient and their doctor (Van de Pol, G.A. de Bakker, 2010). Patients now actively seek information and discuss multiple options with their physicians. With this improved knowledge and conversation, the overall US health care community is saving time and money.

Further, the current system allows pharmaceutical companies to compete and profit from advertisements. That revenue is reinvested into research and development and that competition helps keep prices at an appropriate competitive level. Competitiveness is good for consumers because it lowers prices, forces companies to improve the quality of the drug, and offers consumers more choices for a product category (Van de Pol, G.A. de Bakker, 2010).

Opponents

On the other side are the opponents who think that there are no possible competitive advantages associated with DTCPA (Van de Pol, G.A. de Bakker, 2010). They claim that prescription drugs should not be marketed like any other product and that they are not like any other product, as they deal with a basic necessity: healthcare. Prescription drugs require specialized knowledge to prescribe, so opponents believe doctors are best trusted to do so and that DTCPA is bad because it encourages patients to go out and request drugs for which they lack specialized knowledge. The safety of consumer choice is thereby threatened. (Van de Pol, G.A. de Bakker, 2010).

The increased number of patients requesting prescriptions causes problems for doctors and critics believe, harm to the patient/doctor relationship. Asking for more and more prescriptions may strain physicians' workloads. Further, patients in the US are requesting more expensive brand-name drugs instead of the generic, which is unnecessarily increasing consumer costs (Joseph, Spake, and Finney, 2008). From these requests, doctors also feel more pressure to prescribe an advertised drug that they normally would not have, as a result of requests and DTCPA (Joseph et al., 236, 2005).

Critics also scrutinize ads for content. Many believe the ads withhold important information such as success rates, duration of use, alternative (non-drug) treatments, and price (Main, Argo, Huhmann, 2004; Wilkes, Bell, Kravitz, 2000). Others accuse DTCPA of scaring away customers with the mention of risks and side effects, causing a patient to be too fearful of the drug to take it (Joseph, Spake, and Finney,

2008). As a result, some drugs may never be sold or prescribed. Also, the content of the ads can be confusing: mixing the educational with promotional (Main, Argo, Huhmann, 2004). The ads may have unintended consequences, such as emotional unrest for the viewer.

Another issue critics view in direct opposition of proponents is the profits or financial gains of the pharmaceutical industries as a direct result of DTCPA. Many people contribute the rising prices of drugs to rising marketing costs (Van de Pol, G.A. de Bakker, 2010). In fact, the costs associated with prescription drugs are among the fastest rising healthcare expense in the United States (Main, Argo, Huhmann, 2004). Opponents worry about the implications of such rapidly growing costs: drug prices and the increased prices of advertising at pharmaceutical companies face. Also, manufacturers may concentrate on producing and advertising drugs that treat more common ailments rather than concentrate on the research and production of drugs for life-threatening illnesses (Joseph, Spake, and Finney, 2008). This would be harmful to vital medical advances for longevity.

Patients still view doctors as “the most valued source of healthcare information” (Joseph, Spake, and Finney, 121, 2008). But when patients arrive determined to leave with a prescription, they often do not want to hear a doctor suggest alternative remedies or over-the-counter drugs. They want a “magic pill.” The relationship may be strained if the doctor refuses. Some patients even admitted in a study that they would switch doctors in order to get their desired prescription (Joseph, Spake, and Finney, 2008).

Medicalization of Society

While not strictly an opponent-held view, a major criticism of DTCPA is its believed contribution to the medicalization of society. Medicalization is the growing dependence on drugs and the growing acceptance of their frequent use. A rising trend shows that more and more Americans prefer prescription drugs to old remedies -- including simple rest and sleep -- to treat moderate illnesses. This may prevent the strengthening of an individual’s immune system as well as contribute to the phasing out of drugs. The

more a drug is used, the higher the user's tolerance, which leads to obsolescence of the drug. The asking for prescriptions from doctors as a result of DTCPA also leads to the increased use of unneeded medicines, which accelerates tolerance (Joseph, Spake, and Finney, 2008). These things together help drive society towards medicalization.

With an increased comfort requesting and using prescription drugs comes a rise in drug abuse and misuse. In today's society it is unfortunately all too common to not follow proper directions on labels. Also, consumers share or sell prescription drugs that are not their own. It is impossible to accurately know the incidence of this, as it is illegal and therefore not easily monitored; however, "The National Institute on Drug Abuse estimates that nearly 20% of people in the United States have used prescription drugs for non-medical reasons" ("Controlled Substances"). Also, the abuse overwhelmingly falls between users age 16-24 ("DrugFacts: Nationwide Trends").

It is not only consumers furthering medicalization, but also the pharmaceutical companies. The ads may make normal human processes -- mundane occurrences -- into medically solvable illnesses. One example is balding which has no negative effects to physical health, yet drugs and solutions are marketed as if baldness were an affliction. This practice by pharmaceutical companies, coupled with consumers' rising drug use and abuse, undoubtedly feeds medicalization.

Previous Research and Trends

Much previous study has been done about DTCPA. Most research focuses on effectiveness and uses post-consumer behaviors as measurements. Other works have looked into pharmaceutical ads in more detail via content analyses.

Regulations for specific ad types and content have evolved. Today, benefits as well as risks and side effects must be mentioned. Also, the ads must be truthful, which is consistent across all advertising. In print, the agency must supply equal page space between the advertisement and the safety information.

Today this looks like the ad and the reverse page coated with small black and white text. Few people read that text or listen to its equivalent (low fast speech) in TV ads (Spake & Joseph, 2007). Overall, the credibility given the information displayed along with the educational value of DTCPA has been questioned and varies often.

DTCPA as well as other DTC advertisements use emotional appeals to prompt desired consumer response, i.e. change in behavior: purchase intention. Emotionally charged ads have proven to be more memorable and effective than ads that lack emotion. A content analysis by Main, Argo, and Huhmann (2004) revealed that DTCPA does not solely rely upon information-sharing, rational appeals, but instead more often than not employs positive or negative emotional appeals in ads. The authors' argument stated that "pharmaceutical firms will rely more on emotional appeals" to persuade consumers to use medication that may not always be the best choice medically or financially (Main, Argo, Huhmann, 121, 2004). The authors position this emotional type of advertising of pharmaceuticals as profit-seeking and without the consumers' best interest, including health interests, in mind. Results revealed that a vast majority (75%) of print ads possessed either positive or negative emotional appeals, which means that pharmaceutical companies, more often than not, use an emotional tactic. The companies' true motives become questioned. If pharmaceutical companies are solely focused on providing information, research suggests they should only use rational appeals (Main, Argo, Huhmann, 2004).

Emotional advertising can lead to increased sales and brand recall, which the pharmaceutical companies would like (Main, Argo, Huhmann, 2004). However, can this emotion be directed towards a positive or negative consumer experience? Niazi, Ghani, and Aziz (2012) explored advertisements classified as possessing one of three aspects of emotions: love, fear, and information. They found a positive significant relationship between emotional ads, but an insignificant relationship with informative ads. There was also a positive significant relationship between positive affect towards the ad and brand attitude. Finally, they found that a positive brand attitude lead towards purchase intention. In their discussion, they elaborated on this; that a positive affect led to positive brand attitude led to purchase

intention. They did not delve into the effects of the negative ad, of “fear.” Their research shows that not only do emotional ads play a significant role in the consumer experience, but that the direction of that emotion can further affect the consumer.

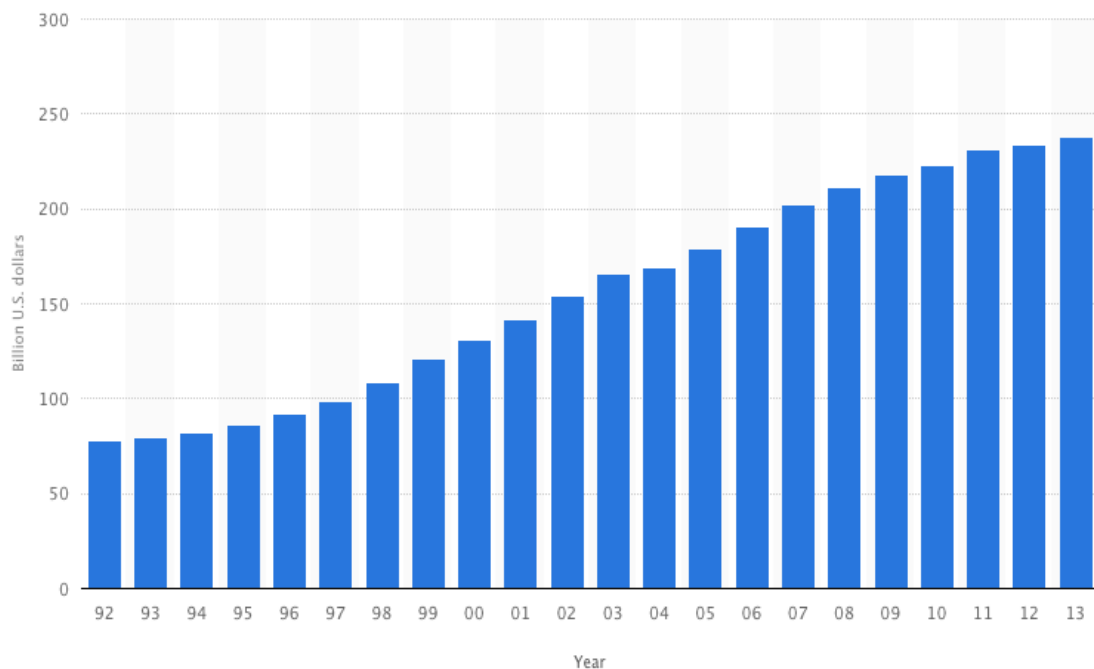
Continuing the discussion about the end consumer, the research that has been done about DTCPA effects on viewers is mostly limited to post-exposure consumer behavior. Today, more than “one in five Americans has contacted his or his physician to discuss a drug as a result” of DTCPA (Spake & Joseph, 285, 2007). Also, patients will now ask for more information and ask directly for a prescription for an advertised drug. Of those that ask, usually 75% report that their doctors acquiesced (Wilkes, Bell, Kravitz, 111, 2000).

Consumers also have specific attitudes about drug advertising regulation. A comprehensive study by Spake and Joseph (2007) reveals important data that mirrors dozens of other studies’ results. Consumers overwhelmingly believe that doctors prescribe based on the effectiveness of a drug, but in contrast, almost half also believe that doctors are influenced by benefits provided by pharmaceutical companies. Both things may be true, but pharmaceutical company influence is not seen by many as ethically objective. Regarding the ads themselves, the majority (over 60%) of respondents believed that DTC pharmaceutical ads were educational and effective. Over half believe that the ads are overall “beneficial to consumers, but that drug companies do not provide adequate information to consumers about these products in advertising” (Spake & Joseph, 287, 2007). And parallel to the previous information discussing patient drug requests, respondents did not agree that DTCPA had influenced them to visit their doctor, despite admitting their increased likelihood to ask for a prescription and/or speak to their doctor. Respondents also did not think DTCPA affected their patient-doctor relationship. One-third of respondents sought more information post ad exposure. Nearly all (over 99%) of respondents admitted to “relying on his or her doctor to select the best drug for them” (Spake & Joseph, 287, 2007). In total, there exist conflicting viewpoints so the effect of these ads on consumer beliefs and action is still unclear.

In the same study, respondents' knowledge about DTCPA was tested. The majority of people did not believe that the FDA properly monitors drug advertising, and 70% believed that stricter guidelines for it are needed. Over 96% of respondents agreed that pharmaceutical companies benefit the most (over consumers and doctors) from DTCPA. In fact, pharmaceutical companies have seen huge sales increases. These problem areas yield consistent negative consumer attitudes and contribute largely to the negative views on DTCPA. Figure 1 shows the fast growth of this now multi-billion dollar industry which shows few signs of slowing down.

Figure 1: Pharmacy and Drug Store Sales in the United States from 1992-2013

(In billion US dollars)



US Attitudes About DTCPA Future Development

The majority of the scholarly research described in the above sections reflects Americans' attitudes about DTCPA. In general, researchers do believe that it is a good thing (Van de Pol, G.A. de Bakker, 2010). It causes Americans to think more about their health and health care options. It can help someone recognize symptoms and get proper treatment. However, Americans also heavily weigh the financial costs of such a practice. They believe that pharmaceutical companies draw hefty profits from DTCPA, and they do. Americans also are currently dealing with very mixed views about the recent healthcare system implementation, namely Obamacare. In an unsettled climate, DTCPA in the US is not likely to change despite the attitude of the population calling for stricter regulations.

DTCPA and the American Youth

Switching the focus from Americans en masse, this paper will now discuss the importance of DTCPA and its effects on the youth, namely 18-24 year-olds commonly referred to as millennials.

Historically, pharmaceutical advertising has been directed toward older adults. Elderly people are more commonly taking prescriptions than the comparably healthier youth. However, young adults are often exposed to this advertising and a growing trend has increased the amount of advertising directed at this segment.

First let's examine general exposure of DTCPA to millennials. Research is lacking on exposure and direction exclusively toward young adults. Most existing data stems from younger individuals providing care for the elderly and being incidentally exposed while on the job (Alperstein, 2014). From this data, an interesting insight developed. Older patients are more accepting of DTCPA, which suggests the elderly view the taking of prescriptions as a sign of health, whereas youth consider it to be a sign of

illness (Wilkes, Bell, Kravitz, 2000). This viewpoint becomes important when designing a targeted advertising message.

Second, there are a growing number of advertisements targeted at younger audiences. In the early 2000s, new creative approaches were implemented and a greater reach achieved for DTCPA. Cartoons and celebrity spokespeople were becoming more common and drug advertisements started cropping up on major shows including the Super Bowl. Another outlet for drugs on a platform that millennials devour is social media. More and more drugs are furthering their brand on social platforms, promoting themselves on a media dominated by the youth. (Wilkes, Bell, & Kravitz, 2000).

Exposure to a medical ad, even if directed at the elder population, still sticks and resonates with the youth, whether intended to or not. In fact, incidental viewing can actually make the advertised product more memorable (Alperstein, 2014). Even if a millennial is multitasking, the likely scenario when consuming media for this age group, “they will still include an advertised product in their real world consideration set” (Alperstein, 2014). Ads, whether intended for the youth or not, have an effect on them.

Thirdly, more and more prescription drugs are entering the market for conditions that afflict millennials (Alperstein, 2014). These include drugs for acne, asthma, and birth control, to name a few. Also, existing advertising is being redirected towards younger audiences including depression and allergy medications. The oversaturation of prescriptions in the market, coupled with society’s growing nonchalance about using drugs as a cure-all, contributes to the youth’s majority acceptance of a growing problem: medicalization of society.

The Youth as this Study's Main Subject

There is a lack of studies directly focusing on DTCPA's effect on millennials. The youth are affected (as detailed above). This segment is also particularly vulnerable because they most often use and abuse prescription drugs. Proper advertising may curb this behavior and may further contribute against the medicalization of society.

Chapter 3

Hypotheses and Research Questions

Hypotheses

H1a: Participants exposed to a positive ad will demonstrate a greater increase in positive mood than those exposed to a negative ad.

H1b: Participants exposed to a negative ad will demonstrate a greater increase in negative mood than those exposed to a positive ad.

H2: Participants exposed to a positive ad will demonstrate a more favorable brand attitude towards Medrasol than a negative ad exposed group.

H3: Participants exposed to a positive ad will demonstrate a higher purchase intention than those exposed to a negative ad .

H4a: Participants exposed to a positive ad will demonstrate a higher positive affective response than those exposed to a negative ad.

H4b: Participants exposed to a negative ad will demonstrate a higher negative affective response than those exposed to a positive ad.

H5: Participants exposed to a positive ad will demonstrate higher agreement that DTC is currently properly regulated and benefits society compared to those exposed to a negative ad.

H6: Participants exposed to a negative ad will demonstrate higher agreement that DTC is not properly regulated, is in need of modification, and is overall not beneficial to society compared to those exposed to a positive ad.

H7: Participants exposed to a negative ad will connect DTC to ethical issues (including untruthful advertising) and the rise in costs of medications more than those exposed to a positive ad.

H8: Participants exposed to a positive ad will be more likely to do an action that relates to their health than those exposed to a negative ad.

H9: Participants exposed to a positive ad will be more likely to demonstrate trust that their doctor's actions and intentions are in their best interest compared to those exposed to a negative ad.

Research Questions

RQ1: Will the group exposed to the informational ad show any changes in mood pre- and post-exposure as compared to the other two groups?

RQ2: Will change in mood affect brand attitude and purchase intention for the group exposed to the informational ad?

RQ3: Will the informational ad-exposed group's results for brand attitude and purchase intention yield any significant likelihood for post-exposure consumer behavior tendencies and greater trust in doctors?

RQ4: Will the informational group have differing results towards both positive and negative affective response to the ad as compared to the other two groups?

RQ5: Will the group exposed to the informational ad have differing responses to the positive- and negative-exposed groups for hypotheses 5-9?

Chapter 4

Methods

Overview

This study aims to determine if ads differing in emotional content and appeal have a significant effect on viewers' moods, brand liking, purchase intention, among other things. A total of 141 (83% female with average age of 20) respondents consisting mostly of undergraduate students from a large university in the Research Methods course for Advertising took the questionnaire. Less than 20 participants consisted of friends and family members from New Jersey and Pennsylvania. The 141 persons were randomly and evenly divided into three groups where the difference between the groups was the ad they were exposed to. The questionnaire, generated on Qualtrics, was identical for all. IRB approval was obtained prior to the release of the study.

Pretest

Prior to the main study, a pretest was conducted to determine the best ads that fit three criteria: a positive ad, a negative ad, and an informational ad. The ads differed only in color and copy. Images involving people, places, or things (other than a simple pill graphic) were excluded to lessen the likelihood of confounding variables. A total of nine advertisements were shown to two Advanced Campaigns in Advertising classes (See Appendix A). Thirty-nine students rated each ad on objectivity, factualness, and their attitudes about the advertisements' characteristics from a set list of adjectives. The ad scoring highest on factual ($M=5.05$), tangible ($M=4.1$), logical (4.72), objective (4.26), and high on

informed ($M=5.49$) with low on emotional adjectives for attitude towards ad ($M<2$) was chosen as the informational ad. The ad scoring high on subjective ($M=4.72$), non-factual ($M=4.77$) and high on fearful and anxious ($M=4.62$) for characteristics was chosen as the negative ad. Finally, the ad scoring high on non-factual ($M=5.46$) and subjective ($M=4.74$) with high scores for loving ($M=4.24$), warm ($M=4.28$), and caring ($M=4.44$) and low on nearly all negative attitudes ($M<2$) was chosen as the positive ad.

Procedure

The experiment was facilitated on the Internet through the Qualtrics survey program. Consent was implied, but the survey opened with a detailed set of instructions and a mandatory “participant must be 18 years or older to continue” (See Appendix B). For friends and family, the link was sent via email directly from the researcher. For the class, the professor received the link and distributed it to his class whereby they had one week to complete the survey. Extra credit was awarded. Upon opening the questionnaire, students could take it anywhere, at any time, for any length of time so long as they had a smart device or computer with Internet access. Each ad had a mandatory viewing timer of 8 seconds to ensure adequate viewing before participants could move on. Finally, the attributes within questions were randomized to minimize repetition and potential confounding effects.

Measures

Independent Variables

The groups received identical questionnaires, except each was exposed to a different ad: positive, negative, or informational. All groups were also exposed to a ‘dummy’ ad in the form of an advertisement

for a fictionally branded wrench so as to avoid the participants knowing exactly what they were being tested on.

Dependent Variables

Mood. Mood was measured before and after ad exposure. *Pre-Mood* and *Post-Mood* were identical except that the order of the measures/adjectives was randomized for each participant. The adjectives were derived from “Feeling Scales” outlined by Edell and Burke (1987). Participants were asked to rate their *current* mood from ‘Not at All’ (1) to ‘Very Much So’ (7), a Likert scale, against each attitude. All measures can be found in Appendix B.

Brand Attitude. Brand Attitude was the average of four questions framed around Medrasol. The questions ($\alpha=0.87$) were modeled off of “Attitude Towards Brand” (Bruner, James, Hensel, 2001, 66).

Purchase Intention. Purchase Intention was the average taken from three polar scales, $\alpha=0.91$ (Bruner, James, Hensel, 2001, 453).

Positive Affective Response. Positive Affective Response was the average taken from three polar scales, $\alpha=0.97$ (Bruner, James, Hensel, 2001, 27). There are ten positive attributes including: loved, good, happy, cheerful, pleased, warm, peaceful, relaxed, amused and calm. The order was randomized for each participant and included in the same Likert matrix as the Negative Affective Response attributes.

Negative Affective Response. Negative Affective Response was the average taken from three polar scales $\alpha=0.94$ (Bruner, James, Hensel, 2001, 17). There are nine negative attributes including: concerned, anxious, guilty, sad, lonely, afraid, worried, uneasy and angry. The order was randomized for each participant and included in the same Likert matrix as the Positive Affective Response attributes.

DTC is Properly Regulated. DTC Properly Regulated consisted of questions regarding participants’ attitudes about proper current FDA/federal government regulation and the potential need for

stricter guidelines. A mean was taken for answers ranging from ‘Strongly Disagree’ to ‘Strongly Agree’ on a 7-point Likert Scale.

DTC Benefitting Society. DTC benefitting society includes potential benefits these ads may bring to the public including information and education as well as the opposite view – that the ads cause harm by not accurately portraying risks. A mean was taken for answers ranging from ‘Strongly Disagree’ to ‘Strongly Agree’ on a 7-point Likert Scale.

DTC Ethical Issues. DTC ethical issues measured participants’ attitude about the current state of ethics of DTCPA. Consumers are asked if drugs are the equivalent to any other consumer good and if the informational supplied by manufacturers, advertisers, and pharmaceutical companies is accurate. A mean was taken for answers ranging from ‘Strongly Disagree’ to ‘Strongly Agree’ on a 7-point Likert Scale.

Rise in Medical Costs. Rise in medical costs measures participants’ belief that DTCPA contributes to rising medical costs in the United States. This includes directly asking if there exists a relationship and asking for drugs, specifically a brand name versus a generic drug from your doctor. (Brand name drugs are almost always more expensive). A mean was taken for answers ranging from ‘Strongly Disagree’ to ‘Strongly Agree’ on a 7-point Likert Scale.

Post-exposure Health Action. Post-exposure health action measures a viewer’s likelihood to do certain activities post DTCPA exposure. These questions to the participants include actions like being persuaded to prefer a brand name drug, seeking information about the drug, and making a doctors appointment. A mean was taken for answers ranging from ‘Strongly Disagree’ to ‘Strongly Agree’ on a 7-point Likert Scale.

Trust in Doctor and Better Doctor-Patient Relationship. Trust in doctor and better doctor-patient relationship is measured by attitudes about doctor’s character such as he/she prescribes based off drug effectiveness and not personal motives incentivized by drug companies. This variable also includes conversations a patient may have with their physician. A mean was taken for answers ranging from ‘Strongly Disagree’ to ‘Strongly Agree’ on a 7-point Likert Scale.

Manipulation Check

The same questions used in the pretest (Appendix A) were included in the final questionnaire (Appendix B). These included factual scales as well as ad characteristics Likert matrix. The results of the pretest responses (N=39) for the three ads chosen and used in the final questionnaire can be seen in Appendix C.

Demographics

Participants were asked to indicate their age, student-status, gender, race, education level, parental financial support (if applicable), and family income.

Chapter 5

Results

Sample Description

Demographics. Ages ranged from 18 to 60 with mean age of 21.6. One hundred-seventeen were female (83%) with 16 male (11.3%). 90.1% were full time undergraduate students while 4.3% were not. 68.8% were white, 8.5% black, 7.8% Asian, 2.8% Hispanic, and 0.7% other. 75.9% of participants have seen up to 20 DTC medicine ads in one week. 29.8% have seen between 10 and 20 ads per week. 32.6% of family income was greater than \$100,000. 46.8% of participants receive full financial support while in college. In terms of devices DTC pharma ads are viewed/seen by participants 75.2% on TV, 47.5% in magazines, 48.2% on the Internet, and 17.7% on mobile devices.

Independent Variables. 141 participants were divided into 3 groups. With some unanswered questions, the “N” for each group varied. The informational group (I group) saw the informational ad, n = 43. The positive group (P group) saw the positive ad, n = 40, and the negative group (N group) saw the negative ad, n = 44.

Inferential Statistics

Hypothesis 1a predicted the P group’s mood would increase (become more positive) as a result of ad exposure. H1b predicted the N group’s mood would decrease (become more negative) as a result of ad exposure. Both hypotheses were not supported ($p > .5$).

Hypotheses 2 and 3 dealt with brand attitude and purchase intention. Hypothesis 2 predicted that the P group would have a higher brand attitude than the N group. This hypothesis was supported ($p < .02$).

Hypothesis 3 dealt with purchase intention, predicting that the P group would be higher in this category than the N group. This was not supported, though significant results in the opposite direction occurred ($p < .03$).

Hypothesis 4a and 4b predicted that the P group would have a higher positive affective response to the ad than the N group, and that the N group would have a higher negative affective response to the ad than the P group, respectively. Hypothesis 4a was supported ($p < .01$), but hypothesis 4b was not supported ($p > .1$).

Hypotheses 5 through 9 were all rejected ($p > .35$). Table 1 details the statistical analysis for basic measures, Hypotheses 1 – 4. Table 2 details the statistical analysis for participants' attitudes about various aspects of DTC and healthcare.

Table 1: Basic Measures

Variable	N	Mean	Standard Deviation
H1a: Positive Mood Change			
P Group	40	-0.308	0.578
N Group	43	-0.302	0.626
H1b: Negative Mood Change			
P Group	40	-0.066	0.458
N Group	44	-0.129	0.643
H2: Brand Attitude			
P Group	42	4.345	0.914
N Group	43	3.802	1.082
H3: Purchase Intention			
P Group	42	4.135	0.718
N Group	42	4.504	0.791

H4a: Positive Affective Response

P Group	41	3.182	1.207
N Group	42	2.409	1.311

H4b: Negative Affective Response

P Group	41	2.369	1.087
N Group	42	2.767	1.235

Table 2: DTC Attitudes

Variable	N	Mean	Standard Deviation
H5 & 6: Properly Regulated			
P Group	41	4.390	0.787
N Group	42	4.464	0.952
H7: Medical Cost Rise			
P Group	41	4.073	1.132
N Group	42	3.833	1.200
H5 & 6: Benefits Society			
P Group	41	4.303	0.882
N Group	42	4.340	1.276
H7: Ethics			
P Group	41	3.561	1.129
N Group	42	3.476	1.162
H9: Trust Doctor			
P Group	41	4.320	0.737
N Group	42	4.300	0.942
H8: Post Health Action			

P Group	41	3.419	0.989
N Group	42	3.458	1.244

Research Question 1 asked if all three groups would differ in change in mood. There was no significant change for any group. Research Question 2 asked if change in mood would affect brand attitude and purchase intention for all groups. N group and I group significantly differed from each other ($p < .01$) and the P and N groups differed from each other ($p < .05$). Purchase intention was significantly different between I group and N group ($p < .01$) where N group was higher. For brand attitude, P group was higher. Research Question 3 asked about future behavior and trust in doctors. Brand attitude and Trust in doctor are significantly positively correlated, $r = .267$ and $p < .05$. Brand attitude is also significantly negatively correlated with Purchase Intention, $r = -.488$, $p < .01$. Research Question 4 dealt with positive and negative affective response; both of which were not significant ($p > .05$). Research Question 5 dealt with the I group compared to the P and N groups on hypotheses 5-9. All were not significant ($p > .05$).

Chapter 6

Discussion

The aim of this study was to determine if a print pharmaceutical advertisement could affect a person's mood, the further implications of which could deal with both the medical/pharmaceutical and advertising industries.

H1 a & b predicted that P Group's positive mood would increase more than N group's and that N Group's negative mood would decrease more than P group's. Both H1a and H1b were rejected. However, when looking at the means, something interesting and somewhat unexpected occurred. First, examine positive mood change ($\text{=Post Positive Mood Mean} - \text{Pre Positive Mood Mean}$). For P group, $M = -0.308$. For the mean to be negative, as it is, the post mood mean would have to be less than the pre mood mean. This would imply that for P group, their positive mood actually decreased after seeing the positive ad. For Negative Mood Change ($\text{Post Negative Mood Mean} - \text{Pre Negative Mood Mean}$), N group's mean was -0.130 . Their post negative mood was less than their pre negative mood. After exposure to the negative ad, N group became less negative in mood. One possible explanation for this is the fact that the product was a pharmaceutical oral pill for asthma. No one wants to be sick, so perhaps the negative ad made N group feel glad that they (hopefully) did not have asthma. Whereas P group may just have reacted to the ad by thinking about their health.

H2 proposed P group would have a more favorable brand attitude than N group. This hypothesis was accepted. The difference in means was 0.543 with P group's being higher, $p < .05$. The positive ad yielded more positive feelings about the brand. This is most likely due to the association of positive words to a novel one. Medrasol is a made-up brand name so there are no pre-existing attitudes about the

name. Pairing Medrasol with positive language likely resulted in the more favorable brand attitude for P group.

H3 supposed that P group would also demonstrate a higher purchase intention than N group. Although for the t-test, $p < .05$, the hypothesis was rejected. N group actually demonstrated a higher purchase intention than P group. This may be due to the fact that the negative group became worried for their health and would therefore be more likely to buy the medication.

H4 a & b predicted that P group would demonstrate higher positive affective response than N group, and that N group would demonstrate a higher negative affective response than P group. H1a was accepted was H1b was rejected. P group did demonstrate a higher positive affective response (Mean difference = 0.773, $p < .01$). This may be due to specific adjectives in the headline of the ad, like the word “love”; whereas the negative ad used “fear”, though in its subheading. Further research and exploration would need to be done most likely in the form of a content analysis to explain why positive affectivity was significant, though negative affectivity was not.

H5 through 9 were all rejected ($p > .05$). This implies that exposure to the positive or negative ad did not affect any DTC opinions or Health Care opinions. The ads did not affect pre-existing thoughts.

The research questions largely compared I group to P and N groups. Just as with H1, the change in moods between the groups was not significant, $p > .05$. For brand attitude, however, there was a significant difference between I group and N group, $p < .01$. With a mean of 4.471, the highest in the category. The I group scored the highest for brand attitude. This may be due to the abundance of technical language used in the ad. Consumers who read heavy scientific copy may be more likely to believe the brand is based on sound research and therefore like and trust it. There was no significant difference for I group and P group, $p > .05$.

For purchase intention, I group had the lowest mean, $M=3.900$, compared to P group ($M=4.135$), and N group ($M=4.503$). There was a significant relationship between I group and N group, $p<.01$. Just as N group was more likely than P group to purchase Medrasol because the ad may have caused them to fear for their health, the I group's heavily technical ad may have persuaded more consumers to purchase the drug.

For both Positive and Negative affective responses, as well as all DTC attitudes, Trust in Doctor, and consumer behavior, I group did not significantly differ from P group or N group, $p>.05$. For affective responses, this may be due to the lack of emotional language used in the ad. Without emotional language, the ad lacks both positive and negative affect. Again, similarly to the lack of significant difference for DTC attitudes (H5-9) for P and N groups, exposure to any of the three ads did not affect any preexisting opinions on the topics.

RQ3 asks about the relationship for brand attitude and purchase intention to consumer behavior and increased trust in doctors. Both brand attitude and purchase intention together yielded not significant results, however there did exist relationships between brand attitude and trust in doctor and brand attitude and purchase intention. Brand attitude and trust in doctors had a positively correlated relationship ($r=.267$, $p>.05$). So the more you liked the brand, the more likely you were to trust doctors. This line of thinking is logical. If you like a medicine, you are more likely to have a positive attitude towards your doctor. Doctors and medicine are often associated. Next there existed a negative relationship ($r=-.488$, $p<.01$) between brand attitude and purchase intention. This is a very strong negative relationship which at first seems unlikely. If you liked the brand, it can be assumed you'd buy it. However, consumers have varying degrees about pharmaceuticals and Medrasol is a new brand. So if you were sick and needed to buy it, you may not like the brand; you may associate it with your being sick. Conversely, if you did not buy it, you may like the brand for a variety of other reasons.

Similar to the relationship with brand attitude and trust in doctors, brand attitude and consumer action were positively correlated ($r=.273$, $p<.05$). This makes sense just as it did with trust in doctors. If you like the brand, you may be more likely to go out and learn more about it, talk to your doctor about it, and perhaps seek a prescription for it.

Limitations

One major limitation of this study was the number of stimuli provided to a limited sample size. One print ad (with a throwaway distractor print ad) may not have been enough to significantly alter a participant's mood, or further, their attitudes about the ad, DTC, or the pharmaceutical industry in general. In the future, more media than just print should be considered. Also, the 141 participants (8 of whom left almost all answers blank) may not have been a large enough sample. They were certainly not representative of the whole population with the mean age hovering just over 20.

Another possible limitation could have been the choice of product. A fictional asthma medication was used. A known brand might have yielded different results. OTC drugs were not considered either. Pharmaceuticals are often very individualized. Usually, patients are only exposed to the drugs they need. With a young sample, these drugs are more limited as most people in their early twenties are relatively healthy. In the future, a larger, more diverse sample coupled with a different drug type may yield different results for mood and drug/industry attitudes.

Conclusion and Implications

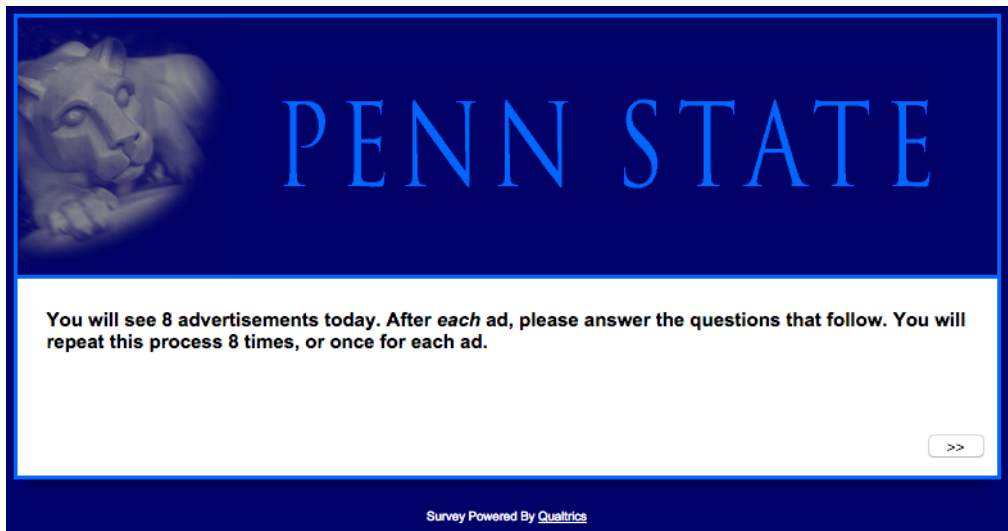
Pharmaceutical advertisements differ from consumer good advertisements. Consumers respond to them differently, as the results of purchase intention and brand attitude indicate. Pharmaceuticals are also unlike consumer goods because they directly impact physical health. Their advertising may also impact mental health (though this study failed to produce significant results for mood effect).

Pharmaceuticals and prescription drugs are unlikely to disappear, and they shouldn't. Drugs have done wonderful things for the world, but now more responsibility and careful action is needed. DTCPA should be thoughtfully studied and more accurately marketed to appropriate audiences. Perhaps through more careful marketing and greater public interest and access, we can curb the medicalization of society. Better consumer-focused research and good ethics are necessary for the future health of DTCPA.

Appendix A

Pretest

Respondents saw 8 advertisements (see Appendix E). Each respondent saw them in a random order. The questions, as seen below, were identical for each respondent across all 8 advertisements. The questions appeared directly after each individual ad.



Please rate the advertisement on the following qualities:

[illegible]

Please indicate how much you thought the advertisement possessed the following characteristics:

[illegible]

Appendix B

DTCPA Survey

Below is the survey the 141 respondents completed. The ads used can be found in Appendix D.

We are asking you to be in a research study. Whether or not you take part is up to you. You can choose not to take part. You can agree to take part and later change your mind. Your decision will not be held against you.

If you come across a question that you would prefer not to answer, you may skip that question, but you will not be able to go back to answer it later, should you choose to. You must be 18 or over to participate. This study will take approximately 15 minutes. No identifying data you provide will be stored. The researcher will never be able to track your answers back to you.

If you have any concerns or questions, please feel free to contact the researcher at eou5012@psu.edu or the Penn State Office of Research Protections at ORProtections@psu.edu.

By clicking agree below you are agreeing to take part in this study and certifying that you are at least 18 years of age.

I agree

I disagree

[illegible]

Now we will ask you some basic questions about yourself.

Please enter your current age in years.

From the following options, which do you identify with?

Full Time Undergraduate Student

Part Time Undergraduate Student

Not an Undergraduate Student

Are you a male or a female?

Male

Female

You will be shown two advertisements. Please read and study each ad.

*See Appendix D for ads. Recall that only one of three ads was seen along with the wrench ad.

Please indicate your **CURRENT** mood by completing the table below based on the following characteristics:

	Not At All						Very Much So
Loving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cheerful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Guilty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fearful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Irritable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Happy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Warm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hopeful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Agitated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inspired	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relaxed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Depressed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Angry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you can remember the **NAME OF THE BRAND** featured in the medicine advertisement, please write it here.

Objective ○ ○ ○ ○ ○ ○ ○ Subjective

Factual ○ ○ ○ ○ ○ ○ ○ Non-factual

Rate your beliefs about the medicine advertisement:

Appealing ○ ○ ○ ○ ○ ○ ○ Unappealing

Interesting ○ ○ ○ ○ ○ ○ ○ Boring

Good ○ ○ ○ ○ ○ ○ ○ Bad

Like ○ ○ ○ ○ ○ ○ ○ Dislike

[illegible]

Extremely Likely ○ ○ ○ ○ ○ ○ ○ Extremely Unlikely

Probable ○ ○ ○ ○ ○ ○ ○ Improbable

Impossible ○ ○ ○ ○ ○ ○ ○ Possible

[illegible]

We will now ask you some questions about Direct to Consumer (DTC) advertising. DTC advertising is often used in pharmaceutical advertising and is defined as "a form of marketing promotion that is aimed at the end patient rather than the healthcare professional." Definition from Investopedia.com

How familiar are you with Direct to Consumer advertisements?

Not at All ☐ ☐ ☐ ☐ ☐ ☐ ☐ Very Much

Where do you most often see DTC advertisements? Check all that apply.

TV

Magazines/Newspapers

Internet

Mobile

Other, please specify:

Using your best estimation, on average, how many Direct to Consumer MEDICINE advertisements do you see in **ONE WEEK**?

The following two questions are True/False questions. Please answer either True or False.

The federal government has *complete* control over pharmaceutical advertisements.

Pharmaceutical Drugs are *only* advertised if they are approved by the federal government.

Prescription drug ads
are NOT beneficial to
consumers.

☐☐☐☐☐☐☐☐

The Federal Drug
Administration (FDA)
properly monitors drug
advertisements.

☐☐☐☐☐☐☐☐

Drug advertising is an
effective way to bring
product awareness to
potential patients.

☐☐☐☐☐☐☐☐

Drug companies
provide accurate
information to
consumers through
pharmaceutical
advertising.

☐☐☐☐☐☐☐☐

Next

[illegible]

[illegible]

Please indicate how likely you would be to act on the following:

[illegible]

With which race from the following list do you most identify?

White

Black

Asian

Hispanic

Other. Please Specify,

Please indicate your highest achieved and completed level of education.

Less than High School Diploma

High School Diploma

Associate's Degree

Bachelor's Degree

Advanced/Graduate Degree

If you are an undergraduate college student, how much financial support do you receive from your parents?

None at all	Partial Support	Substantial Support	Total Support	Not an undergraduate student
-------------	-----------------	---------------------	---------------	------------------------------

Please indicate your family's income from the options below:

Less than \$19,999
\$20,000-\$39,999
\$40,000-\$59,999
\$60,000-\$79,999
\$80,000-\$99,999
More than \$100,000

End of Survey.

Appendix C

Pretest

Info 1

1. Please rate the advertisement on the following qualities:

#	Question	1	2	3	4	5	6	7	Total Responses	Mean
1	Tangible:Intangible	8	7	13	5	4	2	0	39	2.90
2	Logical:Illogical	13	14	5	4	1	2	0	39	2.28
3	Objective:Subjective	9	12	6	6	4	2	0	39	2.74
4	Factual:Non-factual	18	11	7	1	1	1	0	39	1.95

Statistic	Tangible:Intangible	Logical:Illogical	Objective:Subjective	Factual:Non-factual
Min Value	1	1	1	1
Max Value	6	6	6	6
Mean	2.90	2.28	2.74	1.95
Variance	2.04	1.89	2.25	1.42
Standard Deviation	1.43	1.38	1.50	1.19
Total Responses	39	39	39	39

Info 1

2. Please indicate how much you thought the advertisement possessed the following characteristics:

#	Question	 	 	 	 	 	 	 	Total Responses	Mean
1	Happy	<u>12</u>	<u>6</u>	<u>6</u>	<u>9</u>	<u>4</u>	<u>1</u>	<u>1</u>	39	2.85
2	Caring	<u>9</u>	<u>5</u>	<u>8</u>	<u>11</u>	<u>5</u>	<u>1</u>	<u>0</u>	39	3.03
3	Loving	<u>20</u>	<u>9</u>	<u>0</u>	<u>5</u>	<u>4</u>	<u>0</u>	<u>1</u>	39	2.18
4	Warm	<u>15</u>	<u>8</u>	<u>10</u>	<u>3</u>	<u>1</u>	<u>1</u>	<u>1</u>	39	2.33
5	Humorous	<u>19</u>	<u>5</u>	<u>3</u>	<u>6</u>	<u>4</u>	<u>1</u>	<u>1</u>	39	2.44
6	Bored	<u>9</u>	<u>5</u>	<u>9</u>	<u>7</u>	<u>3</u>	<u>2</u>	<u>4</u>	39	3.31
7	Guilt	<u>28</u>	<u>5</u>	<u>0</u>	<u>5</u>	<u>0</u>	<u>1</u>	<u>0</u>	39	1.64
8	Fearful	<u>23</u>	<u>8</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>0</u>	<u>0</u>	38	1.76
9	Anxious	<u>18</u>	<u>8</u>	<u>3</u>	<u>4</u>	<u>4</u>	<u>2</u>	<u>0</u>	39	2.33
10	Sad	<u>25</u>	<u>5</u>	<u>1</u>	<u>5</u>	<u>1</u>	<u>1</u>	<u>1</u>	39	1.95
11	Angry	<u>28</u>	<u>5</u>	<u>0</u>	<u>5</u>	<u>0</u>	<u>1</u>	<u>0</u>	39	1.64
12	Informed	<u>1</u>	<u>1</u>	<u>4</u>	<u>2</u>	<u>9</u>	<u>8</u>	<u>14</u>	39	5.49

Statistic	Happy	Caring	Loving	Warm	Humorous	Bored	Guilt	Fearful	Anxious	Sad	Angry	Informed
Min Value	1	1	1	1	1	1	1	1	1	1	1	1
Max Value	7	6	7	7	7	7	6	5	6	7	6	7
Mean	2.85	3.03	2.18	2.33	2.44	3.31	1.64	1.76	2.33	1.95	1.64	5.49
Variance	2.71	2.13	2.62	2.18	3.04	3.64	1.55	1.43	2.65	2.52	1.55	2.57
Standard Deviation	1.65	1.46	1.62	1.47	1.74	1.91	1.25	1.20	1.63	1.59	1.25	1.60
Total Responses	39	39	39	39	39	39	39	38	39	39	39	39

Info 2


3. Please rate the advertisement on the following qualities:

#	Question	1	2	3	4	5	6	7	Total Responses	Mean
1	Tangible:Intangible	<u>5</u>	<u>6</u>	<u>8</u>	<u>8</u>	<u>6</u>	<u>5</u>	<u>1</u>	39	3.59
2	Logical:Illogical	<u>10</u>	<u>12</u>	<u>8</u>	<u>5</u>	<u>3</u>	<u>1</u>	<u>0</u>	39	2.54
3	Objective:Subjective	<u>7</u>	<u>12</u>	<u>8</u>	<u>5</u>	<u>3</u>	<u>3</u>	<u>1</u>	39	2.95
4	Factual:Non-factual	<u>10</u>	<u>15</u>	<u>6</u>	<u>4</u>	<u>2</u>	<u>1</u>	<u>1</u>	39	2.49

Statistic	Tangible:Intangible	Logical:Illogical	Objective:Subjective	Factual:Non-factual
Min Value	1	1	1	1
Max Value	7	6	7	7
Mean	3.59	2.54	2.95	2.49
Variance	2.77	1.83	2.63	2.15
Standard Deviation	1.67	1.35	1.62	1.47
Total Responses	39	39	39	39

Info 2

4. Please indicate how much you thought the advertisement possessed the following characteristics:

Table Options 										
#	Question	 	 	 	 	 	 	 	Total Responses	Mean
1	Happy	25	6	3	4	1	0	0	39	1.72
2	Caring	14	7	9	5	4	0	0	39	2.44
3	Loving	25	7	2	2	3	0	0	39	1.74
4	Warm	21	10	3	2	2	0	0	38	1.79
5	Humorous	32	3	2	2	0	0	0	39	1.33
6	Bored	9	4	1	8	5	5	7	39	4.00
7	Guilt	27	4	3	3	1	0	0	38	1.61
8	Fearful	22	6	4	4	2	1	0	39	2.00
9	Anxious	16	9	5	5	4	0	0	39	2.28
10	Sad	24	6	1	4	4	0	0	39	1.92
11	Angry	26	7	1	3	1	0	0	38	1.58
12	Informed	5	2	5	6	6	6	9	39	4.54

Statistic	Happy	Caring	Loving	Warm	Humorous	Bored	Guilt	Fearful	Anxious	Sad	Angry	Informed
Min Value	1	1	1	1	1	1	1	1	1	1	1	1
Max Value	5	5	5	5	4	7	5	6	5	5	5	7
Mean	1.72	2.44	1.74	1.79	1.33	4.00	1.61	2.00	2.28	1.92	1.58	4.54
Variance	1.31	1.88	1.56	1.31	0.65	4.89	1.22	2.00	1.94	2.02	1.12	4.15
Standard Deviation	1.15	1.37	1.25	1.14	0.81	2.21	1.10	1.41	1.39	1.42	1.06	2.04
Total Responses	39	39	39	38	39	39	38	39	39	39	38	39

Negative 1

5. Please rate the advertisement on the following qualities:

#	Question	1	2	3	4	5	6	7	Total Responses	Mean
1	Tangible:Intangible	<u>4</u>	<u>10</u>	<u>8</u>	<u>9</u>	<u>5</u>	<u>2</u>	<u>1</u>	39	3.28
2	Logical:Illogical	<u>5</u>	<u>4</u>	<u>10</u>	<u>9</u>	<u>5</u>	<u>6</u>	<u>0</u>	39	3.59
3	Objective:Subjective	<u>1</u>	<u>4</u>	<u>3</u>	<u>5</u>	<u>9</u>	<u>7</u>	<u>9</u>	38	4.95
4	Factual:Non-factual	<u>0</u>	<u>4</u>	<u>7</u>	<u>8</u>	<u>5</u>	<u>9</u>	<u>6</u>	39	4.67

Statistic	Tangible:Intangible	Logical:Illogical	Objective:Subjective	Factual:Non-factual
Min Value	1	1	1	2
Max Value	7	6	7	7
Mean	3.28	3.59	4.95	4.67
Variance	2.26	2.46	3.02	2.65
Standard Deviation	1.50	1.57	1.74	1.63
Total Responses	39	39	38	39

Negative 2


7. Please rate the advertisement on the following qualities:

#	Question	1	2	3	4	5	6	7	Total Responses	Mean
1	Tangible:Intangible	<u>3</u>	<u>8</u>	<u>7</u>	<u>10</u>	<u>5</u>	<u>3</u>	<u>3</u>	39	3.69
2	Logical:Illogical	<u>4</u>	<u>8</u>	<u>5</u>	<u>4</u>	<u>11</u>	<u>4</u>	<u>3</u>	39	3.87
3	Objective:Subjective	<u>2</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>5</u>	<u>9</u>	<u>8</u>	39	4.72
4	Factual:Non-factual	<u>0</u>	<u>5</u>	<u>6</u>	<u>2</u>	<u>11</u>	<u>10</u>	<u>5</u>	39	4.77

Statistic	Tangible:Intangible	Logical:Illogical	Objective:Subjective	Factual:Non-factual
Min Value	1	1	1	2
Max Value	7	7	7	7
Mean	3.69	3.87	4.72	4.77
Variance	2.80	3.33	3.47	2.60
Standard Deviation	1.67	1.82	1.86	1.61
Total Responses	39	39	39	39

Negative 2

8. Please indicate how much you thought the advertisement possessed the following characteristics:

Table Options 										
#	Question								Total Responses	Mean
1	Happy	<u>22</u>	<u>7</u>	<u>2</u>	<u>5</u>	<u>0</u>	<u>2</u>	<u>1</u>	39	2.08
2	Caring	<u>15</u>	<u>4</u>	<u>4</u>	<u>3</u>	<u>7</u>	<u>4</u>	<u>2</u>	39	3.08
3	Loving	<u>21</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>3</u>	<u>1</u>	<u>2</u>	39	2.36
4	Warm	<u>18</u>	<u>9</u>	<u>4</u>	<u>2</u>	<u>2</u>	<u>3</u>	<u>1</u>	39	2.33
5	Humorous	<u>21</u>	<u>8</u>	<u>3</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>1</u>	39	2.13
6	Bored	<u>19</u>	<u>2</u>	<u>5</u>	<u>6</u>	<u>2</u>	<u>1</u>	<u>3</u>	38	2.61
7	Guilt	<u>20</u>	<u>6</u>	<u>2</u>	<u>6</u>	<u>3</u>	<u>1</u>	<u>1</u>	39	2.31
8	Fearful	<u>5</u>	<u>3</u>	<u>5</u>	<u>1</u>	<u>8</u>	<u>9</u>	<u>8</u>	39	4.62
9	Anxious	<u>3</u>	<u>4</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>10</u>	<u>7</u>	39	4.62
10	Sad	<u>11</u>	<u>6</u>	<u>5</u>	<u>7</u>	<u>5</u>	<u>3</u>	<u>2</u>	39	3.15
11	Angry	<u>20</u>	<u>3</u>	<u>2</u>	<u>7</u>	<u>2</u>	<u>3</u>	<u>1</u>	38	2.50
12	Informed	<u>5</u>	<u>16</u>	<u>8</u>	<u>5</u>	<u>3</u>	<u>1</u>	<u>1</u>	39	2.79

Statistic	Happy	Caring	Loving	Warm	Humorous	Bored	Guilt	Fearful	Anxious	Sad	Angry	Informed
Min Value	1	1	1	1	1	1	1	1	1	1	1	1
Max Value	7	7	7	7	7	7	7	7	7	7	7	7
Mean	2.08	3.08	2.36	2.33	2.13	2.61	2.31	4.62	4.62	3.15	2.50	2.79
Variance	2.65	4.28	3.39	3.07	2.80	3.87	2.90	4.30	3.72	3.55	3.55	2.01
Standard Deviation	1.63	2.07	1.84	1.75	1.67	1.97	1.70	2.07	1.93	1.89	1.89	1.42
Total Responses	39	39	39	39	39	38	39	39	39	39	38	39

Negative 3

9. Please rate the advertisement on the following qualities:

#	Question	1	2	3	4	5	6	7	Total Responses	Mean
1	Tangible:Intangible	<u>5</u>	<u>7</u>	<u>9</u>	<u>11</u>	<u>2</u>	<u>4</u>	<u>1</u>	39	3.36
2	Logical:Illogical	<u>5</u>	<u>7</u>	<u>15</u>	<u>7</u>	<u>2</u>	<u>2</u>	<u>1</u>	39	3.10
3	Objective:Subjective	<u>3</u>	<u>4</u>	<u>2</u>	<u>5</u>	<u>8</u>	<u>12</u>	<u>5</u>	39	4.72
4	Factual:Non-factual	<u>2</u>	<u>5</u>	<u>8</u>	<u>5</u>	<u>5</u>	<u>8</u>	<u>6</u>	39	4.38

Statistic	Tangible:Intangible	Logical:Illogical	Objective:Subjective	Factual:Non-factual
Min Value	1	1	1	1
Max Value	7	7	7	7
Mean	3.36	3.10	4.72	4.38
Variance	2.45	1.99	3.31	3.45
Standard Deviation	1.56	1.41	1.82	1.86
Total Responses	39	39	39	39

Negative 3

10. Please indicate how much you thought the advertisement possessed the following characteristics:


#	Question	 	 	 	 	 	 	 	Total Responses	Mean
1	Happy	<u>22</u>	<u>8</u>	<u>1</u>	<u>6</u>	<u>2</u>	<u>0</u>	<u>0</u>	39	1.92
2	Caring	<u>14</u>	<u>8</u>	<u>3</u>	<u>8</u>	<u>3</u>	<u>2</u>	<u>1</u>	39	2.69
3	Loving	<u>24</u>	<u>5</u>	<u>3</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>0</u>	38	1.89
4	Warm	<u>20</u>	<u>8</u>	<u>5</u>	<u>2</u>	<u>1</u>	<u>3</u>	<u>0</u>	39	2.10
5	Humorous	<u>28</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>0</u>	39	1.74
6	Bored	<u>15</u>	<u>6</u>	<u>6</u>	<u>8</u>	<u>0</u>	<u>2</u>	<u>2</u>	39	2.64
7	Guilt	<u>19</u>	<u>4</u>	<u>4</u>	<u>5</u>	<u>4</u>	<u>2</u>	<u>0</u>	38	2.39
8	Fearful	<u>8</u>	<u>2</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>10</u>	<u>4</u>	39	4.10
9	Anxious	<u>8</u>	<u>3</u>	<u>4</u>	<u>8</u>	<u>6</u>	<u>7</u>	<u>3</u>	39	3.87
10	Sad	<u>10</u>	<u>8</u>	<u>5</u>	<u>5</u>	<u>6</u>	<u>3</u>	<u>2</u>	39	3.15
11	Angry	<u>14</u>	<u>5</u>	<u>8</u>	<u>3</u>	<u>5</u>	<u>3</u>	<u>1</u>	39	2.82
12	Informed	<u>6</u>	<u>13</u>	<u>6</u>	<u>10</u>	<u>2</u>	<u>1</u>	<u>1</u>	39	2.90

Statistic	Happy	Caring	Loving	Warm	Humorous	Bored	Guilt	Fearful	Anxious	Sad	Angry	Informed
Min Value	1	1	1	1	1	1	1	1	1	1	1	1
Max Value	5	7	6	6	6	7	6	7	7	7	7	7
Mean	1.92	2.69	1.89	2.10	1.74	2.64	2.39	4.10	3.87	3.15	2.82	2.90
Variance	1.70	3.01	2.15	2.36	2.04	3.13	2.84	4.36	3.90	3.55	3.31	2.09
Standard Deviation	1.31	1.73	1.47	1.54	1.43	1.77	1.69	2.09	1.98	1.89	1.82	1.45
Total Responses	39	39	38	39	39	39	38	39	39	39	39	39

Positive 1

11. Please rate the advertisement on the following qualities:

#	Question	1	2	3	4	5	6	7	Total Responses	Mean
1	Tangible:Intangible	5	8	12	6	3	5	0	39	3.23
2	Logical:Illogical	4	6	11	10	5	3	0	39	3.38
3	Objective:Subjective	2	5	2	8	7	10	5	39	4.62
4	Factual:Non-factual	0	1	6	13	4	7	8	39	4.87

Table Options 				
Statistic	Tangible:Intangible	Logical:Illogical	Objective:Subjective	Factual:Non-factual
Min Value	1	1	1	2
Max Value	6	6	7	7
Mean	3.23	3.38	4.62	4.87
Variance	2.34	1.93	3.09	2.22
Standard Deviation	1.53	1.39	1.76	1.49
Total Responses	39	39	39	39

Positive 1

12. Please indicate how much you thought the advertisement possessed the following characteristics:

#	Question	 	 	 	 	 	 	 	Total Responses	Mean
1	Happy	<u>6</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>10</u>	<u>9</u>	<u>4</u>	39	4.31
2	Caring	<u>6</u>	<u>2</u>	<u>4</u>	<u>7</u>	<u>13</u>	<u>6</u>	<u>1</u>	39	4.05
3	Loving	<u>7</u>	<u>7</u>	<u>4</u>	<u>6</u>	<u>9</u>	<u>5</u>	<u>1</u>	39	3.56
4	Warm	<u>6</u>	<u>2</u>	<u>5</u>	<u>7</u>	<u>9</u>	<u>7</u>	<u>3</u>	39	4.13
5	Humorous	<u>22</u>	<u>8</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>0</u>	<u>0</u>	39	1.85
6	Bored	<u>18</u>	<u>7</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>2</u>	<u>2</u>	39	2.49
7	Guilt	<u>26</u>	<u>5</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>0</u>	<u>0</u>	39	1.69
8	Fearful	<u>25</u>	<u>5</u>	<u>3</u>	<u>3</u>	<u>2</u>	<u>0</u>	<u>0</u>	38	1.74
9	Anxious	<u>25</u>	<u>6</u>	<u>3</u>	<u>3</u>	<u>1</u>	<u>1</u>	<u>0</u>	39	1.77
10	Sad	<u>26</u>	<u>8</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>1</u>	39	1.69
11	Angry	<u>30</u>	<u>3</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u>0</u>	<u>0</u>	38	1.45
12	Informed	<u>7</u>	<u>5</u>	<u>13</u>	<u>8</u>	<u>5</u>	<u>1</u>	<u>0</u>	39	3.05

Statistic	Happy	Caring	Loving	Warm	Humorous	Bored	Guilt	Fearful	Anxious	Sad	Angry	Informed
Min Value	1	1	1	1	1	1	1	1	1	1	1	1
Max Value	7	7	7	7	5	7	5	5	6	7	5	6
Mean	4.31	4.05	3.56	4.13	1.85	2.49	1.69	1.74	1.77	1.69	1.45	3.05
Variance	3.90	2.94	3.30	3.43	1.45	3.52	1.32	1.50	1.66	1.85	1.01	1.84
Standard Deviation	1.98	1.72	1.82	1.85	1.20	1.88	1.15	1.22	1.29	1.36	1.01	1.36
Total Responses	39	39	39	39	39	39	39	38	39	39	38	39

Positive 2

13. Please rate the advertisement on the following qualities:

#	Question	1	2	3	4	5	6	7	Total Responses	Mean
1	Tangible:Intangible	<u>6</u>	<u>3</u>	<u>9</u>	<u>9</u>	<u>4</u>	<u>5</u>	<u>3</u>	39	3.74
2	Logical:Illogical	<u>5</u>	<u>5</u>	<u>3</u>	<u>15</u>	<u>4</u>	<u>4</u>	<u>3</u>	39	3.82
3	Objective:Subjective	<u>2</u>	<u>4</u>	<u>3</u>	<u>6</u>	<u>8</u>	<u>10</u>	<u>6</u>	39	4.74
4	Factual:Non-factual	<u>0</u>	<u>1</u>	<u>5</u>	<u>4</u>	<u>9</u>	<u>5</u>	<u>15</u>	39	5.46

Statistic	Tangible:Intangible	Logical:Illogical	Objective:Subjective	Factual:Non-factual
Min Value	1	1	1	2
Max Value	7	7	7	7
Mean	3.74	3.82	4.74	5.46
Variance	3.25	2.99	3.09	2.36
Standard Deviation	1.80	1.73	1.76	1.54
Total Responses	39	39	39	39

Positive 3

15. Please rate the advertisement on the following qualities:

#	Question	1	2	3	4	5	6	7	Total Responses	Mean
1	Tangible:Intangible	<u>3</u>	<u>7</u>	<u>7</u>	<u>12</u>	<u>4</u>	<u>4</u>	<u>2</u>	39	3.69
2	Logical:Illogical	<u>3</u>	<u>5</u>	<u>9</u>	<u>8</u>	<u>8</u>	<u>4</u>	<u>2</u>	39	3.85
3	Objective:Subjective	<u>4</u>	<u>2</u>	<u>5</u>	<u>13</u>	<u>7</u>	<u>4</u>	<u>4</u>	39	4.15
4	Factual:Non-factual	<u>3</u>	<u>2</u>	<u>8</u>	<u>7</u>	<u>8</u>	<u>5</u>	<u>6</u>	39	4.38

Statistic	Tangible:Intangible	Logical:Illogical	Objective:Subjective	Factual:Non-factual
Min Value	1	1	1	1
Max Value	7	7	7	7
Mean	3.69	3.85	4.15	4.38
Variance	2.53	2.55	2.82	3.14
Standard Deviation	1.59	1.60	1.68	1.77
Total Responses	39	39	39	39

Positive 3

16. Please indicate how much you thought the advertisement possessed the following characteristics:

#	Question	 	 	 	 	 	 	 	Total Responses	Mean
1	Happy	14	5	2	12	6	0	0	39	2.77
2	Caring	13	7	5	6	3	2	2	38	2.82
3	Loving	18	8	5	5	3	0	0	39	2.15
4	Warm	14	5	5	5	8	2	0	39	2.85
5	Humorous	26	4	3	2	1	2	1	39	1.92
6	Bored	15	3	1	8	4	4	4	39	3.28
7	Guilt	28	3	2	4	1	1	0	39	1.72
8	Fearful	23	11	0	4	0	1	0	39	1.72
9	Anxious	21	4	6	4	4	0	0	39	2.13
10	Sad	27	4	3	3	0	1	1	39	1.77
11	Angry	27	7	0	4	0	0	1	39	1.64
12	Informed	7	9	9	5	8	1	0	39	3.03

[illegible]

Appendix D

Three Chosen Advertisements and the Extra Ad

Info 1



Medrasol


Stop. Pop. And feel the relief.

Introducing a new oral corticosteroid for asthma patients.

Medrasol is designed to treat moderate to severe asthma flare-ups for patients with long-term asthma. This product is intended to be used in conjunction with bronchodilators.

Ask your doctor about Medrasol today.

Negative 2




Medrasol

**“Don’t panic.
Don’t panic.
Breathe.
Bre, br, br, br, b...”**

Stop living in moments of fear.

*Take one Medrasol pill daily and unlock the possibilities of a life
without chronic asthma.*

Positive 2



Medrasol

*Breathe easy
doing what you love*

Take one Medrasol pill daily and unlock
the possibilities of a life without chronic asthma.

Wrench Ad



Talking won't tighten a bolt.
Staring won't tighten a bolt.
Hoping won't tighten a bolt.
If you want a bolt tightened,
use a Warrior Wrench.

Warrior
Professional Products

Appendix E

Pretest Advertisements

Info 1



Medrasol

Stop. Pop. And feel the relief.

Introducing a new oral corticosteroid for asthma patients.

Medrasol is designed to treat moderate to severe asthma flare-ups for patients with long-term asthma. This product is intended to be used in conjunction with bronchodilators.

Ask your doctor about Medrasol today.

Info 2



Medrasol

Can't Breathe?

Try modifying your leukotriene today.

Control your long-term asthma symptoms.

Introducing a new leukotriene receptor antagonist, Medrasol.

Ask your doctor about Medrasol today.

Negative 1




You're sitting the bench, watching your teammates lose. Powerless to enter the game all because you've had a tightness in your chest all day.

Stop riding the bench. Play when you want to play.

*Take one Medrasol pill daily and
unlock the possibilities of a life without asthma.*

Negative 2




Medrasol

**“Don’t panic.
Don’t panic.
Breathe.
Bre, br, br, br, b...”**

Stop living in moments of fear.

*Take one Medrasol pill daily and unlock the possibilities of a life
without chronic asthma.*

Negative 3



Medrasol

*Today is the 10K you've been training for.
You are ready and excited.*

*3K's later, you can't breathe, and can't
believe it is happening now of all times.*

*Take one Medrasol pill daily and unlock the possibilities of a life
without chronic asthma.*


Positive 1



Breathe a sigh of relief when finishing a difficult hike.
Cheer for your favorite team loudly at a sporting event.
Go join that impromptu pick-up soccer game.

*Take one Medrasol pill daily and unlock
the possibilities of a life without chronic asthma.*

Positive 2

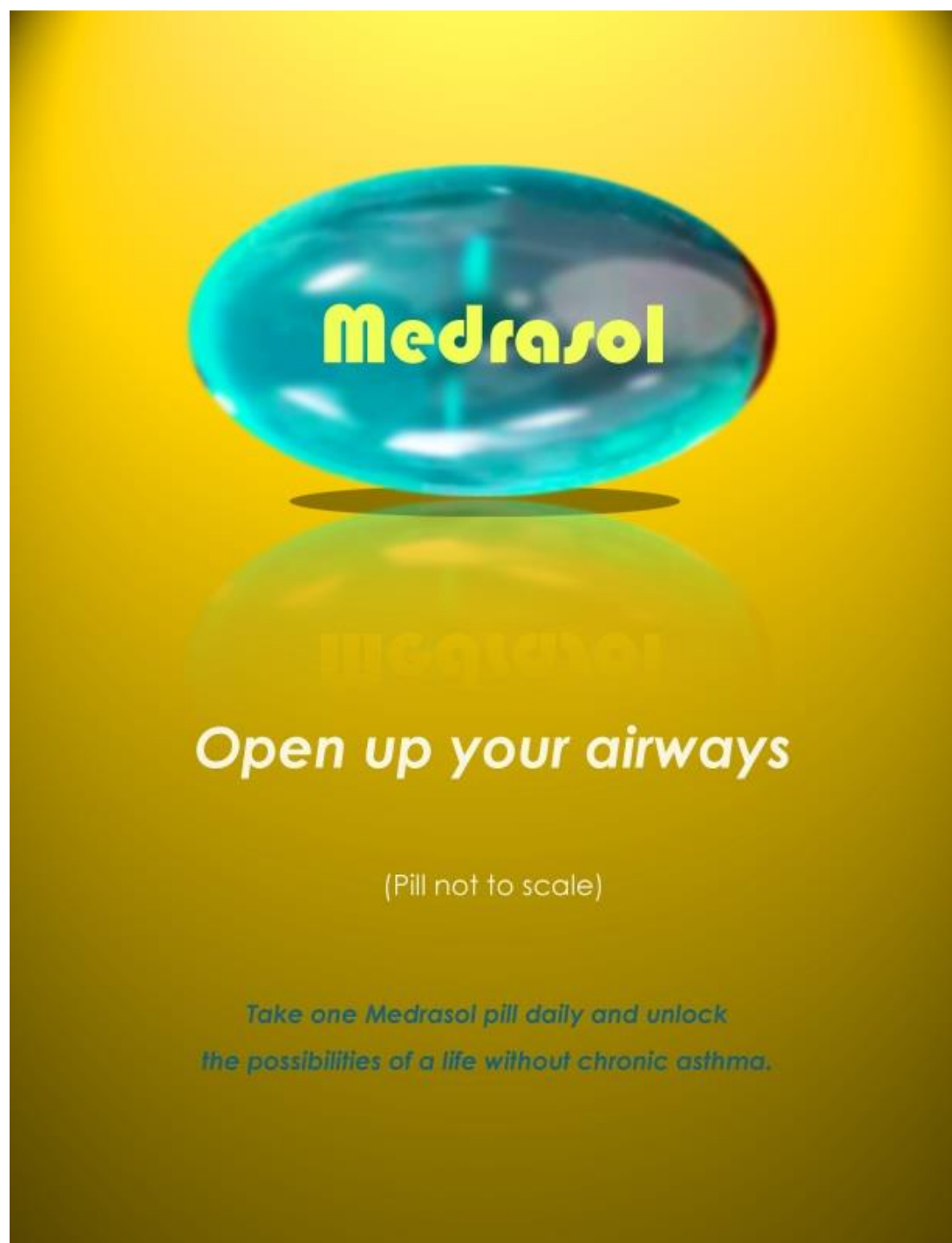


Medrasol

*Breathe easy
doing what you love*

Take one Medrasol pill daily and unlock
the possibilities of a life without chronic asthma.

Positive 3



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ACADEMIC VITA

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Education:

Bachelor of Arts Degree in Advertising, Penn State University*, Spring 2015

Honors in Advertising/Public Relations

Minors in Business Liberal Arts and Psychology

*Study Abroad ♦ University of New South Wales ♦ Sydney, Australia ♦ Spring 2014

Honors and Awards:

Dean's List

STARS Resident Life Award, 2012

Winner of Vance and Betty Lee Stickell Award, 2014

Professional Experience:

SMRT Education

Media Strategist

Worked Remotely, based in Texas ♦ March – May 2015

Clemenger BBDO

Strategic Planning Intern

Sydney, Australia ♦ June – July 2014

SSCG Media Group, CDM

Media Intern and Freelancer

New York, New York ♦ June- August 2013/January-February 2014

Professional Presentations:

Invited Presenter, Penn State College of Communications Undergraduate Symposium

University Park, PA ♦ March 2015

Association Memberships/Activities:

Penn State's Nittany Group for Pizza Hut

Co-President and Strategic Planning Chair

University Park, PA ♦ 2014-2015

Penn State's Nittany Group for Mary Kay

Consumer Team Leader

University Park, PA ♦ 201

College of Communications Peer Mentor

University Park, PA ♦ 2014

AdClub Member

University Park, PA ♦ 2012-2015

American Advertising Federation

Student Member

University Park, PA ♦ 2013-2015

Penn State Irish Society

Vice President, Secretary, Homecoming Chair

University Park, PA ♦ 2011-2014

Penn State Homecoming

Security Leader

University Park, PA ♦ 2012

SHO-Time Mentor

Schreyer Honors College Freshman Orientation Leader

University Park, PA ♦ 2012