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Selling sickness: Message features of pharmaceutical advertisements for ADHD medication

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ABSTRACT

This study explores how Direct-To-Consumer (DTC) advertisements promote medication for Attention-Deficit/Hyperactivity Disorder (ADHD) and how they may have changed over time relative to changes in diagnostic criteria for the disease and/or federal regulations for DTC advertising. All relevant advertisements published in *Parents* magazine between 1977 and 2018 were collected and analyzed. This study found that the most often used points of view were eye-level and frontal and the most used degrees of social distance were far personal and close personal. The most used demographics of the actors were male Caucasian children and female Caucasian adults. At least two-thirds of the advertisements included the required product information. The major themes that appeared throughout the entire sample include: (a) solving the individual's problems at school, work and home; (b) increased social abilities and acceptance; (c) parental peace of mind, relief and pride in their child and (d) support for parents who are waging a battle with ADHD. No noticeable changes were observed over time relative to the DSM and CFR.

Keywords: ADHD, FDA regulations, Code of Federal Regulations, DSM criteria, content analysis, visual analysis, DTC advertisements, pharmaceutical advertisements, *Parents* magazine, Elaboration Likelihood Model.

CHAPTER 1. INTRODUCTION

The United States has been facing a drug addiction problem for decades (CDC, 2017). While opioid drugs may receive the most media attention, also on the list of commonly abused drugs are central nervous system (CNS) stimulants and depressants (National Institute on Drug Abuse, 2018). Many of these CNS drugs are used to treat Attention-Deficit/Hyperactivity Disorder (ADHD). Among the stimulants are amphetamines – Adderall XR, Dexedrine, Dyanavel SR, Evekeo, ProCentra, and Vyvanse; methamphetamines – Desoxyn; and methylphenidate – Aplensio XR, Metadate XR, Conerta, Daytrana, Ritalin, Ritalin LA, Methylin, QuilliChew, Quillivant, and Focalin (Healthline, 2018). When misused, stimulants can produce "dangerously high body temperature, irregular heartbeat, heart failure, seizures, psychosis, anger, and paranoia" (Healthline, 2018). The list of depressants includes atomoxetine – Strattera, clonidine – Kapvay, and guanfacine – Intuniv (Healthline, 2018). Possible effects produced by the misuse of depressants include slowed brain activity, which can cause "drowsiness, slurred speech, poor concentration, confusion, dizziness, problems with movement and memory, lowered blood pressure, and slowed breathing" (Healthline, 2018).

Scholars have raised the concern of misdiagnosis or overdiagnosis of ADHD, noting how the prevalence of ADHD has risen over the years (Conrad & Potter, 2000; Davis, 2017; Thomas, 2013) with some authors linking this rise in part to prevalence and content of pharmaceutical advertising (Conrad & Potter, 2000; Davis, 2017; Lamperd, 2009; Sherman, 2015; Thomas, 2013). Yet, few studies have explored pharmaceutical advertising for ADHD medication to provide a basis for these claims. Therefore, it is important and timely to examine how advertisements for ADHD medication have promoted their product and how the advertisements may have changed over time in parallel with changes in the diagnostic criteria for ADHD and

changes in advertising law. For this study, I explore these questions through an exploratory content analysis of magazine print advertisements for ADHD medication in a publication targeting parents.

CHAPTER 2. LITERATURE REVIEW

Attention-Deficit/Hyperactivity Disorder (ADHD)

The Diagnostic and Statistical Manual for Mental Disorders (DSM) is a handbook published by the American Psychiatric Association (APA) and used as a guide for diagnosing mental disorders. The DSM contains descriptions, symptoms and other diagnostic criteria for mental disorders and provides a common language for health professionals and researchers to use when communicating with each other (APA, 2018). It was first published as a variant of the World Health Organization's ICD-6, which was the first edition to include mental disorders. The manual was updated to the DSM-II in 1952 with only minor wording changes. In 1980, the APA released the DSM-III with a goal to construct and validate mental disorders using interview measures developed for both research and clinical use (APA, 2018). However, some inconsistencies remained, so DSM-IIIR was published in 1987 with revisions relative to unclear criteria found in DSM-III. Additional changes were made to classifications and criteria in DSM-IV in 1994 and the latest edition, DSM-5, was published in 2013 (APA, 2018).

Attention-Deficit Disorder (ADD) first emerged in the 1950s as a diagnostic category in DSM-II. What is now known as Attention-Deficit/Hyperactivity Disorder (ADHD) was previously known by multiple terms such as Minimal Brain Dysfunction (MBD), Hyperactive Syndrome, Hyperkinesis and Hyperactive Disorder of Childhood (Conrad & Potter, 2000). In the 1980 update of the DSM (DSM-III), ADD had two subtypes: With Hyperactivity and Without Hyperactivity. When the DSM-IIIR came out in 1987, ADD was renamed to Attention-Deficit Hyperactivity Disorder. This included hyperactivity as a possible symptom of the disorder so that children who were hyperactive and/or impulsive, but not necessarily inattentive could be diagnosed as having the disorder (Conrad & Potter, 2000). Currently, Attention-

Deficit/Hyperactivity Disorder is defined in the DSM-5 as "a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development" (APA, 2013, p. 49). This pattern is characterized by approximately 18 behaviors split evenly between the categories of Inattention and Hyperactivity-Impulsivity. To be properly diagnosed, a patient must exhibit at least six of these behaviors for at least six months and "to a degree that is consistent with developmental level and that negatively impacts directly on social and academic or occupational activities" (APA, 2013, p. 49). The DSM states that Caucasian boys are most likely to be diagnosed with ADHD, partially because of the differences in diagnostic practices of Western cultures from the rest of the world (APA, 2013).

The diagnosis and treatment of ADHD has been controversial for a number of reasons. The use of stimulants and non-stimulants on children, which are both categories of prescription drugs, is a topic of controversy (Hamed et al., 2015). Stimulant use in the U.S. has risen for a few reasons, including changing practices physicians use for prescribing medication as well as attitudes both parents and children have about the diagnosis and treatment of ADHD (Hamed et al., 2015). "In the popular press, the increased call for early diagnosis and treatment of ADHD has been attributed at times to profit-seeking actions of pharmaceutical companies" (Hamed et al., 2015, p. 5).

Davis (2017) attributes the rise in prevalence of ADHD over time in part to changes made to the DSM. "The various revisions of DSM have reflected distinct approaches taken by mental health professionals toward understanding human troubles as psychiatric conditions" (Conrad & Potter, 2000, p. 562). Originally, the DSM followed a more psychoanalytic approach and provided more inclusive labels. In 1968, "minimal brain damage" (Conrad & Potter, 2000) and other similar problems were defined as childhood disorders in DSM-II. These disorders were

"characterized by overactivity, restlessness, distractibility and short attention span, especially in young children; the behavior usually diminishes in adolescence" (Conrad & Potter, 2000, p. 562). At this time, a child's behavior, particularly his or her behavior at school, was the most significant piece of diagnostic criteria. By the mid-1970s, ADHD was the most common childhood psychiatric problem (Conrad & Potter, 2000). When the DSM-III was published in 1980, it moved to a more biomedical and categorical approach. Diagnostic criteria were added where an individual had to have exhibited symptoms of ADHD before the age of seven in order to be diagnosed and this criterion was kept in the DSM-IIIR update in 1987 (Conrad & Potter, 2000).

The sales of Ritalin, a drug used to treat ADHD, increased by five times from 1992 to 2002 (Abraham, 2010). This was partially attributed to pharmaceuticalization, the increasing role pharmaceuticals were playing in consumers' lives and an updated threshold for ADHD that some said had been set too low for distinguishing between "normal behavior" and ADHD (Abraham, 2010). Thomas (2013) discusses that overdiagnosis is something to which mental health is prone and agrees that changes to the DSM have contributed to the increasing prevalence of ADHD, but he also claims changes to Direct-To-Consumer (DTC) pharmaceutical advertising has driven both demand and prescriptions. Like the DSM, DTC advertising has also overgone changes in how advertisers are allowed to market medication.

Pharmaceutical Advertising

Direct-to-consumer advertising is "any promotional effort by a pharmaceutical company to present prescription drug information to the general public through the lay media," (Bradley & Zito, 1997, p. 86). Bradley & Zito (1997) defined three types of prescription drug advertisements: (a) health seeking, (b) reminder, and (c) product-specific. Health seeking

advertisements provide information about a condition and encourage consumers to speak with their health care providers but do not explicitly discuss the treatment of the condition. Reminder advertisements merely list the drug and some limited information but also do not explicitly discuss the treatment of the condition. Product-specific advertisements mention the name, use and safety and efficacy claims of the advertised drug (Bradley & Zito, 1997).

The Food and Drug Administration (FDA) sets forth Codes of Federal Regulations (CFR) pharmaceutical companies must follow when advertising prescription drugs. These requirements include discussing both the benefits and risks, not being false or misleading and communicating in a way in which the consumers can understand. At least one FDA-approved use for the drug must also be included (FDA, 2015).

Direct-to-consumer (DTC) pharmaceutical advertising first began in 1962 when Congress gave the FDA the power to regulate labeling and advertising for prescription drugs. The FDA put the regulations into place in 1969, including the following stipulations that the advertisements (Ventola, 2011): (a) not be false or misleading; (b) present a "fair balance" of information describing both the risks and benefits of a drug; (c) include facts that are "material" to the product's advertised uses and (d) include a "brief summary" that mentions every risk described in the product's labeling.

These regulations were changed when the political climate in the 1980s became more favorable for the pharmaceutical industry (Ventola, 2011). There was a cultural shift in which patients started to be more active in the decisions made about their health care (Ventola, 2011). These circumstances gave the FDA the need to look at how to regulate DTC advertising and, in 1985, they made the decision that the "fair balance" and "brief summary" requirements were sufficient enough to protect consumers from being deceived or misled (Ventola, 2011). In 2004,

the FDA relaxed the regulations even further because they did not feel a need to reprint complete prescribing information in the print advertisements and instead allowed the inclusion of a "simplified brief summary" (Ventola, 2011). These changes allowed pharmaceutical companies to only present the information for "major risks" in a language easy enough for the average consumer to understand (Ventola, 2011).

No matter the medium, controversy has existed regarding the educational benefits, or lack thereof, of direct-to-consumer advertising (DTCA). Proponents have argued that DTCA is beneficial to consumers in that it provides consumers with the information needed to better understand the disease and its treatment, permits the patients to participate more in decisions about their health care, and helps patients build better relationships with their health care providers (Welch Cline & Young, 2004). Proponents position DTC advertisements as educational tools for consumers, which allows them to mention things to their health care providers they would not have said before, and help consumers recognize a treatable condition they may have (Bradley & Zito, 1997).

On the other hand, opponents have argued that DTCA does not provide education to consumers, but can instead be misleading or inaccurate, not provide significant information, or minimize risks while exaggerating benefits (Welch Cline & Young, 2004). When misinformed by DTCA, consumers can build unrealistic expectations of what the drug can and will do for them (Welch Cline & Young, 2004). Opponents to DTC advertisements claim advertising principles are not the same as patient education, the fair balance requirement does not provide consumers with the contextual knowledge needed to make decisions based on risks and benefits, and that successful management of certain diseases may need more of a biopsychosocial approach, which

would include nonpharmacologic treatments and healthy changes to one's lifestyle (Bradley & Zito, 1997).

Other controversies surrounding DTCA focus on a "lack of firm regulatory guidelines [for] governing" (Wang & Kesselheim, 2013, p. 960) and the interference it causes in the relationship between patients and doctors, where visits become longer and less efficient because doctors have to address questions patients have about the advertisements they have seen. Television broadcast of DTC advertisements has more than tripled since 1997 (Abraham, 2010), which was when the FDA relaxed the advertising regulations for these products. At the same time, patients more often started making self-diagnoses or asking for prescriptions for the advertised drugs. This, in turn, led to doctors writing more prescriptions for these drugs (Abraham, 2010).

Product information in DTC advertisements includes content such as what the drug is used to treat, who manufacturers the drug, contraindications, side effects, and dosage/ingredients of the drug. A number of studies have looked at whether DTC advertisements meet the fair balance standards set by the FDA based on the product information provided (Boudewyns & Williams, 2016) and generally find that DTC advertising fails to provide balanced information and overemphasizes the benefits of the drugs while minimizing the risks, leading to "unjustified beliefs about safety and efficacy" (Wang & Kesselheim, 2013, p. 961).

For instance, Mongiovi et al. (2017) conducted a content analysis on a cross-section of 72 issues (January 2010 to December 2015) of *Parents* magazine where researchers looked at multiple health conditions, including ADHD along with allergy symptoms, birth control, chronic disease management, cold, cough, flu, cosmetic treatment, head lice, migraine headaches, mood and psychotic disorders, severe allergic reactions, vaccines and anti-viral drugs, and other acute

conditions (Mongiovi et al., 2017). They found that fewer than 30 percent of the advertisements contained dosage information while just over 50 percent contained side effect warnings (Mongiovi et al., 2017).

Similarly, Lexchin and Mintzes (2002) performed a meta-analysis on research and news articles about the quality of the content in DTC advertisements and found that the advertisements lacked fair balance between the information regarding risks and benefits. Roth (1996) also examined patterns in DTC drug advertising, asking pharmacist judges to review advertisements based on "fair balance" requirements. They reported only 65 percent of the advertisements demonstrated "fair balance" (Roth, 1996). Roth noted, however, that the study only examined the main advertisement and not the "brief summary" on the adjacent page, which may have included the information the judges said were omitted, such as additional risk and side effect information.

Yet, product information only represents a portion of what a DTC advertisement communicates. Much of the meaning is communicated through decisions made within the visual communication of the advertisement.

Visual Communication

Studies of visual communication often "attempt to understand how the visual persuades or narrates" (Hope, 2006, p. 3). Welch Cline and Young (2004) noted that visual cues are often ignored by researchers, but can play an influential role upon peripheral processing as described in the Elaboration Likelihood Model.

The Elaboration Likelihood Model (ELM) describes two routes to persuasion – central and peripheral. The central route involves the message receiver actively listening to and carefully thinking about a message. In this route, the message receiver will take the content of the message into consideration (Benoit & Benoit, 2008). The peripheral route, on the other hand, involves the

message receiver not actively listening to and carefully thinking about a message. In this route, the message receiver will base their attitudes on peripheral cues, such as the attractiveness of a spokesperson or other visual cues rather than the content of the message (Benoit & Benoit, 2008). Welch Cline and Young (2004) found that visual cues attracted the attention of the viewer more when peripheral routes of persuasion were in use. Lee et al. (2007) found that consumers with serious health conditions were more likely to follow central routes to persuasion by searching for health-related information. Similarly, if a product is more personally relevant to a consumer, their message involvement will be higher, thus leading them to pay more attention to the message content and use central route processing (Limbu & Torres, 2009). However, those with lower product involvement are more likely to use peripheral route processing and pay more attention to cues other than the message content (Limbu & Torres, 2009).

In their content analysis of visual cues, Welch Cline and Young (2004) found that direct-to-consumer prescription drug advertisements portrayed visual models with positive personal characteristics, such as the actors being healthy, active and friendly. "If consumers identify with the models and their medical conditions and aspire to gain identity and relational rewards associated with products, they may be more likely to engage in health care behaviors needed to gain access to the advertised products," (Welch Cline & Young, 2004, p. 151). Frosch et al. (2007) found that most direct-to-consumer television advertisements showed actors whose disease caused them to lose control of their lives, but gained that control back through the use of the advertised medication. The loss of control depicted went so far as to illustrate the actor's "inability to participate in social, leisure or work activities," (Frosch et al., 2007, p. 12).

The Handbook of Visual Analysis (2001) identifies and explores a number of important variables that communicators can manipulate to create meaning through visuals.

Point of view is visually represented through the angle from which a person is portrayed, with different points of view indicating different levels of power and/or involvement (Jewitt & Oyama, 2001). A vertical angle portrays the actor looking upward or downward and suggests that either the actor has symbolic power over the viewer (actor looking downward) or the viewer has symbolic power over the actor (actor looking upward). In contrast, an eye-level angle portrays the actor at an equal vertical position from the viewer, suggesting symbolic equality (Jewitt & Oyama, 2001). A horizontal angle portrays the actor as if sitting next to the viewer, suggesting a range of involvement to detachment based on how much the actor has turned to look at the viewer. In contrast, a frontal angle portrays the viewer and actor as face-to-face, suggesting full involvement with the viewer (Jewitt & Oyama, 2001). Larsen et al. (2004) explored points of view manipulated through camera angles, cuts and movement and found that a frontal angle versus a profile required different levels of cognitive resources for comprehension (Larsen et al., 2004).

Social distance is visually represented through how much of an actor's body is visible, with six different degrees of social distance representing varied types of relationships (Bell, 2001). An intimate social distance depicts only the face or head of the actor, giving the impression of an important relationship, such as a child or a spouse. There are two degrees of personal distance: close personal distance depicts the actor's head and shoulders, implying a close friend, whereas a far personal distance depicts the actor from the waist up, implying more of an acquaintance. There are then two degrees of social distance: close social distance shows the actor's entire body, implying a relationship of colleagues, whereas a far social distance shows the actor's entire body and possibly wider space surrounding the actor, implying this person is part of a larger social group. Finally, the most distant degree of social distance, public social distance,

shows the torso of four or more people, implying that the actors have no real relationship. Kim et al. (2008) explored how dimensions of social distance influence consumer evaluations of products. Based on construal theory, they found changes in both social and temporal distances led to emphasis on different features of the product in question.

Demographics represent the physical characteristics of the actors portrayed in the advertisements, such as age, sex and race. The presence of certain demographics is "amplified, foregrounded or made significant" and in doing so, the things that are absent are also made significant (Landau, 2011, p. 41). Landau (2011) performed a visual and verbal analysis of the presence and absence of certain demographics in the Gardasil "Tell Someone" campaign, the purpose of which was to educate viewers about the human papillomavirus (HPV). Landau (2011) found that the videos primarily depicted middle-to-upper-middle class adult women and argues that these demographic choices imply that only this group needs to care about HPV.

Denotation represents the visual items actually depicted in the image or text while connotation is constituted of the ideas, concepts and values that the things in the image stand for (van Leeuwen, 2001). In other words, the connotation is the second meaning that is implied (van Leeuwen, 2001). Puntoni et al. (2010) explored how there may be more than one connotation per denotation. This polysemy is the "existence of at least two different interpretations for the same advertising message across audiences, or across time and situations" (Puntoni et al., 2010 p. 3). Purposeful polysemy is polysemy that occurs because of the advertiser's strategy and may support targeting a message for a specific audience, positioning a brand relative to others, increasing an advertisement's aesthetic appeal or conveying controversial messages without breaking social norms (Puntoni et al., 2010). Studying the connotation matters because doing so asks "What ideas and values are expressed through what is represented, and through the way in

which it is represented?" and can identify the true meaning the advertiser wants to portray (van Leeuwen, 2001, p. 94).

CHAPTER 3. STUDY OBJECTIVES

Examining the choices used within DTC advertising for ADHD medication is important to understand how pharmaceutical companies have promoted their products and how the content of the advertisements may have changed in correlation with changes to the diagnostic criteria in the DSM and Code of Federal Regulations for pharmaceutical advertising. Only a few studies have explored DTC advertising for ADHD medication and the study of how advertising has changed over time has been generally neglected (Phillips & McQuarrie, 2002). Likewise, many important visual communication factors have yet to be examined in this context.

For example, Ju and Park (2015) conducted a content analysis of DTC advertisements in consumer magazines from January 2006 to December 2010 and found that both cognitive and emotional appeals were used simultaneously in most of the advertisements, and included both general-information and unique selling appeals. However, they did not focus specifically on ADHD medication nor relevant visual aspects (Ju & Park, 2015).

Similarly, Phillips and McQuarrie (2002) performed a content assessment to examine how rhetorical strategies of magazine advertisements changed over a 50-year time span. They found verbal anchoring, or the use of text to explicitly state the meaning of the advertisement's rhetorical figures, decreased from the 1950s to the 1990s and started to layer multiple rhetorical figures beginning in the 1980s. (Phillips & McQuarrie, 2002). Yet, this sample was not focused on DTC advertisements nor aligned with changes in external advertising regulation.

This study will look more holistically at tactics used in DTC advertisements for ADHD medication by examining product information and the visual communication aspects of point of view, social distance, demographics, denotation and connotation.

Point of view and social distance are two visual factors that influence how a viewer may connect with the actors within an advertisement. Previous research on point of view by Jewitt & Oyama (2001) and social distance by Bell (2001) suggest that the more direct the actor's gaze and the closer the actor is to the viewer, the more the actors and viewers will feel a sense of connectedness. Advertisers likely want to create this sense of connectedness with their audience, therefore the first two research questions explore how advertisers have used point of view and social distance as visual communication factors.

RQ1. Which orientations of point of view do DTC advertisements for ADHD medication use more often?

RQ2. Which degrees of social distance do DTC advertisements for ADHD medication use more often?

The presence of demographic representation is important as Landau (2011) suggests this implies to an audience who are more likely to be diagnosed with a certain condition than those demographics that are absent. While the DSM states that male Caucasian children are the most likely to be diagnosed with ADHD (APA, 2013), it is unknown why advertisers selected certain demographics when designing their advertisements. While children are the demographic more often diagnosed with ADHD, the advertisements present in parenting magazines are actually targeting parents, and often mothers. Therefore, the following two research questions explore these demographic choices.

RQ3. Which demographics will DTC advertisements for ADHD medication portray more often for children actors?

RQ4. Which demographics will DTC advertisements for ADHD medication portray more often for adult actors?

The connotation of the content is important because it demonstrates what underlying themes are being presented to the audience. Previous research has suggested a few themes implied in DTC advertisements, including peace of mind, happiness, relief and children becoming smarter (Mongiovi et al., 2017). However, the authors did not specifically examine DTC advertisements for ADHD medication. While some of these themes may be present, it is unclear which of these themes are used with an ADHD context or if new themes may emerge. Therefore, the following research question is posed:

RQ5. What underlying themes do DTC advertisements for ADHD medication communicate about their product?

Moving past the visual communication choices to the explicit product information included in the advertisements will allow an examination of how advertisers attempt to meet the requirements of DTC advertising regulations through information about the drug and its benefits and risks. Previous literature suggests that DTC product information is often lacking in fair balance and complete information. However, the brief summaries adjacent to the advertisements have not yet been analyzed and may influence the final interpretation. Therefore, the following research question is asked:

RQ6: How fully do DTC advertisements for ADHD medication disclose product information about their products?

Because both the diagnostic criteria of ADHD and regulations for DTC advertising have changed over time, it is likely that DTC advertisements for ADHD have evolved over the same time period to align with these changes. Because there is no literature that has explored this question, the following research question is posed:

RQ7: How have DTC advertisements for ADHD medication changed over time relative to changes in (a) the definition of ADHD present in the DSM and (b) DTC regulations required in the relevant Code of Federal Regulations?

CHAPTER 4. METHODOLOGY

An exploratory content analysis of the images and accompanying text was conducted to explore message features found in pharmaceutical advertisements for ADHD medication. Data was collected and analyzed by one researcher.

Sample

The final sample consisted of 73 pharmaceutical advertisements for ADHD medication published between September 2001 and August 2014 in *Parents* magazine. I chose *Parents* because it is a niche publication that reaches the parents and guardians who are the likely target audience for ADHD medication advertisements. *Parents* publishes once a month for each month of the year. These magazines are archived on microfilm at Parks Library at Iowa State University and in bound volumes at the Main Library at the University of Iowa.

There were two rounds of sample collection. The first round involved searching through the microfilm of *Parents* at Parks Library to find the advertisements for ADHD medication in the issues from January 1977 through December 2018. This search identified 131 advertisements and were only present in issues published between 2001 to 2014. The issue and page of each advertisement was recorded and the images captured and saved as PDFs, but the archived image quality was poor and without color. The second round of sample collection involved locating the identified advertisements from bound volumes of *Parents* held at the University of Iowa's Main Library. Each advertisement was scanned with the Tiny Scanner app and saved to Google Drive. After removing duplicates, 73 advertisements remained for analysis from nine pharmaceutical companies–12 Adderall XR advertisements, 12 Concerta advertisements, six Daytrana advertisements, one Focalin XR advertisement, two Intuniv advertisements, one Metadate CD advertisement, five Quillivant XR advertisements, five Strattera advertisements, and 29 Vyvanse

advertisements. The number of actors in each advertisement ranged from zero to four and the total number of actors was 140.

The sample advertisements spanned a period of time that also contained a change in the DSM (from DSM-IV to DSM-5) and a change in FDA regulations (from 1997 CFR to 2004 CFR), as seen in Figure 1. The number of advertisements published within these timeframes are: (a) DSM-IV and 1997 CFR (16 advertisements, 21.92%), (b) DSM-IV and 2004 CFR (51 advertisements, 69.86%), and (c) DSM-5 and 2004 CFR (6 advertisements, 8.22%).

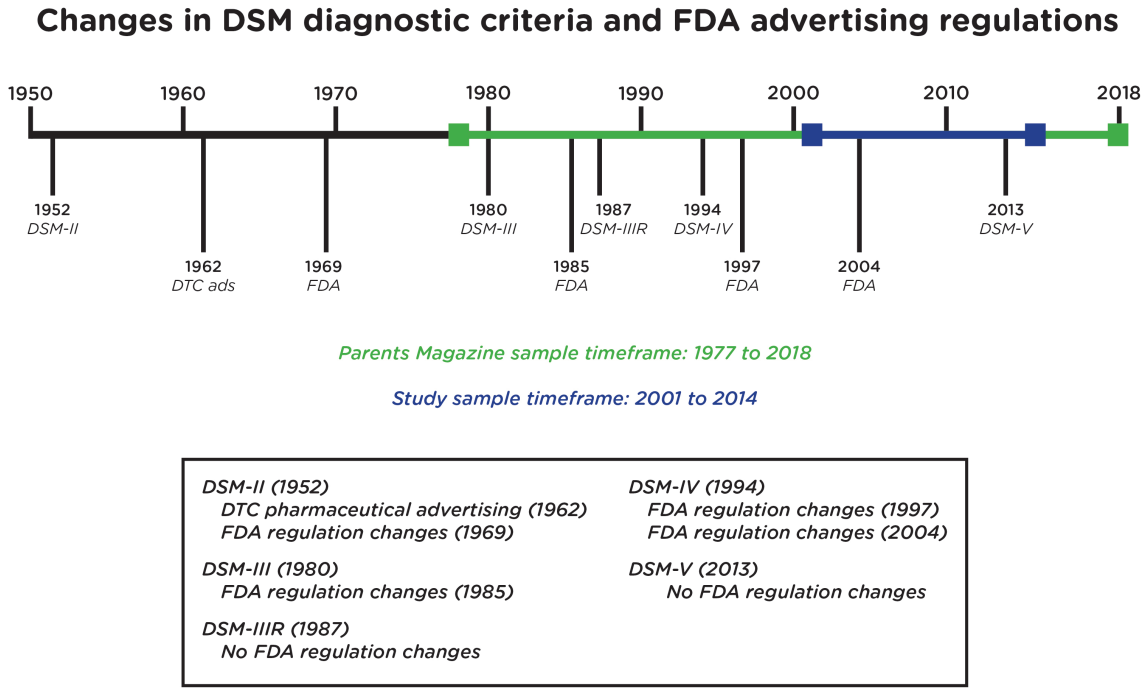


Figure 1. Timeline overlaying the changes in the DSM, changes in FDA regulations, the sample timeframe and span of advertisements identified for analysis.

Factors

Initial visual elements explored included: (a) focal point, (b) point of view, (c) modality, (d) color, (e) connotation/denotation, (f) demographics, and (g) social distance. Initial textual elements analyzed were (a) symptoms, (b) manufacturer, (c) side effects and (d) dosage and

ingredients. However, not all of these initial elements proved meaningful or could be explored in the time available. Therefore, the following elements comprised the final analysis.

Point of View

Point of view represents the angle from which an actor is depicted and two different categories of point of view were analyzed: the position of the actor along a vertical orientation (looking upward, looking downward or eye-level) and the position of the actor along a horizontal orientation (directly facing the audience to a horizonal view).

Social Distance

Social distance refers to how much of the actor's body is visible and six degrees of social distance were analyzed: (a) intimate – the face or head of the actor, (b) close personal – the head and shoulders of the actor, (c) far personal – the actor was shown from the waist up, (d) close social – the entire body of the actor was visible, (e) far social – the entire body was visible with space around it, and (6) public – the torsos of multiple people were visible.

Demographics

The demographics includes the age, sex and race of the actors depicted. Age was categorized as either a child or an adult. Sex was categorized as either male or female. Race was categorized as either Caucasian or non-Caucasian.

Denotation/Connotation

The denotation of the message represents the actual content of the advertisement while the connotation is the underlying theme or meaning of that content. Images and text were collected to capture the denotation. The underlying connotation was identified and recorded through multiple stages of analysis.

Product Information

Product information includes textual information about the medication that is typically found in smaller print at the side or bottom of the advertisement. Six categories of product information were analyzed: (a) explicitly stating that the medication treats ADHD, (b) manufacturer identification, (c) contraindications or additional health conditions that could develop or worsen with the use of the medication, (d) side effects, (e) dosage/ingredients and (f) symptoms of ADHD.

Analysis

Each advertisement was printed in color for analysis. The data was analyzed by multiple passes with notes taken for each. The first pass analyzed the focal point, point of view, modality, color, symbolism, demographics, and social distance used in the advertisements. The second pass analyzed the target audience and persuasive tactics and the text within the images. The third pass analyzed the product information and ADHD symptoms listed. The final pass synthesized the data from the previous passes.

During each pass through an advertisement, notes were taken guided by a code sheet (Appendix A). Notes were grouped by content in relation to the medication advertised, the themes found throughout the advertisements, and the chronological order of all the advertisements. The advertisements for each medication were first sorted by the actors portrayed and the text of these advertisements was compared. The text for all advertisements for that medication was then compared and emerging themes and terms were noted and then analyzed.

Rigor was ensured by making sure an adequate amount of data was collected. Reflexivity was ensured by keeping files in which I noted thoughts as the data was analyzed and collected to ensure analysis stayed focused on common themes.

CHAPTER 5. RESULTS

All research questions focused on the visual depiction of individual actors used actors as the unit of analysis. All research questions focused on advertisements as a whole used the advertisement as the unit of analysis.

RQ1 asked which orientations of point of view were used more often in DTC advertisements for ADHD medication. As seen in Table 1, eye-level (57.86%) was the most common vertical orientation with looking upward (16.43%) and looking downward (25.71%), used less frequently. The horizontal orientation was almost evenly split between frontal (50.71%) and horizontal (49.29%). In response to the first research question, the eye-level vertical orientation for point of view was used more often than the looking upward or looking downward points of view. The horizontal position points of view were both used almost equally. This suggests that the point of view linked with greater connectedness was used more often for vertical orientation, but not for horizontal orientation.

Table 1

Point of View

Orientation of Actor	Total Actors	%
Vertical		
Eye-level	81	57.86
Looking Downward	36	25.71
Looking Upward	23	16.43
Total Vertical Position	140	100.00
Horizontal		
Frontal	71	50.71
Horizontal	69	49.29
Total Horizontal Position	140	100.00

RQ2 asked which degrees of social distance were used more often in DTC advertisements for ADHD. The two most commonly used degrees of social distances were far personal (57.14%) and close personal (30.00%). The other four social distances, intimate

(0.71%), close social (4.29%), far social (6.43%) and public (1.43%), were used less frequently, as seen in Table 2. In response to the second research question, both the far and close personal degrees of social distance were used most often, again aligning with potentially greater connectedness with audiences.

Table 2

Social Distance

Degrees	Total Actors	%
Far personal	80	57.14
Close personal	42	30.00
Far social	9	6.43
Close social	6	4.29
Public	2	1.43
Intimate	1	0.71
Total Social Distance	140	100.00

RQ3 asked which demographics DTC advertisements for ADHD medication use more often to portray children. The two most commonly used demographics of children were male Caucasian (32.86%) and female Caucasian (23.57%). The other two demographics of children, male non-Caucasian (6.43%) and female non-Caucasian (8.57%), were used less frequently, as seen in Table 3. In response to the third research question, DTC advertisements more often portray male Caucasian children than female Caucasian, but both were much more prevalent than non-Caucasian children of either sex. This suggests that that the advertisers predominantly followed the demographics most likely to be diagnosed from the DSM. However, female Caucasian children still comprised a meaningful proportion of the child demographics. If siblings of the main actor were shown, identified by the accompanying text, they were typically of the opposite sex. It is notable that the first non-Caucasian actor present was paired with a Caucasian actor.

RQ4 asked which demographics DTC advertisements for ADHD medication use more often to portray adults. The most commonly used demographic of adults was female Caucasian (20.71%). Male Caucasian (4.29%), male non-Caucasian (1.43%) and female non-Caucasian (2.14%) were used less frequently, as seen in Table 4. All adult women were depicted as happy, presumably about how things had changed once their child started taking the respective medication, and were showing affection toward the child. Not every advertisement listed specific ages for patients, but those that did stayed within the recommended ages set forth in the DSM.

Table 3.

Demographics

Table 3

Demographics

Children	Total Actors	%
Male – Caucasian	46	32.86
Female – Caucasian	33	23.57
Female – Non-Caucasian	12	8.57
Male – Non-Caucasian	9	6.43
Total Children	100	71.43
Adults		
Female – Caucasian	29	20.71
Male – Caucasian	6	4.29
Female – Non-Caucasian	3	2.14
Male – Non-Caucasian	2	1.43
Total Adults	41	28.57
Total Actors	140	100.00

Crossing these three actor tables can help reveal other relationships. As seen in Table 4, children appeared to be engaging with the viewer more so than adults. The children held an eye-level gaze (61.00%) more often than the adults (50.00%), whereas the adults looked away in some capacity (50.00%) more often than the children (39.00%). The children also held a frontal

position (54.00%) more often than the adults (42.50%), whereas the adults held a horizontal position (57.50%) more often than the children (46.00%).

Table 4

Comparisons – Point of View, Social Distance, and Age Group

	Children	**Adults**
Social Distance		
Intimate	1	0
Close Personal	24	18
Far Personal	65	15
Close Social	3	3
Far Social	6	3
Public	1	1
Point of View		
Vertical angle – Up	16	7
Vertical angle – Down	23	13
Eye-level	61	20
Frontal	54	17
Horizontal	46	23

RQ5 asked what underlying themes do DTC advertisements for ADHD medication communicate about their product. The major themes associated with the medication were: (a) solving the individual's problems at school, work and home; (b) increased social abilities and acceptance; (c) parental peace of mind, relief and pride in their child; and (d) support for the parents who are waging a battle with ADHD. Samples of each theme are provided in appendices B through E.

Solving the individual's problems was the most prevalent theme present throughout the advertisements. Children were shown receiving better grades, concentrating on tasks and finishing them in a timely manner. Adults were shown focusing on tasks at work and spending time with their family. Some advertisements outlined these changes by providing a timeline of

the child's abilities before taking the medication and how their life changed afterwards. Other advertisements merely depicted the positive actions after medication, implying that the action was formerly a problem. These advertisements included statements such as, "Thanks for taking out the garbage" (Adderall XR, September 2002 through February 2003) or "Schoolwork that matches his intelligence" (Adderall XR, August 2004 through November 2005).

Increased social abilities and acceptance was not as prevalent, but represented a distinct theme emphasizing behavior in social groups. These advertisements depicted the child getting along better and spending more time with their peers and family members. When focused on peer relationships, these advertisements often included statements such as, "Friends that ask him to join the group" (Adderall XR, September 2002 through February 2003) or "Do you want to have your friends over on Saturday?" (Adderall XR, September 2002 through February 2003). When the relationship was more family oriented, these advertisements often included statements such as, "Family hours that last for hours" (Adderall XR, August 2004 through November 2005) or "Let's play a game" (Adderall XR, September 2002 through February 2003).

Parental peace of mind, relief and pride in their child contrasts the previous themes as it is parent-focused rather than child-focused. These advertisements depict parents or teachers being happy with the changes seen in the children. Some of these advertisements address the child from a parent's perspective – "I'm proud of you…" (Adderall XR, September 2002 through February 2003) – but many focus only on the parent's experience – "I see a big difference in my son/daughter – better test scores at school, more chores done at home – an independence I try to encourage, a smile I always can count on" (Concerta, October 2003 through October 2004) or "I see Jason/Ally. Not his/her ADHD" (Concerta, October 2003 through October 2004).

Finally, support for parents who are waging a battle against ADHD was the least prevalent, but distinct when present. These advertisements were again from the parent's perspective, but depicted the parent actively addressing a problem associated with ADHD. For example, two Concerta advertisements pictured a school with an empty parking lot and drop off lane with a message from Kyle's mom, explaining that his homework is late because he left his backpack on the bus more than once. Under the image is text explaining that mothers are not alone in experiencing difficulties surrounding ADHD. Other advertisements were more literal. An Adderall XR advertisement stated "Things are good on the ADHD front," (Adderall XR, April 2002) and depicted a boy in three situations—sitting in school, helping at home and doing homework—similar to the three scenes in Erich Maria Remarque's "All Quiet on the Western Front" describing fighting in Germany during World War I.

In response to the fifth research question, the underlying themes DTC advertisements for ADHD medication use either focus on the individualized and social successes of a person taking the medication or on the parental experience of feeling pride for their child or still battling the disorder.

RQ6 asked how fully do DTC advertisements for ADHD medication disclose product information about their products. As seen in Table 5, dosage/ingredients were mentioned in all but one of the advertisements (98.63%) and this information was typically included as part of the product's logo. The manufacturer was identified in 87.67% of the advertisements and the contraindications and side effects were each identified in 79.45% of the advertisements. The only advertisements that did not list the manufacturer's name, contraindications or side effects were the those that included special offers, such as scholarships, information kits or tips on keeping organized. "Side effects" and "adverse effects" were used interchangeably, as they are within the

CFRs as well. Forty-nine (67.12%) of the advertisements explicitly stated that the medication was used to treat ADHD symptoms, yet the actual language varied between the medication controlling, treating, managing or providing relief from ADHD symptoms. These specific symptoms were mentioned in 15 of the advertisements (20.55%) and only within four medications: Daytrana, Intuniv, Quillivant XR and Vyvanse. These advertisements only listed the umbrella symptoms of inattention, hyperactivity and impulsivity. Although the DSM combines hyperactivity and impulsivity into one symptom (hyperactivity-impulsivity), the advertisements routinely split them into two different symptoms. While some advertisements provided examples of how inattention may manifest (e.g., focus, lack of focus, difficulty in listening to and following directions), none provided examples of how hyperactivity or impulsivity may manifest even though the DSM provides examples for both. In response to the sixth research question, all categories of product information except for the presence of ADHD symptoms were present in at least two-thirds of DTC advertisements for ADHD medication.

Table 5.

Product Information

Types of Information	Total Advertisements	%
Dosage/Ingredients	72	98.63
Manufacturer	64	87.67
Contraindications	58	79.45
Side effects	58	79.45
Treatment for ADHD	49	67.12
ADHD symptoms	15	20.55

RQ7 asked how have DTC advertisements for ADHD changed over time relative to changes in (a) the definition of ADHD present in the DSM and (b) changes in DTC regulations required in the relevant Code of Federal Regulations. There was very little change in the previously explored variables over the time period studied. Advertisements for ADHD

medication tended to portray female children more often as well as fewer adults over time. The first female child used was for Strattera in August 2003. Parents were more common in the early years of the timeframe (n = 37), but after August 2006 were depicted less often. The first non-Caucasian actor used was in an advertisement for Strattera in November 2003 and was paired with a Caucasian actor. The first non-Caucasian actor portrayed alone was in an advertisement for Daytrana in October 2006. Advertisements did not start depicting non-Caucasians on a regular basis until September 2007. It remains unclear if these demographic trends are related to changes in the DSM, CFRs or broader societal changes.

No meaningful trends were noted within the product description or other visual communication factors. In response to the seventh research question, neither the changes in the DSM nor relevant CFRs seem to have impacted advertising decisions over the time period studied.

CHAPTER 6. DISCUSSION

This study examined how DTC advertisements for ADHD medication have promoted their product through product descriptions and visual depictions. Few studies have explored pharmaceutical advertising for ADHD medication even though some authors have claimed that the content of pharmaceutical advertising is linked to the misdiagnosis or overdiagnosis of ADHD. This study cannot answer if the choices made in promoting ADHD medication had influenced prescription rates or diagnoses, but it can provide one of the first analyses of how advertisers have visually constructed their advertisements and the underlying connotations they are promoting.

A number of visual communication factors were examined. Actors were most often depicted along the vertical orientation through an eye-level point of view, suggesting that advertisers were seeking a greater connection with the audience. A frontal point of view was predicted to dominate along the horizontal orientation for the same goal of greater connection with the audience, but this was not supported with almost an equal proportion depicting the actor's body turned away from the audience. However, in all cases where the horizontal orientation was not frontal, the actor was looking over their shoulder at the audience. This may approximate more of a frontal orientation than a less connected profile or full horizontal orientation.

Social distance was also predicted to maximize audience connection, and this was partially supported with both personal degrees of social distance being the most prevalent. However, the closest degree of social distance, intimate, was hardly used. This was unexpected, but may be because only the actor's head is shown with no space around it from this degree of social distance, thus making it difficult for the advertiser to portray the actor in a certain setting

or participating in an activity. Since the actor cannot be portrayed in a certain setting or participating in an activity, it may be difficult for the audience to connect because the image does not provide a context to which they can relate.

Demographic depictions of both children and adults mostly aligned with expectations that advertisements would depict the demographic most likely to be diagnosed with ADHD, Caucasian boys with their mothers. However, Caucasian girls also comprised a meaningful promotion of children depicted. This may be because the prevalence of ADHD in girls has risen over the years. In DSM-IV, the ratio of boys to girls expected to be diagnosed with ADHD ranged from 4:1 to 9:1. The ratio changed to 2:1 in DSM-5 and it was noted that females were more likely to "present primarily with inattentive features" (APA, 2013, p. 56).

A primary goal of this research was to examine how DTC advertisements for ADHD medication changed over time because both the definition and diagnosis of ADHD as well as required regulations for DTC advertisements changed during recent timeframes. It was predicted that these changes would manifest themselves in published advertisements. For ADHD medication, this was not the case. Part of the reason may be because of the limited span of time from which the sample was collected. While the initial search began in publications from 1977, no ADHD advertisements appeared until 2001. Likewise, no relevant advertisements were present after 2014 as the advertisements changed to promote the manufacturers instead of specific medications. Yet another reason may be that these changes indeed do not manifest themselves in published advertisements. Once a product (or disorder) has been defined and money invested, there may be more incentive to maintain a consistent message and connotation regardless of changes in the background understanding. Nonetheless, the only noticeable trends over time involved demographic depictions. As stated before, the increase in the use of girls in

the advertisements may have been because of the changes in the predictions between DSM-IV and DSM-5. However, there was also an increase in the use of non-Caucasian actors. Since there were no changes in the DSM regarding the race of those diagnosed with ADHD, this may simply be because the advertisers wanted to use a more diverse population of actors in order to be more inclusive.

Previous literature suggested that DTC advertisements often do not provide adequate information about their products. Results from this study found at least two-thirds of the advertisements described all of the analyzed categories of product information except for symptoms of ADHD, which is not explicitly required. The fact that the DSM states that there may be other factors contributing to a person presenting with ADHD symptoms, such as environmental factors or other mental disorders, may be one reason as to why the advertisements say the medication may help control or manage ADHD symptoms rather than explicitly treating ADHD itself. One reason why the advertisements state the umbrella symptoms of ADHD rather than every specific symptom may be because not every person is going to present every symptom or the same symptoms as others.

Four major themes emerged in how advertisers attempt to associate their medication: (a) solving the individual's problems at school, work and home; (b) increased social abilities and acceptance; (c) parental peace of mind, relief and pride in their child; and (d) support for the parents who are waging a battle with ADHD. Some of these themes, such as solving the individual's problems at school, work and home and increased social abilities and acceptance, were identified in previous literature of DTC advertisements in general, but parental peace of mind, relief and pride in their child and support for the parents who are waging a battle with ADHD appear to be unique relative to ADHD. One reason for the theme of parental peace of

mind, relief and pride in their child may be that, because people diagnosed with ADHD struggle in the academic, social and familial areas of their lives, portraying the medication as something that can help "normalize" things in these areas may gain the attention of the audience who understand what these experiences are like for everybody involved. Similar to this is the theme of support for the parents who are waging a battle with ADHD, which gains the parents' attention by speaking directly to them and relating more to how their child having ADHD affects them, thus showing how the medication can, in a way, "normalize" their lives as well. Of all the variables analyzed, these themes seem to show the greatest variation across advertisements.

Future studies should experimentally test how exposure to these different themes of advertisements may impact parents' understandings or choices related to ADHD medication. It seems likely that the claim that DTC advertising content may lead to misdiagnosis or overdiagnosis of ADHD may be impacted the most from these different thematic connotations. It would be important to do this with parents who both have and do not have children with ADHD in order to determine more specifically if these messages have an effect on them wanting to seek a different treatment option for their child or take their child to be evaluated for ADHD.

Limitations and Future Studies

There are limitations to this research that future research could address. There are many other visual factors that were excluded from the current study because there was either little variation throughout the sample or measurement was complex. Future research should also explore some of these visual communication factors within a DTC advertisement context. For example, the colors used in the advertisements may have a purpose in persuasion. Different colors are thought to have certain connotations or elicit certain emotions. Future research could explore the colors used in the images and the logos of DTC advertisements in order to see how

the color may have been used to help communicate the advertisement's message. The use of typography in the advertisements could also be explored in order to determine if different typefaces and fonts were used to set the tone of the message. For example, a serif typeface may be used to make a statement seem more serious or professional, whereas a sans serif typeface may be used to make a statement seem more fun or whimsical. Examining the typeface and font of an advertisement may help to give more meaning to the connotation of the communicated message. Other possible factors to analyze could include focal point, modality, and symbolism.

Another limitation is a single magazine was used to collect the DTC advertisement samples. Future research could target and compare multiple outlets or focus on magazines that target more of the general public rather than a niche magazine directed toward parents/guardians.

Conclusion

Over all, the demographics of the actors followed the predictions in the DSM. Point of view and social distance were used in such a way as to increase connectedness between the actors and the viewer. Although four different themes emerged, they all spoke to how the advertised medication could help improve the lives the of the patients, and also the lives of those around them. Looking at this combination of information, it appears the advertisers were trying to maximize the product involvement of the viewers by showing realistic, day-in-the-life scenarios to which they could relate. Going forward, advertisers can use this strategy to strengthen their messages by maximizing both the central cues (message content) and peripheral cues (visual elements) the viewers will see and base their attitudes on.

REFERENCES

Abraham, J. (2010). Pharmaceuticalization of Society in Context: Theoretical, Empirical and Health Dimensions. *Sociology, 44*(4), 603-622. Retrieved from http://www.jstor.org/stable/42857431

American Psychiatric Association (2004). *Diagnostic and Statistical Manual for Mental Disorders* (4th ed.). Arlington, V.A.: American Psychiatric Association.

American Psychiatric Association (2013). *Diagnostic and Statistical Manual for Mental Disorders* (5th ed.). Washington, D.C.: American Psychiatric Association.

American Psychiatric Association (APA) (2018). DSM History. Retrieved March 08, 2018, from https://www.psychiatry.org/psychiatrists/practice/dsm/history-of-the-dsm

Bell, P. (2001). Content Analysis of Visual Images. In T. Van Leeuwen & C. Jewitt (Eds.), *Handbook of Visual Analysis* (pp. 10-34). London: SAGE Publications Ltd.

Benoit, W. L., & Benoit, P. J. (2008). The Cognitive Approach to Persuasion. *Persuasive Messages: The Process of Influence* (pp. 20-31). Malden, MA: Blackwell Publishing.

Boudewyns, V., & Williams, P. S. (2016). Content analysis of comparative claims in drug advertisements. *International Journal of Pharmaceutical and Healthcare Marketing, 10*(3), 302-322. https://doi.org/10.1108/IJPHM-09-2014-0055

Bradley, L., & Zito, J. (1997). Direct-to-Consumer Prescription Drug Advertising. *Medical Care, 35*(1), 86-92. Retrieved from http://www.jstor.org/stable/3766841

Center for Drug Evaluation and Research. (2015). Prescription Drug Advertising - Basics of Drug Ads. Retrieved December 09, 2017, from https://www.fda.gov/Drugs/ResourcesForYou/Consumers/PrescriptionDrugAdvertising/ucm072077.htm

Conrad, P., & Potter, D. (2000). From Hyperactive Children to ADHD Adults: Observations on the Expansion of Medical Categories. *Social Problems, 47*(4), 559-582. doi:10.2307/3097135

Davis, J. (2017). ADD for All. *The New Atlantis, 52*(Spring 2017), 100-110. http://www.jstor.org/stable/44252653

Frosch, D. L., Krueger, P. M., Hornik, R. C., Cronbolm, P. F., & Barg, F. K. (2007). Creating Demand for Prescription Drugs: A Content Analysis of Television Direct-to-Consumer Advertising. *Annals of Family Medicine, 5*(1), 6-13.

Hamed, A. M., Kauer, A. J., & Stevens, H. E. (2015). Why the Diagnosis of Attention Deficit Hyperactivity Disorder Matters. *Frontiers in psychiatry*, *6*(168). doi:10.3389/fpsyt.2015.00168

Hope, D. S. (2006). Visual Communication. Cresskill, NJ: Hampton Press, Inc.

Jewitt, C., & Oyama, R. (2001). Visual Meaning: A Social Semiotic Approach. In T. Van Leeuwen & C. Jewitt (Eds.), *Handbook of Visual Analysis* (pp. 134-156). London: SAGE Publications Ltd.

Ju, I., & Park, J.S. (2015). Communication Strategies in Direct-to-Consumer Prescription Drug Advertising (DTCA): Application of the Six Segment Message Strategy Wheel. *Journal of Health Communication, 20*(5), 546-554. https://doi-org.proxy.lib.iastate.edu/10.1080/10810730.2014.999890

Kim, K., Zhang, M., Li, X., & John Deighton served as editor and Geeta Menon served as associate editor for this article. (2008). Effects of Temporal and Social Distance on Consumer Evaluations. *Journal of Consumer Research, 35*(4), 706-713. doi:10.1086/592131

Lamperd, B. (2009). ADHD: 'Truth Discourse with a Vengeance'. *Australasian Journal of American Studies, 28*(1), 71-92. http://www.jstor.org/stable/41054122

Landau, J. (2011). Women Will Get Cancer: Visual and Verbal Presence (And Absence) in a Pharmaceutical Advertising Campaign About HPV. *Argumentation and Advocacy, 48*(1), 39-54. doi:10.1080/00028533.2011.11821753

Larsen, V., Luna, D., & Peracchio, L. (2004). Points of View and Pieces of Time: A Taxonomy of Image Attributes. *Journal of Consumer Research, 31*(1), 102-111. doi:10.1086/383427

Lee, B., Salmon, C., & Paek, H. (2007). The Effects of Information Sources on Consumer Reactions to Direct-to-Consumer (DTC) Prescription Drug Advertising: A Consumer Socialization Approach. *Journal of Advertising, 36*(1), 107-119. Retrieved from http://www.jstor.org/stable/20460773

Lexchin, J., & Mintzes, B. (2002). Direct-to-Consumer Advertising of Prescription Drugs: The Evidence Says No. *Journal of Public Policy & Marketing, 21*(2), 194-201. http://www.jstor.org/stable/30000726

Limbu, Y., & Torres, I. (2009). The Effects of Involvement and Ad Type on Attitudes Toward Direct-to-Consumer Advertising of Prescription Drug. *Journal of Health and Human Services Administration, 32*(1), 107-138. Retrieved from http://www.jstor.org/stable/25790753

Misdiagnosis: Conditions That Mimic ADHD, (2018). https://www.healthline.com/health/adhd/adhd-misdiagnosis#kids-being-kids

Mongiovi, J., Cadorett, V., & Basch, C. (2017). Characterization of medication advertisements in a popular US parenting magazine. *Health Promotion Perspectives, 7*(4), 205-209. doi:10.15171/hpp.2017.36

Phillips, B. J., & McQuarrie, E. (2002). The Development, Change, and Transformation of Rhetorical Style in Magazine Advertisements 1954-1999. *Journal of Advertising, 31*(4), 1-13. http://www.jstor.org/stable/4189233

Puntoni, S., Schroeder, J., & Ritson, M. (2010). MEANING MATTERS: Polysemy in Advertising. *Journal of Advertising, 39*(2), 51-64. http://www.jstor.org/stable/20720466

Roth, M. (1996). Patterns in Direct-to-Consumer Prescription Drug Print Advertising and Their Public Policy Implications. *Journal of Public Policy & Marketing, 15*(1), 63-75. http://www.jstor.org/stable/30000336

Sherman, M. (2015). The Cultural Production of a Pharmaceutical Market: The Making of ADHD. *International Journal of Communication, 9*(2015), 2182-2201.

Thomas, R. (2013). Attention-deficit/hyperactivity disorder: Are we helping or harming? *BMJ: British Medical Journal, 347*(7932), 18-20. http://www.jstor.org/stable/43513124

van Leeuwen, T. & Jewitt, C. (Eds.). (2001). *Handbook of Visual Analysis.* London: SAGE Publications Ltd.

van Leeuwen, T. (2001). Semiotics & Iconography. In T. Van Leeuwen & C. Jewitt (Eds.), *Handbook of Visual Analysis* (pp. 92-118). London: SAGE Publications Ltd.

Ventola, C.L. (2011). Direct-to-Consumer Pharmaceutical Advertising: Therapeutic or Toxic? *Pharmacy and Therapeutics, 36*(10), 669-684.

Wang, B. & Kesselheim, A. S. (2013). The Role of Direct-to-Consumer Pharmaceutical Advertising in Patient Consumerism. *Virtual Mentor, 15*(11), 960-965. doi:10.1001/virtualmentor.2013.15.11.pfor1-1311

Welch Cline, R. J. & Young, H. N. (2004). Marketing Drugs, Marketing Health Care Relationships: A Content Analysis of Visual Cues in Direct-to-Consumer Prescription Drug Advertising. *Health Communication, 16*(2), 131-157.

APPENDIX A. CODE SHEET

Point of View – Gaze of Actor

1. Vertical angle – up
    - The actor is looking upwards
2. Vertical angle – down
    - The actor is looking downwards
3. Eye-level
    - The actor is looking directly at the viewer

Point of View – Position of Actor

4. Frontal angle
    - The actor's body is directly facing the viewer
5. Horizontal angle
    - The actor appears to be sitting to the side of the viewer or is turned sideways in relation to the viewer

Social Distance

1. Intimate
    - Only the face/head of the actor is visible
2. Close personal
    - The head and shoulders of the actor is visible
3. Far personal
    - The actor is visible from the waist up
4. Close social
    - The whole figure of the actor is visible
5. Far social
    - The whole figure of the actor is visible with space around it
6. Public
    - The torsos of at least four to five people are visible

Age Range

1. Child/Adolescent
2. Adult

Sex

1. Male
2. Female

Race

1. Caucasian
2. Non-Caucasian

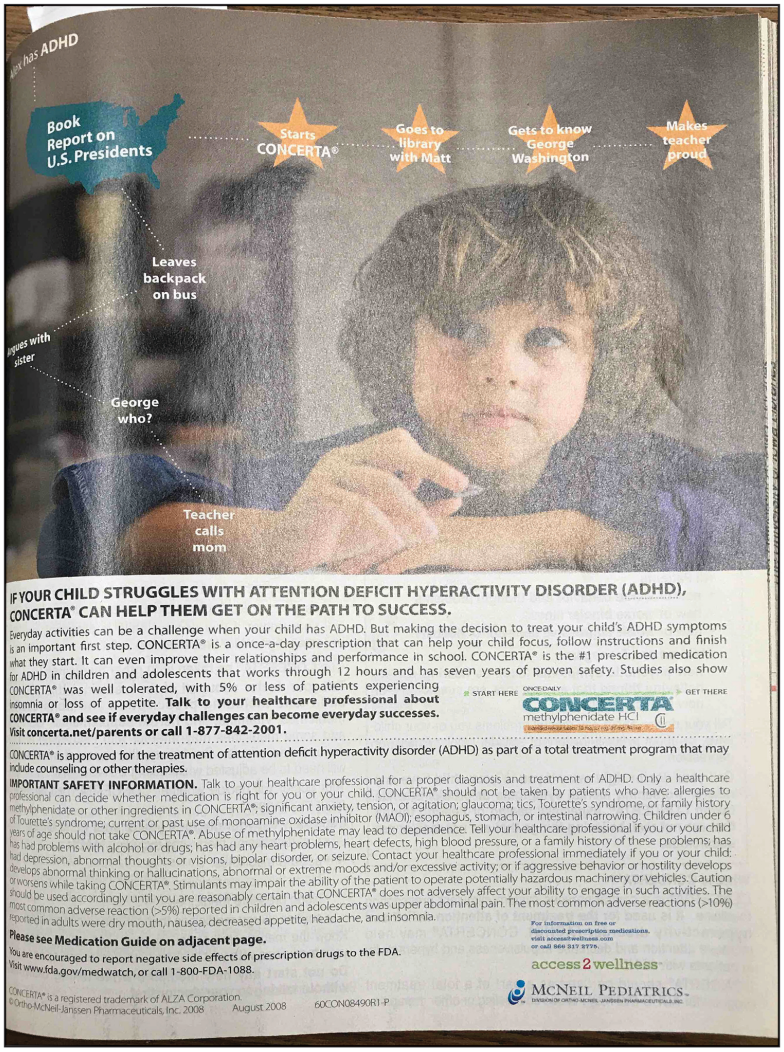
Product Information

1. Dosage/Ingredients
    - How long each dose is supposed to remain effective; dosages available and/or ingredients in the medication that are listed
2. Manufacturer
    - The company who manufactures the advertised drug
3. Contraindications
    - Any medical issues the patient may have, or whose family has a history of, that may prohibit them from taking the medication
4. Side effects
    - Any common or possible side effects of the drug and/or that have been reported
5. Treatment
    - The condition for which the medication is used to treat
6. ADHD symptoms
    - Which ADHD symptoms have been listed/mentioned

Themes

- Emerging themes found throughout the advertisements

APPENDIX B. THEME SAMPLE: SOLVING THE INDIVIDUAL'S PROBLEMS AT SCHOOL, WORK AND HOME

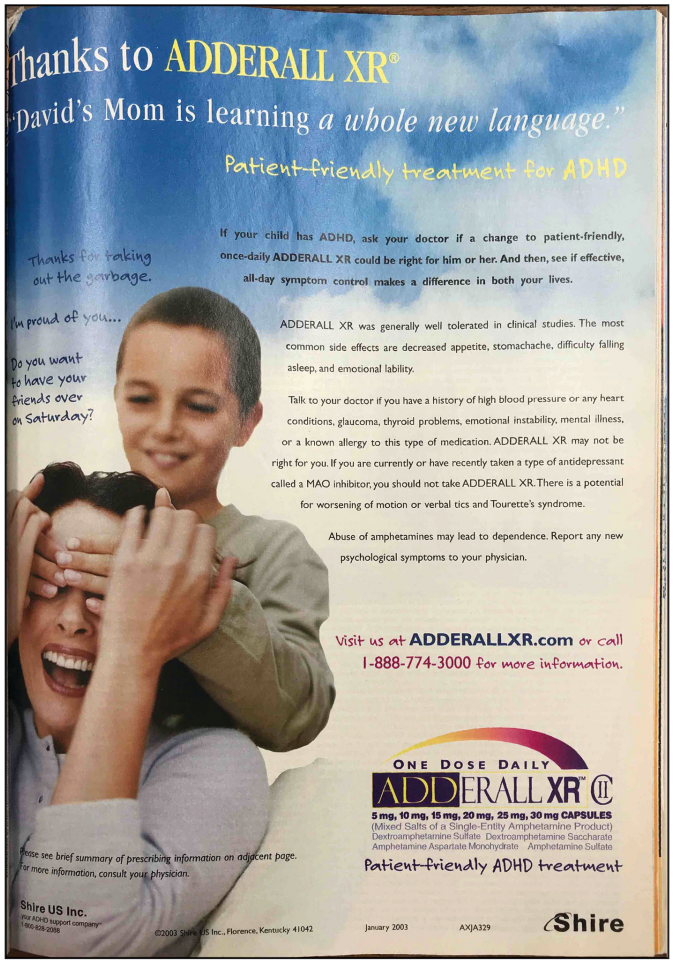


This advertisement fell under the theme of solving the individual's problems at school, work or home. The phrases along the crooked line going down the left side describe the child's school day before taking Concerta and the phrases along the straight line going across the top describe the child's school day after taking Concerta. The points of view of the actor in this advertisement are vertical orientation - upward and frontal. The social distance of the actor is close personal.

APPENDIX C. THEME SAMPLE: INCREASED SOCIAL ABILITIES AND ACCEPTANCE

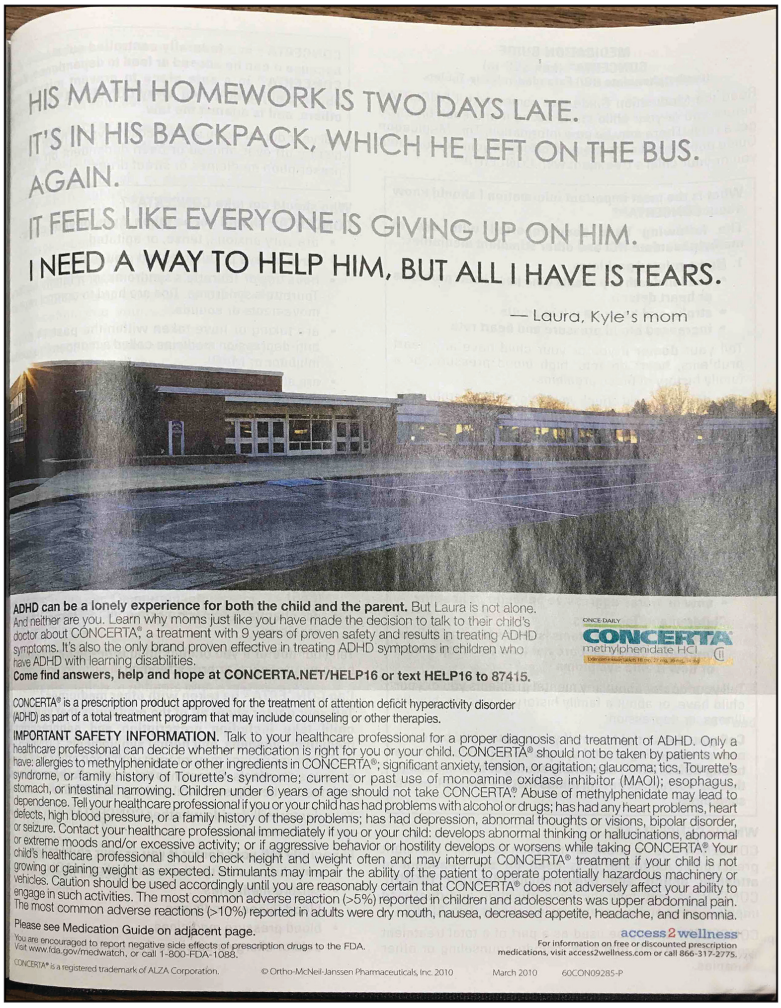
This advertisement fell under the theme of increased social abilities and acceptance. These actors appear to have played through an entire baseball game and are hanging out after the game. The points of view of the actors are eye-level and horizontal. The social distance of the actors is far personal.

APPENDIX D. THEME SAMPLE: PARENTAL PEACE OF MIND, RELIEF AND PRIDE IN THEIR CHILD



This advertisement fell under the theme of parental peace of mind, relief and pride in their child. The phrases above the actors show how the parent now feels by thanking the child for doing chores, explicitly saying she is proud of him and asking if he wants to spend time with his friends.The point of view of the child is vertical angle - downard and frontal. The point of view of the woman is frontal. The social distance of the actors is far personal.

APPENDIX E. THEME SAMPLE: SUPPORT FOR PARENTS WHO ARE WAGING A BATTLE WITH ADHD



This advertisement fell under the theme of support for parents who are waging a battle with ADHD. The prominent writing at the top talks about the troubles the boy and his mom are having while dealing with ADHD. The gray box below the image explains that the mother is not alone and that Concerta can help.