**FROM BETTY CROCKER TO THE GEIKKO GEKKO:
AN INFORMATION PROCESSING ANALYSIS OF THE ROLE OF THE
SPOKES-CHARACTER IN VISUAL ADVERTISING**

by

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Abstract

Spokes-characters have been prevalent in North American culture and advertising for the past century. Utilizing a data set comprising over 16 000 eye fixations, rating scales and tests of recall, this dissertation is the first known study to investigate how these rhetorical figures may or may not capture visual attention and direct it towards ad content when they are unrelated to depicted products. Motivated by the results of a content analysis that found that spokes-characters in television commercials over the past five decades may be conveying few information cues about products, three experiments were conducted using eye-tracking technology that examined how these characters are viewed in print advertisement. In Experiment 1 participants viewed images of products and spokes-characters while their eye-fixations were measured and their recall of these images were tested. The study found that images of spokes-characters were not inspected differently from images of common objects and significantly fewer cartoon characters were recalled than images of common objects. Building on the results of this study, Experiments 2 and 3 examined how spokes-characters are viewed when incorporated into visual ads. Experiment 2 found that the presence of a spokes-character in an ad did not result in significantly longer viewing times compared to ads that had a duplicate product in the place of the spokes-character and that text recall was not higher in ads that featured spokes-characters. This study also found that disliked spokes-characters garnered significantly larger pupil sizes than liked spokes-characters. In Experiment 3 participants viewed ads while making purchasing decisions. The study found that when participants were asked to choose between ads that featured or did not feature a spokes-character, ads with spokes-characters were avoided when they bore no relation to a product, unless they

evoked a particularly positive mood in viewers. Considered together, the results of this research suggest that the presence of characters that are unfamiliar to viewers and bear no visible relation to products may not necessarily garner greater attention in ads that feature them. Practical and theoretical implications regarding the role these characters may play in attracting and holding consumers' attention are discussed.

Dedication

Abbe Faria: In return for your help, I offer you something priceless.

Edmond: My freedom?

Abbe Faria: No, freedom can be taken away, as you well know. I offer you my knowledge.

~ Excerpt from 'The Count of Monte Cristo'

This dissertation is dedicated to five members of my family who have provided me with the inspiration to fulfill my dream of pursuing a doctorate. First to my father, Dr. Asim Kumar Sen who was invited to come to Canada as a post doctoral fellow, after which he began work at NASA at the time the Americans made history by landing the first man on the moon. After this, my father continued his career with many academic distinctions, including being listed in Who's Who, a reference work on contemporary prominent people; he is still remembered with fondness and admiration by former students at the University of Ottawa. To my uncle, Dr. Arun K. Sen, also a renowned scholar and polymath, who always had faith in my abilities and delighted in challenging me with philosophical questions about the world from an early age: I found enormous inspiration from our limited time together.

This thesis is equally dedicated to my maternal grandparents, Mr. Jyotish Chandra Dasgupta and Mrs. Lila Dasgupta who have each earned gold medals in their respective fields of expertise: double gold medals in literature (grandfather) and fine arts (grandmother). My mother, Mrs. Tapati (Patti) Sen, also holds a gold medal in oration. Despite having no formal legal training, my mother, through her vast knowledge of the law, managed to bring justice to many people's lives including her own. In 2006, she earned a legal victory in Canada, without the aid of a lawyer, raising a few eyebrows and

admiration even from her opponents. In the case of my grandparents, both were great supporters of higher education. During their lifetime and despite their own limited income, they fed, clothed and paid tuition for countless street people in Kolkata, who would have been otherwise denied an education through no fault of their own.

Through your combined examples on how to live a meaningful life, I dedicate this dissertation to each of you.

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Introduction

Spokes-characters have been defined as “[non]-fictional persona employed to sell a product or service” (Callcott & Phillips, 1995, p. 73) whose function is to “give meaning to [a] brand by symbolizing its¹ character... lend[ing] emotional appeal to the brand by personifying the product” (Phillips 1996, p. 147)². Their use in marketing can be traced to early 19th century advertising where they have had a long-standing role in advertising and North American culture (Callcott & Lee, 1995). Traditionally their aim has been to distinguish one product from another, by associating a recognizable and positive brand image that symbolizes the sometimes abstract attributes of a product. In this way, a personal connection with would be consumers is typically established (LeBel & Cooke, 2008). What is not yet well understood, however, is the importance of ‘meaning creation’, that is, if spokes-characters are instead perceived solely as a ‘visual stimulus’ (irrespective of whether they enable a personal connection to be established with a would-be consumer) might the function of spokes-characters be to off-set the effects of habituation in visual ads? Perhaps humans are simply hard-wired to look longer at an interesting visual stimulus irrespective of its relation to the product. Re-defining the spokes-character, then, as ‘any humanoid pictorial image associated with a product in space/time’, this dissertation attempted to answer this question through an examination of the role of spokes-characters as an information processing tool, in print advertisements.

¹ Please note that here and for the remainder of this dissertation, the impersonal pronoun for spokes-characters will be adopted, whether the spokes-character is human or not.

² Though in the context of ‘trade characters’ Phillips (1996) draws attention to the importance of restricting these characters to animate beings or animated objects. She argued that since the word “character,” defined by Webster’s dictionary to mean “person,” implies a living personality, ‘personality’ should be the focal point of the trade character, whether the character is animate by nature, like Betty Crocker, or animated by design, like Mr. Peanut.

The History of Spokes-Characters

Two milestones in pictorial advertising are believed to have played a significant role in establishing the importance of the emotive appeal of these characters (Callcott & Lee, 1995). During the beginning of the 19th century, poster illustrations were restricted in size and quality by the limitations of boxwood, the only wood available for woodcut reproductions. Thus it was not until the use of pine for woodcut engravings, in the late 1840s that larger reproductions became possible contributing to the evolution of larger illustrations in outdoor advertising. A second milestone occurred with the introduction of the halftone technique for photographic reproduction in 1892 that provided human-interest characters with more "naturalness and greater emotiveness" than previous line drawings and woodcut engravings could (Presbrey 1929, p. 382; cited in Callcott & Lee, 1995). Further, advances in photography, cinematography and animation are believed to have had a significant impact on the way spokes-characters appeared in advertising. As noted by Callcott and Lee (1995):

"Spokes-characters presented via hand-drawn illustration were thus joined by live humans and animals photographed in costume or in character (e.g., Ronald McDonald and Morris the Cat). Characters were also presented via increasingly diverse methods of animation, including puppetry, stop-motion photography, rotoscope, claymation and, most recently, computer animation" (Callcott & Lee, 1995, p. 145).

Spokes-characters may be fictional or non-fictional in nature and human or non-human in form (Callcott & Lee 1995). Phillips (1996) notes the different purposes of fictional versus non-fictional characters. The value of non-fictional characters is believed to lie in their credibility as realistic spokespeople. In advertising that employs spokes-

characters comprising real people, consumers are expected to either identify with or aspire to be like the spokesperson. For example, celebrity spokes-characters offer the advantage of creating a positive association for a product through a well known and popular personality (Callcott & Lee 1995) while also increasing attentiveness to an ad, being memorable, credible and adding glamour to a product (Kamins & Gupta, 1994).

The section to follow describes the appeal and mechanisms that underlie human and non-human types of spokes-characters.

Types of Spokes-Characters

Callcott and Lee (1995) discuss how the depiction of human spokes-characters through illustration or caricature may enable the portrayal of ideals that 'real' humans may not adequately represent. They provide the example of Betty Crocker who made her first debut on the radio in 1924 and whose face was created to represent the perfect picture of 'domesticity,' and where the use of illustration enabled Crocker to be a composite of 'everywoman' all over America and remain untarnished through several generations. It is argued that had Betty Crocker been portrayed through real photographs, her perfect image might have been more difficult to maintain.

Non-Human Spokes-characters

The creation of non-human spokes-characters typically involves anthropomorphism or personification.

Anthropomorphism

Fournier (1998) has argued that the human need to anthropomorphize inanimate objects is a universal human activity. She posits three ways where the 'humanness' of a spokes-character may be varied in order to depict the 'vitality of a brand':

- (1) using spokes-people (humans with personalities that so strongly fit with the brand that over time the brand 'becomes' the spokesperson. A good example is Bill Cosby and Jello (from the 1980s). This corresponds with McCracken's (1989) idea that spokesperson effectiveness stems from delivering the spirit of the endorser through product usage.
- (2) personal associations between spokespeople and a brand (grandmother and air freshener, the smell reminding you of things that are old and comforting like your grandmother)
- (3) complete anthropomorphization of the brand object so that human qualities of emotion, thought and volition are associated with the product. Examples of this include the Pillsbury Doughboy and Charlie the Tuna who have the ability to laugh, joke, scheme and conspire.

Spokes-characters vary greatly in their degree of personification. For example, Tony the Tiger, Smokey the Bear and Joe Camel are personified animal characters, whereas non-personified animals like the Friskies cat are known for qualities that advertisers wish to *associate* with their products. In the case of the Friskies cat, 'lively' and 'frisky' are presumably qualities advertisers wanted to associate with their pet food.

Part of the unique appeal of animal spokes-characters may lie in the connection between the dispositions animals portray in advertising and our associations of them in popular culture. Stern (1988) elaborates on the tiger's quality of 'strength' in this way:

Tigers, for example, in cereal ads (Tony the Tiger) are associated with human strength, in gasoline ads (Exxon) with car strength ("Put a tiger in your tank"), and in financial services ads (The Boston Company Special Growth Fund) with financial strength ("Grow, tiger, grow!") (Stern, 1988, p. 88).

These ideas are extended by Gowans (1981) who postulates that "humor mouthed by animals is the safest way to assert values," because they allow us to "make jokes of

what we are embarrassed to put plainly" (Gowans, 1981, p. 145; cited in Callcott & Lee, 1995). He notes that a good deal of traditional wisdom has been imparted by personified animals where: "... courage, loyalty, wisdom, and shrewdness win out often enough, stupidity and wastefulness and folly regularly enough get their just rewards, for songs and stories about funny animals to display a sanity conspicuously missing from the twentieth century's controlling ideology" (Gowans, 1981; p. 145, cited in Callcott & Lee, 1995).

The Role of Images in Visual Advertising

Non-realistic visual depictions have appeared in advertising with increasing frequency (Leigh, 1994; Scott, 1994) especially over the past five decades (Phillips & McQuarrie, 2002; Sen & Lindgaard, 2006). Sen and Lindgaard (2006) examined five hundred randomly selected advertisements from North American women's magazines published from the 1960s to the 2000s. Significantly fewer information cues³ per ad were identified with time suggesting that ads are becoming increasingly non-informative. In this regard, the decade of the 1990s was found to be a pivotal point when product information started to become less textual and more visually based in content. Significant differences were also found for size of product visual and length of text, with the former increasing and the latter decreasing over time. Figure 1 shows two advertisements that were analyzed in this study that illustrate some of the striking differences in textual and visual content from the 1960s to the 1990s.

³ As assessed via Resnik and Stern's (1977) information scale which will be discussed in further detail later on in this dissertation.

about the news?

1. Candidates voters last year elected Liberal representatives from every province but one. Can you name the one?
2. Hsinchu City, Taiwan, will be the New World base of what erstwhile Old World landmark?
3. What does the combination Apollo-Saturn stand for in the U.S. space program?
4. What did win the women's World Cup in 1967 and an Olympic gold medal in 1968?
5. That U.S. industry in Europe will become the 2nd greatest economic power in the world is attributed to Jean-Jacques Schreyer-Schreyer's recent bestseller. What is the title?

1. John Edward Ward, 2. British Royal, 3. Apollo is the space shuttle, 4. Soccer is the world's most popular sport, 5. The American Charmin.

scored high on this little quiz, precisely the kind of perceptive reader TIME is for. If you missed a few questions are that you don't know or don't grasp as fully as you'd like. So now's the only TIME.

spending just one evening with TIME's 24 news and sections, and watch what happens—fast. Scientific data, space and the latest from Viet Nam will be part of your conversation. Know which star-kicked off his flopped and what popular has written a book number.

at time at all, TIME stacks and with quotes, quips, anecdotes. It gives you facts and so form opinions worth listening to.

fun. You start to glance at page or two, next thing you know you're hooked for the evening psycho-poo and cyber-symphonies and saints.

TIME

Because finding out in TIME makes finding out fun. No need to read between the lines. TIME tells the news each week with warmth, wit and above all, clarity. Knowing you know. Reading TIME gives you the very special feeling of knowing you know. Although you may not agree with every word, the important thing is you'll be able to judge and weigh to agree and disagree.

22 million strong. It's a habit you'll never want to break—a habit shared by all sorts of movers and shakers in the world. Leaders in 185 different countries rely on TIME. And 2 million college students crack our book every week. Altogether TIME readers number 22 million worldwide.

Why not join us? You'll get TIME for 17 weeks at the special rate of \$1.97—less than 12¢ an issue.

Could anyone balance like this for 70 years?

We have.

Softness and Strength. For 70 years Charmin's been balancing a great combination of both. Maybe that's why Charmin's number one toilet paper.

70 years Soft and still going Strong.

Charmin

Figure 1. On the left, an advertisement for Time magazine and an advertisement for Charmin paper towels (right) (source: Sen & Lindgaard, 2006)

A pictorial turn in visual advertising, in particular, the rise of rhetorical figures, defined as “artful deviations from audience expectations” (Phillips & McQuarrie, 2002, p. 3) have been identified by other researchers. For example, Leigh (1994) found 74% of all ads with a headline contained at least one rhetorical figure (cited in Phillips & McQuarrie, 2002). These results are also consistent with the findings of Phillips and McQuarrie (2002). Their content analyses of forty-six magazines from the time period 1954-1999 suggested that less *explanation* of rhetorical figures was provided over time. More specifically, the researchers found that in the earlier ads, rhetorical figures were more likely to be accompanied by extensive literal headlines and body copy that explained how consumers should interpret an ad's message, with a noticeable decline in such verbal anchoring by the end of the 1990s. Taken together these findings suggest an

increase in the use of symbolic understanding of associations between products and images in visual advertising with time.

Figure 2 depicts an ad for Tide detergent that comprises a message of ‘the sky contained in a measuring cup’.

Figure 2. An advertisement for Tide detergent (source: Phillips & McQuarrie, 2004)

In this ad the text does not provide much information about the product, instead, images are used strategically to convey symbolic meanings to the featured product. According to Phillips and McQuarrie (2004) in this ad, consumers are expected to infer positive similarities between the sky and clothes washed in Tide with the concepts of ‘bright’ (blue), ‘fresh’ (breeze), and ‘soft’ (clouds).

It has been argued that modern advertising appears to be more intended to appeal to ‘passions’ compared to early advertising that intended to appeal more to

‘understanding’ (Postman, 1985). The greater focus on the visual image in modern advertising raises the question of what impact this may be having on techniques of rhetoric persuasion:

To engage the written word means to follow a line of thought, which requires considerable powers of classifying, inference making and reasoning. It means to detect abuses of logic and common sense. It also means to weigh ideas, to compare and contrast assertions, to connect one generalization to another...[T]he photograph also lacks a syntax, which deprives it of a capacity to argue with the world. Language has true or false, not so with the photograph (Postman, 1985, p. 51).

While images can be used to convey meaning, the ‘logic’ of an image is clearly of a different sort than the type of arguments that can be formulated with the printed word.

The Shift from Information Processing Models to Meaning-based Models

In the advertising literature, information-based models posit the consumer as an individual who constantly seeks to gain information in order to make rational choices between consumer goods and services. This is in contrast to the meaning-based model that argues that the consumer is an individual in a cultural context, where the consumer’s past, current and project history and socio cultural milieu influence how an ad is interpreted. Further, “[c]onsumer goods, in their anticipation, choice, purchase and possession, are an important source of the meanings with which we construct our lives” (McCracken, 1987, p. 122). A common criticism of information-based models is that they often do not consider differences in the cognitive and motivational patterns of consumers (Olshavsky & Granbois 1979, cited in Midgley, 1983). According to McCracken one limitation of this model is its bias in perceiving the individual as a passive recipient of

meaning rather than active in its construction. Given so much of advertising involves evocative images that may not supply information for rational product choice, information-based models do not capture the 'irrational' dimension of product choice decisions (McCracken, 1987) such as the underlying motivation to make a good purchasing decision may be rooted in the desire to be entertained (Friestad & Wright, 1994).

Mick and Buhl (1992) propose a meaning-based model of advertising experiences that attempts to better explain how and why meanings constructed by consumers are typically driven by personal interest. The model, based on the findings of extensive phenomenological interviews of consumers, posits that a consumer's construction of meanings in advertisements comprises symbolic references to past and current life themes, as well as symbolic associations pertinent to one's life projects, both of which are rooted in one's personal history and concepts of self. Overall, the model highlights the dynamic nature of meaning construction and the socio-cultural context in which it is created. In this way the consumer is perceived as having an active role in deriving meaning from advertisements, as opposed to a more passive role as the recipient of information advocated in information-based models of advertising.

The Advertising Image as Rhetorical Symbol

Drawing from literature from the visual arts, anthropology and the psychology of perception, Scott (1994) challenges the Western assumption that pictures are an accurate reflection of objects in the real world. More specifically, Scott argues that pictures are a form of discursive communication, where visuals (i.e., non-text based graphics) comprise a social, rather than logical, code and an elaborated, rather than restricted, system where

advertising images are understood as a system employed for the purpose of persuasion. That is, images can not, or should not, be understood without their contextual features. Indeed, it is argued that isolating elements of a picture without giving due attention to the features of its background, may alter the meaning of a picture:

The image is syntactically and semantically dense in that no mark may be isolated as a unique, distinctive character (like a letter of an alphabet), nor can it be assigned a unique reference or 'complaint.' Its meaning depends rather on its relations with all the other marks in a dense, continuous field (Mitchell, 1986, p. 264; cited in Scott, 1994).

Phillips' (1997) qualitative analysis of visual advertisements containing pictorial metaphors provides insight on how such ads are processed cognitively. Overall, incongruity, or deviance from expectations, was found to pique the curiosity of viewers. Further, the results of her interviews provide evidence that meaning making comprised viewers' connecting their cultural, advertising, and product knowledge to the advertising images. For example, the Kingfisher ad, shown in Figure 3, required the item to be associated with the concept of 'smile,' as noted by one respondent:

I knew what the advertiser was trying to communicate by associating the term "pearly whites" with this ad. I think this because the beads are deliberately in a smile shape, even the bead size (Phillips, 1997; p.80).

Along similar lines, a connection was made between the shape of a shark's jaw and the Reflex racquet illustrated (see Figure 3):

Because it has something ordinary that we recognize: the handle of the racquet, to identify it as a racquet. The only different thing is the head frame which implied something is different about this particular racquet (Phillips, 1997, p. 82).

Figure 3. Ad for Kingfisher (left) and Reflex racquet (right). (Source: Phillips, 1997).

By capturing viewer interest, these analyses of visual ads suggest that eye-catching images may enable a form of 'story-telling' about depicted products, that may not be possible through textual descriptions alone.

Indeed, as rhetorical figures, there is some consensus in the advertising literature, that spokes-characters play a significant role in transferring meaning to a brand (Callcott & Philips, 1996; LeBel & Cooke, 2008; Phillips, 1996). According to the literature, spokes-characters typically embody the attributes of a product through their physical characteristics, personality or some combination of both (Callcott & Phillips, 1996; Kyung, Kwon, & Sung, 2011; LeBel & Cooke, 2008). The effectiveness of symbolically meaningful characters, however, rests on the consumer's ability to correctly decode a character's symbolic meaning, which entails a vocabulary of readily understood signs with shared meaning. Given the dynamic nature of advertising, what is interesting to note is that the overall 'message' trait may remain constant despite changes to a given spokes-character's physical attributes over time. Callcott and Phillips (1996) provide an example of this when they observe that Betty Crocker has had her hairstyle and clothing modified many times over the years, though she still stands for the trait of 'reliability' (see Figure 4).

Figure 4. The various make-overs of Betty Crocker (source: Marks, 2007)

However, as there is much variability in what people find appealing, no research to date has identified what constitutes a universal blue-print for likable spokes-characters. It is the overall ‘story’ created with different spokes-characters that appears to give a more comprehensive explanation of how a relationship is created and maintained between a character and the consumer.

LeBel and Cooke’s (2008) research offers additional insight into the types of narratives consumers project onto spokes-characters. In their study 127 undergraduate students were asked to identify their favourite spokes-characters and how much they liked and associated a variety of emotions and personality traits with each character. In order to encourage participants to relate their narratives for each character they were also asked to state the type of car the character might drive and the character’s age, number of children and favourite colour.

The findings suggested that the types of narratives consumers projected onto a given spokes-character went beyond the physical features of the spokes-character. These findings are consistent with the findings of a survey conducted by officials at Brawny

paper towels, reported by LeBel and Cooke (2008) where respondents perceived a Brawny man in ways incongruent with the “macho” physical attributes of the character: “forget the muscles, most women wrote on their entry forms; a brawny man, at least at the start of the 21st century, is one who helps with the kids and the housework” (Perez and Terhune, 2002, p. 145; cited in LeBel & Cooke, 2008). Another example that emerged from this study was the Pillsbury Doughboy who was associated with the personality trait of ‘excitement’. LeBel and Cooke speculate that the common depiction of the Doughboy in television ads with children who wait with anticipation for baked goods to come out of the oven, might have contributed to this association that is again difficult to explain by the character’s physical description alone.

By means of consumers’ perceptions, affective responses and spontaneous associations to different spokes-characters, LeBel and Cooke’s (2008) study also assessed how narrative experiences contributed toward the creation of spokes-character personalities. Participants in this study were asked to reported their views for the following eight characters: Betty Crocker, Aunt Jemima, Marge (Palmolive), Uncle Ben, Robin Hood, Brawny, The Pillsbury Doughboy, M. Felix and Mr Norton. Participants’ ratings of forty-three personality traits for these eight characters were then submitted to principal component analysis from which the following six distinct personality traits were identified: rugged, imaginative, honest, contemporary, sexy, and real. Figure 5 depicts the personality profiles of the three most significantly different characters from this analysis: Aunt Jemima, The Doughboy, and Brawny. From these findings the authors concluded: “although privately constructed and experienced, the narratives that consumers build

around these characters are not entirely idiosyncratic” (LeBel & Cooke, 2008; p. 148 to 149).

Figure 5. Personality profiles of Brawny, Doughboy and Aunt Jemima (source: LeBel & Cooke, 2008)

In sum, this chapter has overviewed the pictorial turn in modern day visual advertising; highlighting how pictures in advertising may be used strategically to convey powerful arguments. This is especially the case as pictures in advertisements are not necessarily representative of product attributes, which requires consumers to understand meaning by making abstract connections. In the case of spokes-characters, ‘meaning making’ may go beyond the physical attributes of a given spokes-character to involve complex narratives that consumers form between a spokes-character and her/himself.

Visual Rhetoric and the Importance of Narratives for Spokes-Characters

In Western scholarship, there has been an historical separation of perception from thought, where images are associated with the first category and words with the second (Larsen, Luna, & Peracchio 2004; Scott, 1994). In her analysis of the cultural biases of seeing, Scott (1994) argues that one reason for this is that visual perception has been long understood as a natural biological capability, and was therefore believed to operate independently from cognition. However, the results of medical, cross-cultural and historical studies from the 1960s and onwards has challenged this assumption by providing empirical evidence that the nature of 'seeing' is a learned behavior founded on the cognitive activity of 'looking' (Scott, 1994).

While images can evoke affective responses, they must possess certain capabilities and characteristics if they are to be effective as advertising. Rhetorical iconology has been defined as the use of a community's visual representation systems to influence people to feel, believe and act in a desired way; even if their values, interests and expectations are in conflict (Olsen, Finnegan & Hope 2008). Icons have been defined as 'a visual representation so as to designate a type of image that is palpable in manifest form and denotative in function' (Olsen, 1987; cited in Olsen, et al. 2008). Given that spokes-characters need to be easily identifiable and their messages quickly recognized and understood by many in order to be effective, they may arguably be construed as 'icons.'

The fundamental entity in semiotics is the sign, defined as 'anything that stands for something (its object), to somebody (its interpreter), in some respect (its context)

(Pierce, cited in Mick, 1986). Semiotics highlights the importance of socially construed meaning, and is of particular relevance in understanding the narratives consumers create with spokes-characters where interactions evolve and fluctuate in a contextual environment. The section to follow presents a semiotic analysis of the use of spokes-characters for Coca-Cola. The case study method was chosen, as this approach to data analysis has been advocated as a robust research method that enables holistic and in-depth explanations of social phenomena (Zainal, 2007).

Case Study of Coca-Cola

“It took two men to invent Coca-Cola,” noted Frederick Allen in his history of Coca-Cola. “Legend credits Pemberton with being the father of Coca-Cola, but Robinson was the father of the *idea* of Coca-Cola.” In other words, Pemberton mixed the ingredients to create a new soft drink and Robinson stirred up the desire in people to drink it (Schutts, 2003, p. 62).

Coca-Cola was chosen for in-depth analysis for three reasons. First the longevity of this product allowed ads to be selected from a span of over a century of print advertising enabling the examination of how spokes-characters for a single product may have evolved over time. The second reason, related to the first, was the fluid and ever changing nature of its spokes-characters; with the exception of the Max Headroom campaign from the 1980s-1990s, and possibly the polar bears from the 2000s, the product is arguably not typically associated with one particular spokes-character. The final consideration involved the world-wide recognizability of the product, given evidence that suggests it has had a 100% recognition rate in Western European countries even more than two decades ago in countries such as Germany (Schutts, 2003). Figure 6 displays a sample of Coca-Cola print ads from five decades; Table 1 summarizes the main points of

the semiotic analysis. Of particular note, is the final column, which suggests that only one of the twenty spokes-characters depicted in these ads (the man who appears to be a salesperson from the 1950s ad) may be expected to have expert knowledge about the depicted product.

Figure 6. Coca-Cola ads from the 1910s to 1950s (left to right top) and 1960s to 2000s (left to right bottom).

Table 1.

Rhetorical analysis of Coca-Cola print ads by decade

Figure	Decade	Context (Public vs. Private)	Description of Figures in the Ad	Symbols and Signs to Stimulate Feelings about the Product	Logical Appeal: spokes-character's expertise or expected product knowledge
10	1910s	Public	Youthful, fashionable women	Freshness of youth	No
11	1920s	Private	Upper and lower class older and younger generations	A product consumed by the wealthy	No
12	1930s	Public	Child being served at a soda fountain	The pleasure of childhood memories	No
13	1940s	Public	Soda fountain – no visible customer so the audience could be 'anyone'	A site of consumption	No
14	1950s	Public	A prototypical salesperson 'showing off' the product	Reliability	Yes
15	1960s	Public	A group of friends	Bowling/the fun of casual leisure	No
16	1970s	Private	African-American family in a domestic activity	Quiet everyday enjoyment to help make chores more fun	No
17	1980s	Public	Computer-generated media personality	Technological wizardry: something cool for teenagers	No
18	1990s	Public	Personification of a can of Coke 'looking cool' that is eye-catching	Adaptability and stylish persona	No

19	2000s	Public	A group of 'fantasy' bears noted in the television commercial for their strange human-animal 'sounds' of appreciation	Association with the mystical and the beautiful hard to define	No
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Given that Coca-Cola has widely been marketed as a 'consumer's product' (Schutts, 2003) it is not surprising that with the exception of the ad from the 1950s featuring an older male salesperson dressed in formal attire 'displaying' the product (a clear visual divide between the product representative and consumer) all the other ads do not display this distinction. The 1950s ad is also the only ad in this sample where the spokes-character appears to possess some expertise or specialized knowledge about the product.⁴ This product expertise, considered in conjunction with the amount of space devoted to this person in the ad, as well as the extended positioning of his hand towards the viewer, may be contributing toward a covert message of 'us' (product) versus 'them' (consumer). Notwithstanding, it is notable that this is the only ad to do so. There is no noticeable distinction between the product representative and consumer, in a staged, formal environment, in the other ads in this sample.

From the perspective of a semiotic analysis, even when two ads appear to portray a product in a similar context, the underlying narrative might be very different. The theme from the ad from the 1910s is a simple association of freshness and beauty with fashionable women of the time. Turning to the ads from the 1920s and the 1970s the narrative becomes more complex. Although both depict the product in a domestic setting, the 1920s ad depicts a 'subtext' of class differences (a servant 'serving' Coca-Cola) as well as generational differences (the interaction between the child and elderly lady), which is in sharp contrast to the 1970s ad where a mother and son enjoy Coca-Cola while

⁴ Conceivably an exception would be the workers at the soda fountains in the 1930s and 1940s ads. However these workers would not necessarily have greater knowledge about this soft drink compared to the other drinks they offer. Also the soda fountain settings are much more casual and relaxed compared to the one where a formally dressed sales person holds out the product for the viewer.

they both participate in a domestic activity. Common to both ads is the product bridging these inter-audience differences. On this note, of further interest is 'the product being served' in the ads of the 1920s, 1930s and 1940s, a theme that is absent in the spokes-characters depicted in the ads from the 1960s onwards. In the ad from the 1920s it is obvious that the servant was intending to serve her employer a drink, which was intercepted by the child. In the 1930s and 1940s ads, the product is served at a soda shop – a public site of consumption. Further, the absence of a 'defined' audience is notable in the ad from the 1960s where a group of teenagers enjoy the drink together during a group leisure activity. From the 1980s and onwards there is no defined audience at all; the focus is instead on the spokes-character(s). Again this might be a technique used by the company to show the erosion of audience-product boundaries; with increasingly less definition of the audience interacting with the product, the product becomes more easy to visualize as 'every person's drink.'

In order to delve further into the common threads linking the three most recent ads (1980s, 1990s and 2000s) they will be analyzed together. All three ads may be considered to be 'eye-catching' ads, which is consistent with the prevalence of such images in contemporary advertising. The Max Headroom and the Polar Bears are both surrealist images. In *Visual persuasion: The role of images in advertising*, Messaris (1997) notes how such images, due to their ability to capture human qualities while simultaneously being creatures 'that are not quite human,' can keep a viewer's eyes glued to the image even after the content of the ad has become highly familiar. Turning to the 1990s ad, given the sharp break of this image with physical reality compared to the images in the preceding ads, this ad fits with the definition of visual metaphor discussed

earlier and has been found to be a commonly used technique in modern advertising. In his analysis of such images, Messaris (1997) notes how an image of an impossible juxtaposition often aims to depict the product's mobility across multiple spheres. For example, Messaris analyzes a similar ad for a travel agency where an impossible reality is created by blending two images together, where he argues that the ads' purpose lies in its 'argument' that the passenger should be able to move easily between two different locations. This again ties into the theme of Coca-Cola being 'every person's' product. In the 1990s Coca-Cola ad, it is interesting to note that the sunglasses pick up on the preceding year's image of 'coolness' and the messy appearance of the straw (hair) is suggestive of the theme of play noted in the former ads.

If the types of figures in ads are indicative of the intended audience, it is noteworthy that until the 1980s the ads depicted figures of people. The ad from the 1980s features a well known computer-generated media personality of that time. The 1990s ad comprises the anthropomorphization of the product in a can. The ad from the 2000s, however, which consists of polar bears consuming the product, takes us away from the human association almost entirely. The emphasis on drawing out 'human-like' but playful qualities that would appeal to a wide audience, transcending age and culture, may be reflected in keeping the bears' dialogue-free with the exception of 'oohs and 'ahhs' and other grunts that were first created by a human voice and then altered digitally to reflect the kinds of sounds bears typically make ("Highlights in the History of Coca-Cola Television Advertising: The D'Arcy Era, 1950-1956", 2006). As pointed out in an interview with Ken Stewart, creator of the commercial, the purpose of creating these characters was to develop something that was innocent, fun and reflective of the 'best

attributes of what we call human' ("The Coca Cola Polar Bears: A Look at One of Our Most Festive Heroes", 2006).

The purpose of this analysis has been to suggest (1) the dynamic nature of spokes-characters in the case where many characters are employed to reflect the changing values of a given product over time, (2) how similar values (in this case the theme of the 'every person's product) can be portrayed in multiple ways by different spokes-characters and (3) how expertise about a product does not appear to be a requirement for the effective appeal of a spokes-character. Echoing sentiments expressed in the introductory quote for this section, the longevity of this product attests, at least to some extent, to the success of its spokes-characters in stirring up the desire to drink Coca-Cola for over a century.

An Exploration of Information Cues through the Elaboration Likelihood and Heuristic Systematic Models of Persuasion

The preceding chapters presented an overview of the literature on spokes-characters, understood as rhetorical figures that associate a recognizable brand image that symbolizes the often abstract attributes of a product. In bringing product attributes 'to life' spokes-characters establish a more personal connection with a potential consumer. Literature was reviewed that suggested that such connections are often established through some combination of such characters' physical and psychological attributes and the narratives that are created by consumers, both of which, are believed to impact spokes-character persuasiveness.

There is also evidence to suggest, from the early persuasion research, that individuals are more likely to be influenced by a persuasive message if they perceive it to be coming from a source that is similar rather than dissimilar to them (Berscheid, 1966; Brock, 1965; Burnstein, Stotland, & Zander, 1961; cited in Whitley, 1989). This theme was explored by Friedman (1997) in his doctoral dissertation, *Apple's 1984: The Introduction of the Macintosh in the Cultural History of Personal Computers*. The ad (see Figure 7) is described as follows:

Figure 7. Superbowl ad: Apple's 1984 (source, Friedman, 1997)

What was revolutionary about the 1984 ad, Friedman argues, is a shift from a spokes-character that depicts *what kind of person uses the product*, to what kind of person *the consumer can potentially be* if s/he uses the product. Friedman elaborates on how the simple act of gendering the Mac user as female in this ad, had implications for how Apple stood for equal access to all; in this way altering public conceptions of the computer as something to be wary and suspicious of.

The lone runner is female... This setup helps identify the Mac user as the underdog, the member of an oppressed group. It also distinguishes the Mac from all those other, male-identified computers. Despite the fact that the very first computer programmer, Ada Lovelace, was a woman, modern computing has been gendered as a male activity. Women remain a minority of all computer programmers, and young girls continue to receive less encouragement to use computers. The Mac signaled from the beginning that it stood for something different. This was a bold, and implicitly feminist, step for Apple to take, in keeping with its California, counter-cultural image. It did, however, serve other

purposes beyond affiliating Apple with the goal of equal access to computing for women.

Notwithstanding the importance of identification, this process can not explain the effectiveness of all types of spokes-characters. For example, while the effectiveness of human spokes-characters may rest in large part on the principles of identification, many fictional spokes-characters, such as those of the animal variety, may appeal more on the portrayal of qualities and characteristics that evoke a more fantasy-based image (Gowans, 1981; p. 145, cited in Callcott & Lee, 1995). Even in the case of human celebrities, advocating a given product, it is unclear how much the appeal of such spokes-characters rests in identification per se, versus the need to 'want to be like' the celebrity endorser.

Returning to the earlier discussion of the role of spokes-characters in helping to establish a personal connection with would be consumers, it may be worth examining if the longevity of these characters in advertising rests to some extent, on their perceived trustworthiness. Two components of trustworthiness include perceived credibility and benevolence (Ganeson, 1994; McKnight, Choudhury, & Kacmar 2002). Applied to spokes-characters, both are difficult to assess empirically. Credibility entails reliable and effective performance. However, assessing each requires a certain amount of repeated exposure between consumer and sales person given that the quality of performance can only be ascertained through time (i.e., does the sales person deliver what s/he promises consistently over time?). If a consumer has a one time interaction with a spokes-character either through print media, television or through the internet, how can credibility be assessed? Benevolence, defined as "the extent to which one partner is genuinely interested in the other partner's welfare and motivated to seek joint gain" (Doney &

Cannon, 1997, p. 36) is even more problematic to assess in a relationship that a consumer may have with a spokes-character. In such an interaction, neither party is interested in the other's welfare. Moreover, studies further suggest that, for trust to become operational, a certain amount of vulnerability must exist between trusting parties (Doney & Cannon, 1997). This again is difficult to apply to the interaction that takes place between a consumer and a spokes-character, especially in the case of products where the risks of deceit are not very high for a would-be consumer.

A more useful line of inquiry may be to examine kinds of product information these characters provide. Two of the most prominent theories in social psychology that delve into how information processing takes place are the Elaboration Likelihood Model (ELM) (Petty & Cacioppo, 1981, 1986; Petty & Brinol, 2008) and the Heuristic-Systematic Model (HSM) (Chaiken, 1980; Chaiken & Maheswaran, 1994), which describe multiple processes by which variables could influence attitudes in different situations.

According to the Elaboration Likelihood Model (ELM), information processing occurs on a continuum of elaboration: at one extreme there is a complete absence of thought about issue relevant information; at the other end all relevant information is elaborated upon by the perceiver. The ELM posits two routes by which persuasion may take place. In the central route there is extensive elaboration of information, in contrast to the peripheral route, which relies more on message irrelevant cues. In the central route, attitude change results from consideration of arguments that are relevant to the issue. This entails such factors as comprehension, learning and the self-generation of arguments into an overall evaluative reaction (Petty & Cacioppo, 1979). In the peripheral route,

persuasion occurs via associations with positive or negative cues; these cues may comprise sensory or psychological cues such as food, pain, power or the personality of the communicator (Petty, Cacioppo & Goldman, 1981). The power of these cues rest in their ability to motivate attention to consideration of the more relevant arguments. Applied to understanding the persuasive power of spokes-characters, it may be that the narratives created by consumers may facilitate motivation to attend to the product-related arguments that spokes-characters make.

Level of product involvement, defined as the degree of interest a consumer has in a product category over time (Mittal & Lee, 1988) may also influence how a spokes-character is processed according to the ELM. Compared to a low involvement product such as a bag of potato chips, examples of high involvement products might be a house or car (where there is a higher level of both emotional and financial investment in the long term). Vaughn (1986) (cited in Zaichkowsky, 1987) applied the dimension of 'thinking versus feeling' to the concept of high and low product involvement. Vaughn extends the traditional model where high involvement products are expected to involve more thinking about the information given about a product, in contrast to an affective or non-informational appeal for low involvement products; this classification scheme for products is depicted in Figure 8.

Figure 8. Foote, Cone and Belding Product Category Classification Scheme (source, Zaichkowsky, 1987)

In the upper left quadrant the importance of a high level product necessitates a high need for thinking about product information, which is in contrast to the upper right quadrant where there is a more holistic affective feeling towards a product requiring less specific information and cognitive processing. This is in contrast to the low involvement level products in the third and fourth quadrants, where minimal thought is required for products purchased from habit or convenience (third quadrant) or products that satisfy personal tastes (fourth quadrant). In sum, level of product involvement might influence what types of spokes-characters are most effective for a given product type.

Another viable explanation of why spokes-characters may 'work' is that they are effective at capturing consumer attention. It may be that by encouraging attention in an ad or commercial, spokes-characters make it possible to disassociate careful scrutiny of the message of an advertisement. According to the Disrupt-then-Reframe Hypothesis (DTR) distracting individuals from processing issue-relevant arguments increases the

persuasive power of simple cues. Delbaere et al. (2011) suggest rhetorical figures, such as spokes-characters, may be a distraction that impedes the elaboration of message content:

Such inferences can be considered to be an elaboration of the ad's content. A lengthy stream of research has established that rhetorical figurers do induce higher levels of elaboration, relative to equivalent ads that lack a rhetorical figure (e.g., McQuarrie & Mick 1996; Mothersbaugh, Huhmann, & Franke 2002; Toncar & Munch 2001). The elaboration effect has been shown to be stronger for visually presented rhetorical figures (McQuarrie & Mick 1999), including visual metaphors (McQuarrie & Phillips 2005). [T]he elaboration elicited by rhetorical figures tends to reduce counter-arguing, and perhaps source derogation as well (Huhmann, Mothersbaugh, & Franke 2002) (Delbaere et al. 2011, p. 122).

Returning to the issue of how information processing may occur on a continuum of elaboration: at one extreme there is a complete absence of thought about issue relevant information; at the other end all relevant information is elaborated upon by the perceiver. Chaiken (1980) proposed that individuals may use systematic or heuristic processing strategies when considering the validity of a message. During systematic processing, considerable effort is given toward attending to, comprehending, and evaluating the arguments of a message. In contrast to systematic processing, heuristic processing entails less cognitive effort as it is more of a 'short cut' information processing system. Here, messages are evaluated based on simple rules or heuristics such as schemata or cognitive heuristics to formulate the validity of message content quickly and efficiently. When information is processed heuristically, message recipients may agree with messages delivered or endorsed by experts, even without full processing of the semantic content of the message (Chaiken, 1980). In other words, little cognitive effort is exerted when determining the validity of a message (Whitler, 1989). In this way, heuristic processing

de-emphasizes detailed information processing, focusing instead on the role of simple cognitive heuristics (or 'short cuts') for persuasion to take place (Eagly & Chaiken, 1993). The Heuristic-Systematic Model (HSM) is founded on the 'principle of least effort', which posits that heuristic processing is more often favoured over systematic processing as the former requires less cognitive effort.

Heuristic processing may be more relevant than systematic processing given the declining role of semantic content of a message's arguments in modern day advertising. Applied to spokes-characters, one noteworthy finding from the literature is that despite narratives being privately constructed and experienced, and generally idiosyncratic in nature, there appeared to be some consensus on the overall theme of narratives created for a given spokes-character. For example, in LeBel and Cooke's (2008) study "commonly-cited associations, emotional responses, and characters' personality traits" were identified across different consumers. Similarly, a high level of detail in spokes-character narratives also provides some evidence of consensus across narratives as in the case of Betty Crocker who was believed to drive "a soccer mom type of car" despite no mention of her car in advertisements featuring this spokes-character. Despite idiosyncratic differences in narratives, consumers may have a general idea of what a spokes-character is 'like' and how s/he 'behaves.' This suggests that spokes-characters may be perceived to be a form of stereotype that operate as heuristic cues where a given personality type and/or behaviour is easily recognizable.

The ELM and HSM models highlight the importance of source credibility. For the ELM, expertise is expected to facilitate greater central route processing given that it enables a consumer to critically examine the merits of a product, based on the knowledge

and credibility of its representative. Traditionally, consumers relied on the expertise of a sales-person for semantic information about a given product. According to the HSM model, communicator characteristics such as source attractiveness, likeability and expertise have been considered important to the persuasiveness of a message given that each require little cognitive effort in determining the validity of a message (Whitler, 1989). Given the lack of a universal 'blue-print' regarding what attributes constitute physically attractive features for spokes-characters, as well as the possibility that spokes-character personality and behaviour may serve as heuristic cues, expertise may be an important cue in how these characters are perceived by consumers.

Spokes-Character Expertise

Dealing first with information cues for spokes-characters, much of our knowledge about a given spokes-character's credibility can best be understood by its expertise about featured products. Expertise refers to the ability of a source to make valid claims or demonstrate knowledge of a given product (Hovland, Janis & Kelley 1953; McGinnies & Ward 1980). However, in a number of studies conducted in this area, trustworthiness, believability, and honesty have not been clearly differentiated. In Kamins and Gupta's (1994) study, where participants were asked to rate how believable they found a given celebrity in his/her role as an endorser of a certain product, believability of celebrity spokes persons was found to be related to favourable product attitudes. Garretson and Niedrich's (2004) study examined the impact of specific spokes-character features on brand-related outcomes. Participants in their study comprised 144 undergraduate students who were asked to recall spokes-characters they had recently seen in a television commercial, magazine advertisement, or in the grocery store. Referring to the spokes-

characters they had listed, each participant was then instructed to assess each character's expertise using five, seven-point items anchored by 'not an expert/expert', 'inexperienced/experienced', 'unknowledgeable/knowledgeable', 'unqualified/qualified', and 'unskilled/skilled.' Their findings revealed that consumers appear to rely on spokes-character attributes as indicative of character honesty and sincerity. These results are in line with Kyung, Kwon and Sung's (2011) on-line survey of 191 undergraduates, which explored the relationships between spokes-characters' personality dimensions and source credibility dimensions. In this study, participants rated spokes-characters' expertise, trustworthiness, and attractiveness. Here five items were employed to assess spokes-characters' expertise: expert, experienced, knowledgeable, qualified, and skilled. The study identified competence, sincerity, sophistication, and ruggedness as spokes-character personality dimensions to be most predictive of source expertise.

A major limitation of these studies is the assessment of 'perceived expertise' based on participants' *opinions* about how they felt about various spokes-characters. It may well be that part of perceived competence may rest in spokes-character behavior, which has not yet been examined in any locatable studies of spokes-character expertise. For example, Callcott and Lee (1995) found differences in the number of spokes-characters who provide visual demonstration for a product compared to ones who speak on behalf of a product. However the researchers did not delve further into examining differences in these two behaviors, particularly how each informs the 'informativeness' of a spokes-character.

In order to explore how spokes-characters' interaction with products and what they say about their products may impact their persuasiveness, a content analysis was conducted which is described in the chapter to follow.

Content Analysis of Spokes-Characters in Television Commercials

In order to explore central route information cues of spokes-characters, a content analysis was conducted on what popular spokes-characters say and do in television commercials and how this may be changing over time. The medium of television was chosen as it enabled an examination of how spokes-characters spoke and interacted with featured products. As content analysis is typically guided by the question “Who says what, to whom, how, and with what effect?” (Lasswell, Lerner & Pool, 1952, p. 603; cited in Holsti, 1968) this method of analysis was deemed appropriate for the purpose of this study. Given the longevity of spokes-characters and their possible evolution over time, content analysis was further deemed appropriate as it has been widely used to describe trends in communication content (Holsti, 1968).

Method

Fifty randomly selected television commercials⁵ depicting popular spokes-characters from the 1940s to the 2000s were analyzed (Appendix A lists the urls for each of these commercials). As the purpose of the content analysis was to inform the creation of the formal experiments (where the majority of participants were expected to comprise a Canadian population), only North American commercials were selected for analysis.

⁵ It is typically through the medium of television that the consumer gleans his/her first impression of what a given spokes-character is like (what it says and how it behaves in relation to the featured product) an ‘impression’ that is later transferred when deciphering a spokes-character’s association with a product in a print ad. In this way, the analyses of spokes-characters in the context of television commercials, enabled greater insight into the true characters behind these product endorsers than may have been possible through examination of print ads alone.

Commercials ranged in length from fifteen seconds (Bill Cosby for Jello pudding and the Irish Spring Man for the soap) to one minute and thirty-five seconds (Betty Crocker for her cakes), with an average length of 49.4 seconds.

A number of design decisions employed in the current study were motivated by the content analysis of magazine advertisements conducted by Phillips and McQuarrie (2002). For example, in terms of selecting sufficient data to adequately represent a five decade time frame, the sample size of fifty commercials in the current study is somewhat aligned with the forty-six magazine issues employed in Phillips and McQuarrie's work, which represented a forty-five year time span. The time span of the 1950s⁶ to the 2000s also roughly corresponds to the nearly fifty year time span employed by Phillips and McQuarrie (2002), namely, the interval following World War II and the Korean War, from 1954 to 1999 in the United States. The rationale for choosing to study ads (commercials) during this period are articulated by Phillips and McQuarrie (2002):

"A crucial decision in any historical inquiry is the choice of a time interval (Smith and Lux 1993)...Hirschman, Scott, and Wells (1998) suggest that the years from the early 1950s through the end of the century can be identified as a time period when product discourse is centered in mass media texts. Other researchers have similarly argued that this time frame provides an era in which we can examine the changing face of advertising (Humphrey and Schuman 1984; Ursic, Ursic, and Ursic 1986). This time period, almost 50 years in length, also ensures that trends in the stylistic devices appearing in ads have an opportunity to emerge" (Phillips & McQuarrie, 2002; p. 3-4).

⁶ Notwithstanding one ad from the 1940s.

Content Analyses of Information Cues

Each commercial was assessed for level of informativeness using Resnik and Stern's (1977) 14 item informative scale comprising the following cues that consumers are believed to consider when choosing a product/service: price or value, quality, performance, components or contents, availability, special offers, taste, nutrition, packaging or shape, guarantees or warranties, safety, independent or company research, and new ideas. In order to be considered informative, an ad or commercial needs to communicate just one of these information cues (Resnik & Stern, 1977; Stern & Resnik, 1991). Even more than a decade ago (of this writing), over sixty studies have employed Resnik and Stern's (1977) methodology to assess the information content in advertising in fields including advertising, marketing, journalism and international business, findings that have been reported in international journals and conferences as well as unpublished theses and working papers (Abernethy & Franke, 1996).

Results

Reliability: Cohen's Kappa

One concern in content analyses is achieving consensus on what constitutes an optimal level of 'inference making.' While some scholars argue against inferences that extrapolate too far beyond the data, others believe that inferences are intrinsic to the data itself and that without them, data may be of little theoretical value (Kristiansen, 1984).

In order to safeguard against systematic error associated with possible confounds in the coding of the categories in the above content analysis, inter-rater reliability was calculated. Cohen's (1960) Kappa was employed as it has been extensively used in the literature, and as it "does not assume that all coders have the same distribution of units

across all categories” (Craig 1981, p. 331; cited in Kristiansen, 1984). This measure of inter-rater reliability assesses the agreement between two independent raters who each classify items into mutually exclusive categories. Here two raters were employed, the first comprising the researcher, the second a relative of the researcher who had no prior knowledge of the purpose of this study. The second coder was first given ten practice examples to code prior to commencing formal coding. A single kappa value was calculated to assess the level of agreement between the two raters on how many information cues were present in a given commercial. This inter-rater reliability was found to be $Kappa = 0.55$, $S.E. = 0.16$, indicating a moderate level of agreement between the raters (Landis & Koch, 1977).

Figure 9 depicts six sample screen captures from the commercials employed in the content analysis.

Figure 9. Sample screen captures of commercials analyzed in the content analysis, from left to right: top ads: Betty Crocker (cakes) and The Ty-D Bowl Man (toilet cleaner), middle ads: The Keebler Elves (cookies), Wilford Brimley (oatmeal), bottom ads: Flo (insurance) and The Geikko Gekko (insurance).

According to Table 2 below, fifty percent of the spokes-characters in this sample did not meet Resnik and Stern's criteria for 'informativeness' from what they said in these commercials.

Table 2

<i>Difference in total number of information cues for ads and spokes-character</i>			
Spokes-Character	Product Type	Total in Commercial	Total by Spokes-Character
Chiquita the Banana (1940s)	Fruit	4	4
Betty Crocker (1950s)	Cake	5	2
Kool-Aid Jug (1950s)	Flavoured Drink Mix	4	0
Mr. Clean (1950s)	Cleaning Product	3	0
Snap Crackle & Pop (1950s)	Cereal	0	0

Spokes-Character	Product Type	Total in Commercial	Total by Spokes-Character
Willy the Hillbilly (1950s)	Soft Drink	0	0
Cambell's Soup Kids (1960s)	Soup	2	2
Captain Crunch (1960s)	Cereal	3	3
Colonel Sanders (1960s)	Kentucky Fried Chicken	2	2
The Flintstones for Winston (1960s)	Cigarettes	4	4
Frito Bandito (1960s)	Corn Chips	0	0
Jolly Green Giant (1960s)	Canned Vegetables	4	0
Yogi Bear for Kellogg's (1960s)	Cereal	3	1
Charlie the Tuna (1970s)	Canned fish	2	0
Farrah Fawcett for Ultra Brite (1970s)	Toothpaste	3	2
Madge for Palmolive (1970s)	Dishwashing Liquid	2	1
Mikey for Life Cereal (1970s)	Cereal	3	0
Milton the Toaster for Pop Tarts (1970s)	Pop Tarts	2	2
Pete for Shake 'N Bake (1970s)	Coating for Chicken	1	1
Pillsbury Doughboy (1970s)	Crescent Rolls	3	0
Punchy for Hawaiian Punch (1970s)	Flavoured drink mix	2	1
Ty-D-Bowl Man (1970s)	Cleaning product	4	3
A & W Bear (1980s)	Soft Drink	1	0
Alice for Minute Rice (1980s)	Instant Rice	1	0
Billy Cosby for Jello (1980s)	Instant Pudding	0	0
California Raisins (1980s)	Raisins	1	0
Florence Henderson (1980s)	Wesson Oil	3	1
Honey Nut Cheerios Bee (1980s)	Cereal	2	2
Irish Soap Man (1980s)	Soap	3	2
Keebler Elves (1980s)	Cookies	3	2
Max Headroom (1980s)	Soft Drink	0	0
Peanuts for Metlife (1980s)	Life Insurance	1	1
Snuggle Bear (1980s)	Fabric Softener	4	3
Wilford Brimley for Quaker Oats (1980s)	Cereal	2	2

Spokes-Character	Product Type	Total in Commercial	Total by Spokes-Character
Brawny (1990s)	Paper Towels	2	2
Dave Thomas for Wendy's (1990s)	Fast Food Restaurant	1	0
Energizer Bunny (1990s)	Batteries	1	0
Fruit Loops (1990s)	Cereal	3	1
Little Caesar's (1990s)	Pizza	2	0
Lucky Charms (1990s)	Cereal	2	1
Mr. Peanut (1990s)	Peanuts	0	0
Ronald McDonald (1990s)	Fast Food Restaurant	0	0
Tony the Tiger (1990s)	Cereal	0	0
Aflac Duck (2000s)	Life insurance	1	0
Coca-Cola Polar Bears (2000s)	Soft Drink	0	0
Flo for Progressive Insurance (2000s)	Life insurance	1	1
Geiko Gecko (2000s)	Life insurance	3	0
Jessica Simpson for Pizza Hut (2000s)	Pizza	3	0
Old Spice Man (2000s)	Shower gel	0	0
Trix Rabbit (2000s)	Flavoured drink mix	3	1

Given the liberal nature of Resnik and Stern's definition of informativeness, which entails mentioning just *one out of fourteen possible information cues* (Resnik & Stern, 1977) about the product or service, this finding is striking. Ninety-six percent of these spokes-characters mentioned three or fewer informative cues. Clearly such uninformative speech is unlikely to be conducive to central route processing. Of interest to this research is, if many spokes-characters are not talking informatively about their products, what are they talking about?

In addition to addressing issues of substance (questions of what), content analysis has also been employed to analyze form, style or how communications take place (Holsti, 1968). Analyses were also conducted to better understand how the commercials and

featured spokes-characters conveyed product information. In this line, the analysis was guided by the following areas of interest: (1) whether or not the product is mentioned by the spokes-character and (2) the amount of time the spokes-character devotes talking about the product.

The results of this analysis showed that 24% of spokes-characters did not mention their product by name. On average, 26% ($SD = 29.60$) of air time in these commercials comprised spokes-characters speaking about their product. The section to follow discusses the speech of spokes-characters in greater detail.

Spokes-Character Expertise and Level of Informativeness.

A paired samples t-test conducted to compare spokes-character informativeness scores ($M = 0.94$, $SD = 1.15$) relative to the informativeness scores of the rest of the ad ($M = 1.98$, $SD = 1.39$) was found to be significant $t(49) = 6.16$, $p < 0.01$, suggesting that spokes-characters were less informative relative to the information provided in the rest of the ad. However, an in-depth analysis of speech patterns may suggest otherwise. In this vein, let us consider the speech of spokes-characters who may be perceived to hold expertise about their products. This sample comprised two spokes-characters who were founders of their products, Colonel Sanders for Kentucky fried chicken and Dave Thomas for Wendy's restaurants. Dramatic differences in level of informativeness can be seen in what each say during their respective commercials. Colonel Sanders, the founder of Kentucky fried chicken says the following about his chicken:

Hi. I'm Colonel Harold Sanders and I'm here to tell you a little bit about my Kentucky fried chicken. And now I said Kentucky fried chicken there's only one way to cook Kentucky fried chicken and that's my way. We always use plump,

young broilers, always fresh, never frozen chicken” (shot of two kids licking their fingers while eating KFC) “it’s cut into pieces and each piece is dipped into milk and egg wash, then into seasoned flour” (shot of the father obviously enjoying eating his chicken) “in which we have the eleven different spices and herbs for flavour. And one more thing folks, it’s the only way you’re going to get chicken that’s finger licking good and I’d be mighty proud to have you try Colonel Sander’s Kentucky fried chicken (shot of the entire family eating dinner).

Compare this to how Dave Thomas, founder of Wendy’s Restaurants describes his product:

D.T. (holding a tray with the ingredients for the chicken sandwich): “I think I’m really onto something.”

After the narrator describes the product, we see a shot of D.T. starting to eat a sandwich.

D.T.: “Gee, this is pretty good.”

While the Colonel says a lot about his chicken and provides a number of information cues about his product, Dave Thomas does not describe his product at all. Both, however, do give their ‘seal of approval’ stating that the quality of their product is good. It is interesting to note, that while Thomas is seen sampling his product (the chicken sandwich), the Colonel never eats or interacts in any way with his product (fried chicken).

Length of Spokes-Character Speech and Level of Informativeness

A correlation was conducted to test for the relationship between the time a spokes-character talked about a product and informativeness scores was significant, $r(48) = 0.46, p < 0.01$. This correlation, which is far from perfect, especially when considered

with the finding that there was more information in the rest of the ad (relative to that provided by spokes-characters), suggests that spokes-characters may not be the primary way information about a product is provided. In the commercial for Jello pudding, for example, Bill Cosby spends his time during the entire commercial talking about the product without revealing a single product attribute. Another exemplar of this can be found in the Betty Crocker commercial. While Crocker speaks for over half the length of the commercial, she does not give the consumer a lot of information about her cake mixes.

I'm Betty Crocker and I promise you a perfect cake every time you bake. That's right, perfect – you be the judge. Or write General Mills Minnesota and get your money back. Remember I guarantee a perfect cake, every time you bake, cake after cake after cake. And you don't have to bother with any fancy icings for any Betty Crocker cake. Who could ask for anything better than chocolate cake with vanilla ice cream over chocolate sauce or white cake with chocolate ice cream with marshmallow topping right out of the jar? Where's the family that doesn't go for cake and ice cream? Especially when every cake turns out just the way you want it thanks to Betty Crocker cake mixes. Bake a Betty Crocker cake right now – perfect every time.

Her speech provides the consumer with two pieces of information about the product: that a money back guarantee is offered if the cake does not turn out perfect and that the cake comes in at least two flavours. Much of the rest of what Ms. Crocker tells us is superfluous information and does not provide insight about the product itself. For example, Crocker's claim that fancy icings are not necessary for her cakes is only an

assertion: it may be because no brand of icings is offered in the Betty Crocker brand and/or it might mean that the cakes taste fine (or better) unfrosted. The next sentence offers suggestions on how to serve chocolate and white cake, and are just that, suggestions – Crocker’s advice could be applied to any brand of cake, not limited to the Betty Crocker brand.

Similar examples can be found in the commercials for Star-Kist Tuna, Wendy’s chicken sandwich, Winston cigarettes, Duracell batteries, Green Giant vegetables, Little Caesar’s Pizza, Palmolive dishwashing liquid, Life, Fruit Loops and Kellogg’s O.K. cereals where the narrator, rather than the spokes-character, conveys much of the information about the featured product. The most dramatic example of this is provided in the commercial for Green Giant where the Giant speaks a total of eight words compared to the narrator’s one hundred and sixty-five word description of the product features and special promotional offers. Another noteworthy observation concerns the interaction between the narrator and spokes-character. In the case of Kellogg’s O.K. cereal, Yogi bear acts as a ‘pointer’ for what the narrator says in a style comparable to Vanna White’s work as a letter turner on the show Wheel of Fortune:

Narrator: “Well first they’re made of oats” (Y.B. holds some oats) “And of all grains, oats are the richest in proteins” (Y.B. points to a sign that states this) “and rich in other body building essentials too” (Y.B. making a muscle) “in fact some people consider it their duty to eat oats” (Y.B. making a face and attempting to eat the bunch of raw oats he has in his paw).

Common to these commercials is the narrator acting as the voice of authority. It is interesting that in the commercials for Star-Kist tuna and Palmolive dishwashing liquid

the narrator confirms or discounts what the spokes-character has just said (e.g., “Right Madge” and “Sorry Charlie”) and in the Winston cigarettes commercial, the narrator repeats what Fred Flinstone has said.

Taken together, these analyses suggest two things regarding the overall nature of spokes-character speech: much of it is non-informative and the claims made are not necessarily evidence based. This begs the question as to what the purpose of the spokes-characters is in these ads? Arguably, the speech of many of the spokes-characters reviewed here may be described as ‘puffery,’ defined as “advertising or other sales representations which praise the item to be sold with subjective opinions, superlatives, or exaggerations, vaguely and generally, stating no specific facts” (Preston, 1975, p. 6; cited in Kamins & Mark, 1987). As “cheap talk” (Crawford & Sobel, 1982; cited in Chakraborty and Harbaugh, 2011) puffery is difficult to refute or verify. Preston (1996) identified six categories of puffery that vary in level of deception: best, best possible, better, specially good, good and subjective qualities. Table 3 depicts of examples of Preston’s six categories of puffery from the content analyses of spokes-characters’ speech. The section to follow discusses how spokes-characters in this sample behaved.

Table 3

<i>Selected examples of puffery from content analysis</i>		
Spokes-Character	Category of Puffery (% occurrence in all ads in this sample)	Example of Puffery
Kool-Aid Jug	Use of the term ‘best’ (9%)	“For the very best drink you ever made.”
Betty Crocker	The ‘best possible claim’ (13%)	“I promise you a perfect cake every time you bake.”
Fruit Loops Bird	A claim of ‘better’ (28%)	“There’s nothing bigger than colossal loops.”
Max Headroom		“More people prefer the refreshing

Spokes-Character	Category of Puffery (% occurrence in all ads in this sample)	Example of Puffery
Irish Spring Man	A 'specially' good product (12%)	taste of Coke over Pepsi." "Irish Spring has two truly effective deodorants."
The Campbell's Kids	A good product (31%)	"I love my Campbell's. Soup is good food."
Fred Flinstone		"Winstons taste good like a cigarette should."
Milton the Toaster		"There's a lot of good inside Kellogg's pop tart toasted pastries."
Dave Thomas Tony the Tiger	Subjective claims (9%)	"Gee, this is pretty good." "Frosted Flakes brings out the tiger in you."
Betty Crocker		"Bake a Betty Crocker cake right now – perfect every time."
Willy the Hillbilly		"Mountain Dew'll tickle your innards because there's a bang in every bottle"

Twenty percent of spokes-characters in this sample were either silent during the entire commercial or spoke minimally (defined as ten words or less). Examples of silent spokes-characters include the A & W Bear, the Coca-Cola Polar Bears and Mr. Clean. Examples of spokes-characters who spoke very little include: the Geiko Gecko, the Aflac Duck, Little Caesar's and the Jolly Green Giant. In the case of the latter three, the speech of these characters comprise repetitions of only one or a few words (e.g., 'Aflac', 'Pizza Pizza' and 'Ho ho ho, Green Giant'). Of all these characters, only Mr. Clean provided product demonstrations. As stated earlier, even spokes-characters who talked a lot were not necessarily informative (e.g., Flo for Progressive Insurance who talks for most of the commercial but reveals only one product attribute). This leads to the question of what

spokes-characters actively *do* during their air time to meet their goal of selling featured products?

Spokes-Character Product Interaction

Further analyses were conducted to explore how products were depicted in these commercials, in particular by featured spokes-characters. The following questions guided this analysis: (1) is the spokes-character interacting at all with the product (here interaction is defined as coming into contact with the product including touching it, however briefly or even pointing to it), (2) is a demonstration of the product provided in the commercial (demonstration is defined here as providing a visual example of what is being claimed about the product) and (3) whether the spokes-character provides a demonstration of the product. Given that a number of spokes-characters did not provide product demonstrations (and of those who did, this did not necessarily comprise the total air time of the spokes-characters) lead to two other areas of investigation: (4) what are spokes-characters doing in the commercials when they are not demonstrating the product? As many of the spokes-characters actions excluding product demonstrations did not appear to be associated with the attributes of the product, a final area of exploration comprised (5) the overall narrative of the commercial, in order to explore if this bore any relation to what spokes-characters did in the commercials.

Spokes-character interaction with the product (i.e., simply showing the product) was differentiated from product demonstration (i.e., showing the product in use). Only 56% of spokes-characters provided product demonstrations. Of these, an average of 25% ($SD = 19.97$) of air-time was devoted to these demonstrations. This suggests 75% of the

time spokes-characters are either absent or doing something other than actively demonstrating the featured product.

It is noteworthy that the exploration of what spokes-characters are doing during their remaining air-time suggests that in many cases, spokes-characters were engaged in something that bore no logical relation to product attributes. For example, while Farrah Fawcett does talk about the merits of the toothpaste she depicts and even uses it during the commercial, the rest of her air time is spent with a man named Joey. Similarly, the Trix Rabbit dances, as does Alice for Minute Rice, Flo for Progressive Insurance makes jokes with her customer and Milton the Toaster talks about sleep-overs. What is of interest is that these actions appear to have more to do with the overall narrative of the commercial: Fawcett's relation to Joey reflects her sex appeal, the Trix Rabbit and Alice's dancing show their fun loving nature, Flo's chit-chat contribute to her eccentric character and Milton's sympathy endears him to the little girl. These narratives may have made the spokes-characters more memorable by garnering the attention of viewers.

Analyzing the Informativeness of Demonstrations

It is interesting to note that many demonstrations revealed little about product attributes. Recall for the purpose of this analysis, demonstration was defined as 'the product in use.' This could mean seeing a spokes-character eat the product or even show product close-ups. Of the fifty commercials in this sample, only three spokes-characters: Dave Thomas, the Keebler Elves, and the Honey Nut Cherries Bee show how the product is made.

Let us compare the product demonstrations depicted in the commercial for the Ty-D-Bowl Man, Palmolive (Madge the manicurist) and Quaker Oats (Wilford Brimley) for the veracity of the claims being made.

The Ty-D-Bowl Man spends 73% of airtime talking about his product. Of this time he spends 69% of his time showing his product and claims the following while talking to the lady in the bathroom:

TDB Man (holding product): "I'm bringing you solid TDB now with ring guard (close-up of product). You'll scrub less often because TDB has ring guard to keep your toilet bowl ring free automatically."

Lady (holding the product): "Hmmm. Cleans and deodorizes too."

TDB Man (holding two versions of the product): "Now TDB gives you a choice between lemon fresh blue and pine scented green" (throws them to the lady – one falls but does not break). TDB solids won't break like old cleaners that come in glass."

However despite seeing the product in use, none of these claims are tested directly⁷. For example, how do viewers know that the product will really keep a toilet ring free? We see something that appears to be a toilet bowl with blue liquid at the bottom with the caption 'ring free,' but do not see any rings before that might provide evidence that the product does get rid of stains. We must take the lady's word that the product cleans and deodorizes as we do not really see the product in use. It may be that the product does clean but there are other products that clean better since no 'test' is provided either through statistics or through a comparison with another product. Viewing the labels we see that the product does come in the two different scents, but we don't know much more

⁷ One possible exception is the claim that the product will not break like glass when it remains intact after the lady fails to catch it when thrown by the Ty-D-Bowl man. However arguably this does not constitute 'strong evidence' given a number of possible explanations for why the product did not break in this case.

about this either (how long do the scents last, do consumers prefer one over the other? Etc.).

In the commercial for Palmolive, Madge the Manicurist provides a visual demonstration of the product's ability to soften hands on her client, but getting her client to soak her hands in this product without her consent:

Madge: "[T]ry Palmolive dishwashing liquid" (holding a bottle and pointing to the label and reading from it) "softens your hands while you do dishes."

Client: "Pretty greasy."

Madge: "You're soaking in it."

Client lifting hands out of the dish of Palmolive: "In dish washing liquid?"

Madge putting her client's hands back into the dish: "Palmolive."

Client looking skeptical: "Milder?"

Madge: "Oh more than just mild."

However, despite the visual demonstration of the product in use, the consumer is left with very little evidence about the truthfulness of the claims made in this commercial. For example, the client asking "Milder?" implies a comparison, but what she is comparing this product to is left unspecified. Furthermore, a more important question for the consumer to ask is how effectively the dishwashing liquid cleans dishes. Another visual demonstration of the product is provided of the liquid detergent in use in a shot of a sink full of soapy water where we hear the voice of the narrator who confirms Madge's claim:

Narrator's voice: "Right Madge. And it softens hands while you do dishes" (shot of the label that states this). "Palmolive suds last, from the first glass to the last greasy casserole" (a casserole dish being washed).

Yet again this demonstration provides little tangible evidence. We do not know how long the dishes have been soaking for; hence we do not really *know* that they do indeed last

from the first dishes to the last. In reality the only evidence we have that the product does soften hands is when Madge runs into her client two weeks later and the client announces: "Madge! That Palmolive liquid of yours, I'm simply in love with it!" but does not state explicitly it is because of the product's ability to soften hands.

Of the three commercials, perhaps the weakest demonstration is provided by Wilford Brimley as the spokes-character for Quaker Oats. Brimley does not directly 'demonstrate' the product, but relies on the reactions of a little girl beside him who is shown eating the cereal⁸:

W.B. narrating: "They got all different flavours and they're all good."

W.B. taking off his hat while looking at the girl: "But my little pal Laurie here, wouldn't want to go eleven days and only have maple and brown sugar once" (putting his hat on the girl which is clearly a playful gesture) "now would ya?"

Girl pushing hat away: "Nope. Stop that!"

W.B. puts his hat back on with a shot of the different flavours of the cereal with a bowl of it served in a bowl with milk.

W.B. narrating: "Quaker instant oatmeal. It's the right thing to do."

Shot of W.B. with the girl.

W.B. "And a tasty way to do it. Isn't it?"

Girl: "Aha!"⁹.

⁸ Technically Madge for Palmolive does not demonstrate the product herself, as it is her client who soaks her hands in it and provides the viewer with her appraisals of how soft her hands feel afterwards. However, as a manicurist, Madge arguably has some expertise about the product. Also, unlike, Brimley, Madge directs the demonstration and in so doing provides a stronger demonstration of the featured product.

⁹ The prevalence of food products represented in this sample should be taken into account when considering the informativeness of the demonstrations analyzed in this preliminary study. For example, in the case of cereal, a shot of milk being poured over cereal in a bowl was considered to be a product demonstration which clearly does not provide many cues about the product. Other demonstrations (such as beans and corn for the Jolly Green Giant, tuna for Charlie the Tuna, or the chicken sandwich featured in the Wendy's commercial) comprised more slow step-by-step visuals of someone cutting into the product which enabled the viewer to make more considered judgments about product quality.

According to the literature, demonstrations fulfill an important role in reducing product uncertainty. For example, Heiman and Muller (1996) (cited in Heiman, McWilliams, & Zilberman 2001) point out that demonstrations are particularly useful in helping consumers learn about product attributes, particularly given that certain attributes take longer to learn than others. When a salesperson provides a demonstration the learning time to understand a product is noticeably reduced (Heiman et al. 2001).

The Disrupt-Then-Reframe Hypothesis

Returning to the Disrupt-Then-Reframe hypothesis, 28% of the commercials in this sample employed the DTR. For example, consider the role of the spokes-character in the commercial for Pizza Pizza:

Shot of an orangutan

Narrator's voice (shot of bananas): "One banana or two bananas?" buzzer goes off.

Narrator's voice (shot of orangutans): "One female orangutan or two female orangutans?" buzzard goes off.

Narrator's voice (shot of Pizza Hut vs. Pizza Pizza specials): "One pizza for \$10.99 or two pizzas for \$9.98?" buzzer goes off.

Shot of orangutan appearing to favour the choices for 'two'. Shot of pizza pizza with caption SUPREME SUPREME pizza.

Narrator's voice: "Why settle for one supreme pizza when you can get two?

Little Caesar's for only \$9.98? Satisfaction guaranteed.

Little Caesar: "Pizza pizza."

While the nature of this commercial is disjointed, the narrator's voice provides the only informative cues about the product (price, the deal and that satisfaction is guaranteed by the company). It is interesting how the second time the narrator offers product

information, the Little Caesar man interjects by saying 'Pizza Pizza.' By doing so, the spokes-character provides no additional product information, rather his distracting presence comprises the conclusion of the commercial precisely at a time when we are given the bulk of product information.

Another example of the DTR is found in the commercial for Duracell batteries featuring the Energizer Bunny:

Shot of two construction workers eating lunch:

Man to his friend: "...sandwich."

Second man: "Not me. I've got Vintage Farms deli loaf. It's got real sliced meat chunks."

Shot of the Energizer Bunny coming in beating its drums.

Narrator's Voice: "Still going. Nothing outlasts the Energizer. (E.B. appears to fall then flies up spinning and beating away at the drums while the men watch) and going and going and going."

Here, again, the 'story line' of the two men having lunch together has nothing to do with the product, or the Energizer Bunny spokes-character. The Energizer Bunny appears out of nowhere and interrupts the conversation the men are having; the men respond by looking startled. At this point the narrator describes the spokes-character's ability to 'keep going', intended to be a feature of the product. Again, arguably, the Energizer Bunny is the last thing the viewer remembers.

According to the ELM, more extensive elaboration of information related to spokes-characters' behavior should be processed via the central route, in contrast to the more superficial thinking required to process spokes-character attributes, believed to be processed through the peripheral route. The same is expected for product information conveyed through what spokes-character say about products they represent. However,

the results of this content analysis suggests, that on the whole, spokes-characters typically convey little product information on either count. While it is true that for many commercials examined here, information was conveyed by demonstrations by other people (e.g., a narrator's voice, other people in the commercial, etc.) of concern here, is how much information came from spokes-characters *directly*. This leads to the question, how is persuasion taking place if not necessarily by central route processing? Does simply associating a spokes-character with a product in a memorable manner suffice? This question forms the impetus for this dissertation.

Summary Thoughts.

Noteworthy from the content analysis, are findings suggesting that spokes-characters do not necessarily convey a lot of product information. Daniel Kahneman (2003) has written extensively on why cognitive processing of message content, by itself, may not necessarily guarantee good decision making. Kahneman argues that in certain situations too much cognitive effort may actually lower the quality of performance and that trusting one's intuition may be more fruitful than engaging in detailed analysis, even for skilled decision makers.

Postman's writings on superfluous information may explain why the types of information conveyed through much of spokes-characters' speech and behavior may lead to habituation. Founded on the notion that 'redundancy reduces information' (Moles, 1968), Postman (1985) created the concept of an 'information-action ratio' defined as the probability of taking action upon learning new information. The usefulness of information has been quantified in terms of its ability to eliminate some alternatives while increasing the probability of others (Elias, 1997). Postman defines relevant

information as that which enables people to make certain decisions and consequently have greater control over their lives, in contrast to de-contextualized information which comes indiscriminately and has a less clear purpose. Arguably, much of the information conveyed by spokes-characters, as identified in the content analysis comprise a low information-to-action ratio.

By garnering attention, then, the function of spokes-characters may be to off-set the effects of habituation. Further, it may be that visual information that provides input to the psychological processes, leads to the creation of preferences and attitudes. If it is the case that visual input makes arguments more effective because they are automatically processed (e.g., pre-attentive) it should matter less whether a spokes-character is real or imaginary than whether it exists as a visual stimulus with visual attributes.

The author is unaware of any studies that have systematically investigated how these rhetorical figures may or may not capture our visual attention and direct it towards ad content. Building on the premise 'where attention is, so goes the eyes', the primary focus of this dissertation is to pursue this line of investigation through an analysis of how these characters are viewed in print ads. Print ads were selected for in-depth study in this research as they would enable examination of viewing patterns of spokes-characters when paired with text and unrelated products in static form¹⁰.

Processing Information in Images versus Text – What is the Role of Spokes-Characters?

There is ample evidence to suggest that images attract more attention and are recalled better than text (Alesandrini 1982; Edel & Staelin, 1983; Houston, Childers & Heckler, 1987; Shepard, 1967). Shepard's (1967) seminal study (cited in Edel & Staelin,

¹⁰ Arguably the most 'pure' form since, unlike television commercials, spokes-characters in such a context will not be interacting in any way with products, and since auditory elements would also not be present.

1983) found that people were more likely to remember pictures than text and that this effect held for long term memory. In this experiment, participants were shown over six hundred pictures, many of which comprised photographs taken from actual advertisements. Participants were subsequently shown sixty-eight pairs of pictures containing a previously seen photo and a novel one. Over ninety-eight percent of the stimulus items were correctly identified in an immediate recognition test; compared to only eighty-eight percent of correctly recognized sentences, a difference found to be statistically significant. However, what was of greater interest is that even after three months had passed since the initial exposure to the pictures and the test, participants correctly recognized eighty-seven percent of the previously shown pictures. As was discussed in the introductory chapters, in recent times, there has been a trend for ads to become less textual and more visually based in nature. Given that images may be better remembered than text, could it be that simply having another image in an ad (via a spokes-character) might be a strategic means to increase associative links in memory between products and text?

Irrespective of how well images may be remembered, given the number of ads we encounter on a given day, an important issue concerns how much cognitive processing takes place during superficial scanning. In a two part study where consumers controlled the duration of the exposure to print advertisements, Pieters, Rosbergen, and Wedel (1999) found that neither consumer motivation to attend to ads depicting a given product nor argument quality was found to affect the amount of attention paid to ad elements during repeated exposure. In an earlier study, Pieters, Rosbergen and Hartog (1996) found that the number of ad elements (e.g., headline, textual arguments, packshot and

pictorial element(s)) that are skipped becomes larger as the number of ad exposures increases. This study also found that attention to textual versus pictorial elements can differ significantly even across first and second exposures for some consumers.

Of paramount importance is to consider that when viewing ads, consumers *have no real motivation to scrutinize them carefully as ads are not something that consumers typically seek out*, as Tellis (1998) (cited in Heath, 2007) eloquently states, consumers ‘... *do not yearn for ads*’ (1998: p.121). If viewers do not necessarily look at ads for very long, what is not yet clear is if the parts of an ad where viewers do look, is a result of a visceral reaction (where potential consumers look quickly at certain heuristic cues that results in an affective reaction to the ad) or if a more considered cognitive judgment that is based on more careful scrutiny of the semantic contents of an ad takes place if there is a reason to inspect an ad more carefully. In either situation, what role do spokes-characters have on where the viewer looks?

A secondary focus of this dissertation was to explore possible affective components of spokes-characters effectiveness. Much of the literature review has pointed to the importance of emotion-based interpretations of the role of spoke-characters in advertising, such as the narrative created by a consumer and a spokes-character. Are spokes-characters, effective then, because they are liked and correspondingly make an ad they are in more memorable? Research on the mere exposure effect suggests that as stimuli become more familiar with repeated exposure they are generally liked better over time (Zajonc, 2001). Studies have confirmed the robustness of the mere exposure effect over the past forty years (Backmann & Vipper, 1983; Bornstein, 1989; Smith, Sandstrom, Sjobeck & Sjogren, 1969) across cultures (Lindgaard, Litwinska & Dudek, 2008) and

across species (Zajonc, 2001). This begs the question: how are spokes-characters treated by viewers when they are *not related* to a product and are unfamiliar to the viewer (i.e., the first time a spokes-character that is unrelated to a product is seen by the viewer) – does likability ‘still count’?

Hypotheses and Research Paradigm

While much of the literature review suggests that spokes-characters' effectiveness may lie in their propensity to establish a relationship with potential consumers (Garretson & Niedrich, 2004; LeBel & Cooke, 2008) a more parsimonious explanation of their appeal may rest in the memorable associations they make with featured products. Given the phenomenal number of ads the average person is exposed to on a daily basis, maintaining an optimal level of arousal is of paramount importance in ensuring that an ad 'gets noticed.'

However, as consumers become increasingly familiar with an ad after repeated exposure, the effects of habituation may set in (Berlyne, 1960, 1967, 1970). There is some evidence to suggest that spokes-characters may be a heuristic that enables quick and easy processing of ads via stereotypes. It may be recalled that the effectiveness of spokes-characters may be contingent upon their being quickly identifiable and recognized and this may in part depend on stereotypes. Indeed, it has been pointed out by Callcott and Phillips (1996) that even when spokes-characters evolve through time, stereotypical features may contribute to their quick recognition. This was suggested in a study conducted by Callcott and Phillips (1996) where participants reported mixed feelings about the new and updated image of Aunt Jemima:

"Aunt Jemima is still a puzzle to me. For some reason, that one seems wrong, but it's real. There's nothing wrong with [the updated image of] Aunt Jemima. Everyone has Aunt Doras and Aunt whoever else . . . but for some reason, a smiling black lady on a pancake box has great potential for being stereotypical" (Callcott & Phillips, 1996, p. 76).

In essence, the symbolic effectiveness of spokes-characters may necessitate a 'vocabulary of readily understood signs so that consumers can correctly interpret the sign's meaning.' When elaborate cognitive processing is restricted, spokes-characters may be recognized as 'a pattern of signs' that are quickly identified as associated with a given product. LeBel and Cooke's findings are inline with Zipf's Principle of Least Effort, in that once an 'icon' or simple graphic (i.e. a logo or a spokes-character) is associated with a product then it is less effortful to process the icon or spokes-character than it is to process information regarding the product.

Given that the ultimate goal of effective advertising is to increase memorability of products, it may be that by encouraging viewers to look longer at ads, spokes-characters may increase links between textual components in ads rendering increased memorability of product information. Stated differently, if spokes-characters do not add significantly to a viewer's cognitive load while helping the viewer remember the ad better, a spokes-character may be a cost effective technique to facilitate product memorability. More specifically, does the presence of spokes-characters alter where we look and possibly for how long and what effect (if any) does this have on product information recall?

The goal of this dissertation was to examine the role of spokes-characters in print advertising. This was done by means of three separate experiments. In the first experiment, viewing patterns of images of common objects were compared to how animated and human characters are viewed in order to explore if typical consumer products may be viewed differently than figures that are typically used as spokes-characters in print ads. Print ads were chosen for in-depth study as they enabled a static depiction of spokes-characters with an associated product in a context where participants

would view the spokes-characters for the first time. Guided by the HSM and ELM models of persuasion, type of instructions participants received was used to manipulate level of cognitive processing when viewing ads in the second and third experiments. MacInnis and Jawarski (1989) distinguish between a number of levels of information processing. They posit that when motivation is moderate to low while viewers are likely to direct their attention to the message; as their cognitive capacity still remains low and they are likely to make a heuristic assessment of the message. In contrast to this, when viewers are at least moderately to highly motivated to try to integrate the full information of the message, central route processing is believed to occur. The second study examined if simply replacing a spokes-character with an image of a second product influences how ads are viewed. Prior to viewing ads in the second study, participants were instructed that they would later be assessed on recall of the ads they were about to see, in order to encourage a moderate level of motivation/level of attention. The third study examined ad viewing when purchasing decisions were made. This third study comprised three conditions in which cognitive load was strategically manipulated so that viewing patterns of spokes-characters could be compared between conditions where 'cognitive processing' of ads differed and where participants were required to make a purchasing decision.

While the first experiment of this dissertation was exploratory in nature, specific hypotheses were tested for the second and third experiments, as it was believed that the presence of a spokes-character's image in an ad will affect where and for how long viewers look in an ad. It was therefore predicted that the mere presence of a spokes-character in an ad will increase the viewer's inspection time and alter the viewer's fixation distribution as well as the viewer's level of arousal/interest. It was also predicted

that the likability of a spokes-character would have a similar effect on the viewer's fixation distributions and level of arousal/interest.

Overview of Dependent Measures

The purpose of this chapter is to outline the empirical program of this dissertation. The chapter begins with an overview of eye-tracking as a method for assessing the cognitive processing of message content in visual advertising. This is followed by descriptions of the formal experiments leading to the hypotheses of this study.

Eye-Tracking Measures

‘Eye-tracking’ is a term used to describe the process of monitoring the position in space and time of the eyes of a person inspecting a visual stimulus. Visual inspection of static objects typically consist of two types of events: saccades and fixations. Both contain useful information.

Saccades are rapid movements of the eye from one location to another (Pieters, Rosbergen & Wedel, 1999). Fixations are defined as the pauses between saccades when the eye is relatively immobile long enough to focus on a particular location in the stimulus field (Pieters et al. 1999). Saccades have a trajectory through the visual field from one fixation point to another. The length of fixation is referred to as *dwelt time* or *gaze duration*. Fixations have a typical dwell time of around 100-200 milliseconds. In this way, visual fixations are believed to be an objective, quantifiable measure of attention devoted to cognitive processing.

Numerous studies have found eye-tracking to be a reliable method of assessing levels of cognitive processing, such that fixation duration correlates with increasing levels of processing (Pomplun, Ritter, & Velichkovsky, 1996; see also Rayner, 1998; Velichkovsky, 1999; Velichkovsky, Rothert, Kopf, Dornhofer, & Joos, 2002; cited in

Horstmann, Ahlgrimm & März; 2009). Given that people are typically unaware of their eye movements, they are difficult to alter or censor, thus eye fixation data typically have very high validity. Even when participants are aware that their eye movements are being recorded, this awareness does not alter the ongoing cognitive process (Russo, 1978).

The section to follow describes the two main eye tracking measures that were used in this research and how they were employed as dependent measures for viewing patterns in this dissertation.

Fixation Duration

Gaze duration may be defined as the total amount of time spent on a region before leaving that region (Camblin, 2005). Scholars have postulated that gaze duration as assessed through dwell time is indicative of cognitive processing, specifically, cognitive processing is “believed to occur from fixation through dwell time, and is acknowledged as complete when visual attention shifts to a separate or new element” (Horstmann, Ahlgrimm & März; 2009).

There has been extensive research that has used data on eye fixation length to examine cognitive processing of textual and pictorial stimuli (Camblin, 2005; Drèze & Hussher, 2003; Rayner, 1998; Salthouse & Ellis, 1980). The eye tracking literature on reading suggests that while the majority words in a text are fixated upon during reading, many words are skipped as foveal processing of each word is not necessary (Rayner, 1998). During silent reading, it is typical for eye fixations to last between 200-250 milliseconds (ms) and the number of fixations have been found to differ according to sentence length as well as level of sentence complexity (Rayner, 1998). Notwithstanding that textual components of the ads that were employed as stimuli in this dissertation

comprised one to two lines of text, it was expected that both number and duration of eye fixations will be indicative of whether some degree of cognitive processing has taken place, when participants viewed these ad components. Studies of eye movements when viewing images suggest that the gist of a scene may be abstracted very quickly, even within the first couple of fixations (Rayner, 1998). This is instructive given that spokes-characters employed as stimuli in the current research bore no visible relation to the products they were depicted with; in this way they arguably comprised 'distinct' or 'novel' ad components. One prominent finding in scene perception research is that the eyes quickly move to an object that is out of place or 'does not fit' in a scene (Friedman, 1979; Friedman & Liebelt, 1981; Loftus & Mackworth, 1978; cited in Rayner, 1998). In consideration of these findings, and other studies that have found that interesting objects in scenes are fixated upon more and for longer durations (see Christiansen, Loftus, Hoffman, & Loftus, 1991 for a review; cited in Rayner, 1998) differences in eye fixation dwell time as well as number of fixations between spokes-characters, products and text was used to assess possible differences in 'how much attention' was paid to each.

ClearView software records eye-fixations as a stationary state of the eyes that allows information to be extracted from the visual field (Russell, 2002) that are 100 ms in length or longer. Table 4 depicts the major ways eye-fixations were assessed in this research, guided by how such data have been analyzed in previous studies.

Table 4

Common eye-tracking metrics, definitions and examples of use from the literature (adapted from Russell, 2002; original source Goldberg, 2000; and Jacob & Karn, 2003)

Eye-Tracking Metric	Definition	Example Studies
Time to first fixation	Time elapsed until a given AOI receives its first visual fixation	Russell, 2005
Number of fixations	The total number of fixations ¹¹ made while viewing a given visual stimulus	Kotval and Goldberg, 1998; Cowen et al. 2002
Average Fixation duration	The average amount of time viewers fixated upon the visual stimulus	Fitts et al. 1950; Kotval and Goldberg, 1998; Cowen et al. 2002 Goldberg et al. 2002
Total Dwell Time	Total amount of time viewers spent looking at a stimulus	Russell, 2005

Given that the focus of this research was to better understand how spokes-characters are viewed compared to other ad components, another metric that was added to the above was ‘AOI that was first fixated upon.’

Pupil Size

In addition to assessing arousal (Aboyoun & Dabbs, 1998; Partala, Jokiniemi, & Surakka, 2000) as well as surprise (Preuschoff, Hart & Einhäuser, 2011), Hess and Polt (1960) have found pupillary dilation responses to correlate with “emotionally toned or interesting visual stimuli”.

Pupillary changes during affective picture viewing have been found to be significantly correlated with skin conductance change, suggesting that sympathetic nervous system activity monitors these changes (Bradley, Miccoli, Escrig & Lang, 2008). One major advantage of pupil size over other physiological assessments is that it is an involuntary index of ANS activity, making it difficult to control voluntarily; consequently

¹¹ While these studies examined total number of fixations, in this dissertation average number of fixations was used instead, as these studies were mostly usability studies and as the focus of the current research was to distinguish between how the mean number of fixations differed between different AOIs.

it has been perceived to index 'real spontaneous activity' in contrast to other physiological signals that can be masked, inhibited, exaggerated or faked (Partala & Surakka, 2003). While it was previously stated that a strength of eye tracking measures is that they are difficult to alter or censor, pupil dilations are arguably a more powerful measure of visceral response than fixation duration as individuals may have more control over the latter (by controlling where and for how long they look) compared to the dilations of their pupils¹².

Other Dependent Measures

In addition to the use of eye-tracking measures to capture physiological data, a number of tests of recall and verbal measures were employed in this dissertation. The impetus for employing these measures is discussed in the sections below.

Ad Recall

Given the plethora of advertisements we encounter on a given day and the limited attention we can devote to each one, an important issue concerns the power of memorability. Whether or not an ad is read thoroughly or glanced at, a critical component of an ad's effectiveness is whether or not viewers can remember something about what they have just seen; for such reasons, recognition and recall have been dominant dependent measures of advertising effectiveness (Singh et al. 1988). As Hollis (1995) points out:

¹² It should be noted, however, that given the labour intensive nature of assessing pupil dilations, as ClearView software does not provide pupil dilation data directly; it needs to be manually coded with fixation data for any meaningful extrapolations to be made. It was therefore only employed in Experiment 2; and replaced with a mood scaled in Experiment 3.

“There seems to be an almost universal belief that an ad must attract the viewer's attention. I would suggest that truth is subtly different. An [ad]...must hold attention when viewed, and must also generate enough involvement for what is shown to be stored in the short term memory. ... Successful communication relies on whether or not what is perceived is actively "processed" and retained in the short-term memory” (Hollis, 1995; p. 11).

The heavy focus in this dissertation on assessing ad effectiveness by memory for components was in large part motivated by the Ad Awareness Index (Brown, 1986), which is considered to be a widely accepted benchmark for the assessment of advertising success even two decades after its original conception in the mid 1980s (Goode, 2007). The key assumption of this index is that consumers pay attention to ads and retain information in a way that will later allow them to consciously consider the proposition and act on it accordingly; hence the importance of the assumed role of memory (recall) (Goode, 2007). As stated by Krishnan and Chakravarti (1999):

“It is well known that attentional and associative processes in memory influence ad information processing (MacInnis, Moorman, & Jaworski, 1991) and that memory affects consumers' brand evaluations and choices (Alba, Hutchinson, & Lynch, 1991; Nedungadi, Mitchell, & Berger, 1993). Hence, advertising researchers examine memory measures of ad effectiveness whether the ad goal is to generate awareness, positive effect, or favorable purchase intentions (Stewart, Pechmann, Ratneshwar, Stroud, & Bryant, 1985)” (Krishnan & Chakravarti 1999; p. 2).

Compared to recognition, recall is arguably a more powerful measure of memory since it requires an individual to describe a stimulus while it is absent, compared to recognition, which only requires that a stimulus be identified while it is still present. Accordingly, ad recall was assessed in all experiments of this dissertation.

Affective Components of Ad Effectiveness. Arguably, the ultimate goal of all advertising is to produce sales, and a favourable attitude or feeling towards a product comprises an integral component of the likelihood of purchase (Lavidge & Steiner, 1961). Indeed there is ample evidence that affective responses, such as the mood evoked by an advertisement, constitute an important component of 'ad effectiveness' (Batra & Holbrook, 1990; Kim, Lee and Choi, 2003; Ogilvy & Raphaelson, 1982; Park 2003). According to the findings of the ARF Copy Research Validity Project, commercial liking has been identified to be amongst the strongest predictors of sales differences attributable to advertising (cited in Mehta, 2000). In Ogilvy and Raphaelson's seminal (1982) paper *Research on Advertising Techniques that Work and Don't Work* it is argued:

"Few purchases of any kind are made for entirely rational reasons. Even a purely functional product such as laundry detergent may offer what is now called an "emotional end benefit" – say, the satisfaction of seeing one's children in bright, clean clothes. In some product categories the rational element is small. And who hasn't experienced the surge of joy that accompanies the purchase of a new car?" (Ogilvy & Raphaelson, 1982; p. 18).

In consideration of studies reviewed that discuss the importance of affective components of spokes-characters in facilitating consumer-product bonds (Callcott & Phillips, 1996; Chiu, Lin & Liu, 2006; LeBel & Cooke, 2008; Phillips, 1996) it was of interest to explore

if such affective influences hold even when spokes-characters are unrelated to depicted products. While practical restrictions did not permit the use of verbal scales assessing affective responses to stimuli in the first experiment, these measures were used in the second and third experiments of this research where spokes-characters were integrated into visual advertisements.

Summary of Pilot Testing

This section reports the findings of a preliminary study that was conducted to better understand how type and location of spokes-characters may alter viewing patterns. The details of this study are provided in Appendix B.

The purpose of the pilot study was to examine if the mere presence of a spokes-character altered gazing behavior in an ad. Half of the ads in this study comprised product-text only, the other half consisted of ads with product and text with a spokes-character added. For ads which featured spokes-characters, the first stimuli set consisted of spokes-characters that remained consistent in size and type across different ads but where location was strategically randomized. In the second set of stimuli, the size and location of spokes-characters emulated real life ads and therefore differed across sets of stimuli.

According to the results of this study, the mean fixation duration for spokes-characters was higher than the mean fixation duration for either products or text. This was true in the case where both preconscious and conscious fixations data was analyzed. Heat map data also suggest that spokes-characters had more fixations than either products or text.

Taken together, these findings provided some support for the disrupt-reframe hypothesis, namely that irrespective of their relation to products, spokes-characters are designed to attract visual attention. Guided by the findings of the pilot testing, the formal experiments in this dissertation employed stimuli comprising images of: (1) products that varied in visual complexity to safeguard against too much variation in number of fixations for products (2) spokes-characters that varied in type in order to off-set possible

habituation effects and maintain a reasonable level of external validity of the data and (3) spokes-characters that were not overly structured and therefore more reflective of real life ads.

Experiment One: Comparing Viewing Patterns of Products and Spokes-Characters

As discussed in the introductory chapters of this dissertation, there is some evidence that images attract more attention and are better recalled than text. Very few studies, however, have isolated what types of images may attract more attention than others. Specifically, it is not yet well understood if the types of images that are representative of spokes-characters may be viewed and recalled differently than images that are more representative of standard products or images neither related to the product or the spokes-character.

An underlying assumption of studies that have examined the likability of spokes-characters is that advertisements employing these characters are more effective than other ads (Callcott & Phillips, 1996). However, some studies suggest that spokes-characters may not be inherently 'effective.' For example, in their review of a survey covering 809 television commercials, Ogilvie and Raphaelson (1982) found while commercials featuring a celebrity increased viewers' ability to recall a commercial 24 hours after seeing it, 21% fewer viewers reported a change in brand preference for commercials featuring a celebrity endorser compared to commercials without such spokes-characters. Ogilvie and Raphaelson's review also found that commercials featuring cartoons and animations did not increase liking for a brand for adult viewers, despite their effectiveness for child viewers.

In light of these findings, it was believed that a first step towards better understanding if spokes-characters are truly effective at capturing attention, is to examine how they are viewed on their own, and compare their viewing patterns to how images of common objects are also typically viewed independently. It was earlier stated that the

function of spokes-characters is to “give meaning to the brand by symbolizing its character, ... lend[ing] emotional appeal to the brand by personifying the product” (Phillips 1996, p. 147). The question then arises, do characters representative of spokes-characters (humans and cartoons) that are viewed on their own (i.e., not depicted with a product) viewed differently than images of typical products? If such characters have inherent emotional appeal, they should be expected to be viewed differently than images of common objects.

The purpose of this first experiment was to explore viewing patterns of products and spokes-characters viewed independently, or stated differently, when they are not incorporated into an ad. While no formal hypotheses were developed for this exploratory study, two guiding questions of interest were: are spokes-characters viewed longer and recalled better than images of common objects?

Method

Participants

Ten participants, comprising six females and four males, between the ages of 18 and 55 recruited online through the SONA system, <http://carleton.sona-systems.com> were given one course credit for their participation. Participants were run in individual sessions lasting approximately forty-five minutes to an hour.

Design

In this within-subjects study, type of image served as the independent variable (objects, humans and cartoons; further subdivided to faces versus full figures for the last two categories) with number of fixations and total viewing time as the dependent variables. The categories of humans and cartoons were subdivided into the groups: half comprised full figure images, the remaining half consisted of images of faces. The order that participants viewed images was randomized for both the order of categories and images within categories.

Apparatus

Each participant was tested on the same workstation with the Tobii eye-tracker version 1750. The Tobii Eye Tracker consists of hardware and software for gaze point estimation and communication with various applications. The ClearView application software was employed to make use of the eye tracking data by means of eye gaze analysis. The display unit of this system provides a maximum resolution of 1280 x 1024 pixel with a screen resolution: 1152 x 864. The system also comes with a high-resolution camera with a large field-of-view which is used to capture images of the participant's

eyes. Near infra-red light-emitting diodes (NIR-LEDs) are used to generate even lighting for the reflection patterns in the participant's eyes, optical filters are used to block sunlight and other sources of interfering light and control electronics which are built-into the screen to control the monitor, the camera and the NIR-LEDs.

Materials

A total of one hundred and fifty images were employed. Fifty images of common objects were used that were believed to represent standard products featured in typical visual ads. Eighty-six percent of products were chosen from a Walmart online catalogue and varied for level of involvement (high, medium and low involvement products). To control for 'level of interest' approximately half of these products were chosen because they were believed to appeal to the age group of the participants that were to be recruited (i.e., images of stereo systems, cookware, leisure products that would appeal to teenagers and young adults etc.) while the remaining images were selected as they were believed they would be of less interest to participants (i.e., images of household appliances, leisure products that would appeal to older adults etc.). The remaining images were chosen from a 'Google' search, and comprised a mixture of high appeal items (i.e., a Porsche, exotic jewelry) medium appeal items (Harry Potter paraphernalia, exotic fruit) and low appealing items (i.e., toys for children such as a Rubik's cube). Care was also taken to ensure that the products varied in terms of 'visual richness' thus, the sample comprised a number of images that were principally grey or monotone and simple in design (i.e. a black indoor grill, a simple portable fan and a silver chrome water faucet) on the opposite end, images that were more colourful and more complicated in design were also employed (i.e. a Harry Potter scarf, rainbow coloured stencils, and a papaya).

Equal care was taken when selecting the remaining images of characters (100 images of humans comprising 50 full figure and 50 faces only as well as cartoons (also 100 images comprising 50 full figure and 50 faces only). All images were located and ultimately downloaded from the Internet. No famous or otherwise 'recognizable' faces or figures were used. As these images were meant to be representative of characters that might typically be used as spokes-characters. For both human and cartoon faces a varied sample was created comprising different expressions; the same was done for gestures for the full figure images of humans as well as cartoons. The images also varied in terms of unusual features and clothing as is also typical of eye-catching physical attributes that are often present in spokes-characters.

All images were centrally located on the screen and were approximately 14.09 cm by 15.24 cm in size.

Procedure

Upon entering the lab, participants were told of the nature of the study and asked to sign an Informed Consent form (see Appendix C). After being asked if they were comfortable, participants were seated in front of the Tobii eye-tracker at a distance of approximately 60 cm. They were asked to adjust their chair so that they could see the tip of their nose in the circular filter at the bottom of the eye tracker. Participants were then asked their age while this and their gender was recorded after which the researcher explained again the nature of the study and asked if the participant had any questions. After being given the eye-tracking screening questionnaire developed by Pernice and Nielson (2009) that comprises eight questions that assesses eye health history and eligibility to participate in a study using eye-tracking technology (see Appendix D),

participants were given the calibration exercise (see Appendix E)¹³ in order to ensure the eye tracker was accurately estimating the participant's gaze points. As per user guidelines¹⁴, participants were then given three practice stimuli until they reported feeling comfortable with the process (i.e., if they do not report or exhibit any discomfort with the technology). In order to ensure their comfort, participants were not asked to remain perfectly immobile throughout the study, but were encouraged to rest their eyes or look away from the screen if needed in between stimuli presentation. Only two participants had to be re-calibrated to receive an 'acceptable' calibration score.

The images were then presented to participants, in blocks of five, where the order of images within and across categories was counterbalanced. Participants were asked to press a key after they had finished looking at each stimulus. In order to avoid fatigue effects, participants were asked if they wished to take a break; only one participant exercised this option. After participants had viewed all 150 images, they were asked to recall as many images as they could in a test of free recall (see Appendix F). Thereafter, participants were debriefed (Appendix G) and thanked for their time.

¹³ As participants were tested on the same workstation with the Tobii eye-tracker and asked to follow the identical procedure for calibration in Experiments 2 and 3, these are not discussed in detail in subsequent experiments.

¹⁴ Eyetracking Methodology 65 Guidelines for How to Conduct and Evaluate Usability Studies Using Eyetracking

Results

The purpose of this study was to investigate if fixation patterns differ for humans (faces and full figure) and cartoons (faces and full figure) compared to common objects. As this was an exploratory study, no hypotheses were developed.

Data Preparation

In this as well as in all future studies, a number of measures were taken to prepare data prior to analysis. A typical problem in eye-tracking research is data that is lost due to a participant blinking or looking away. These types of data losses can typically be identified by invalid data codes as participants do not 'see' anything during such times (Tobii Studio Analysis Software; 2009); such data were excluded from all analyses.

Another issue concerns the high between subjects variability that is also common in eye-tracking research. For this reason, per-subject means were calculated and used in the analyses (e.g., for viewing time, each participant's viewing observation was used to create a per-subject score). Also, in analyses where number of fixation data are compared across participants, analyzing raw counts for each participant might bias ensuing analyses given that certain participants might contribute more fixations, on average than others. For this reason, per-subject percentages were calculated and used for these kinds of analyses.

It should also be noted that in order to ensure assumptions of normality were met, a Mauchly's Test of Sphericity was first conducted in order to ensure that the assumption of sphericity was not violated for all within-subjects analyses of variance (ANOVAs).

The Greenhouse-Geisser correction was employed as a correction adjustment in cases where this assumption was not met.

Mean Viewing Time and Number of Fixations for Objects, Cartoons and Human Images

In this study 1671 fixation data were analyzed. The mean viewing time for all categories of images was 4.72 seconds. A one-way analysis of variance (ANOVA) was conducted to test for differences in mean viewing time for images of objects ($M = 4.41$, $SD = 2.60$), cartoon faces ($M = 4.86$, $SD = 2.34$), human faces ($M = 5.02$, $SD = 2.11$), cartoon figures ($M = 5.38$, $SD = 2.63$) and human figures ($M = 4.74$, $SD = 2.47$) and was found to be not significant, $F(4, 36) = 0.39$, $p = 0.81$.

Another one-way ANOVA was conducted to test for differences in the percentage of fixations across these five categories. This analysis was also found to be not significant, $F(4, 36) = 0.91$, $p = 0.47$, suggesting a fairly evenly distributed proportion of fixations across each category of images.

As was done in the preliminary studies, it was of interest to explore differences between superficial and deeper cognitive processing as assessed through fixation durations less/equal to 200 ms compared to those greater than 200 ms. There is some disparity in the literature regarding how much time is required for meaningful stimulus processing: some researchers suggest between 50 to 100 ms while others estimate that that at least 200 to 300 ms is required for meaningful processing (Vaughan & Graefe, 1977; cited in Salthouse and Ellis, 1980). One critique of this literature is that the majority of eye tracking data collected in these studies employed reading tasks, which pose a unique set of confounds and are not easily extrapolated to other types of stimuli. In a series of seven studies using a simple, discrete, eye-movement task where participants

were shown a number of letters and asked to recall if they had just seen a vowel, Salthouse and Ellis (1980) present convincing evidence that the minimum fixation duration while processing information is approximately 200 ms. Guided by these findings, all analyses where fixations indicative of preconscious and conscious processing was compared, a cut-off of 200 ms was employed.

Figure 10 presents the breakdown of superficial and deeper fixation durations between the five categories. Of all category of images, 'cartoon faces' appears to be the only category where the proportion of conscious fixations appears to be noticeably higher than the percentage of pre-conscious fixations.

Figure 10. Percentage of fixations across participants for each category of image, with a breakdown of (pre)conscious fixations

Comparing Mean Fixation Durations Across Categories

Another one-way ANOVA was conducted to test for differences in mean length of fixations for images of objects ($M = 267.32$, $SD = 88.50$), cartoon faces ($M = 317.81$, $SD = 162.93$), human faces ($M = 317.47$, $SD = 155.09$), cartoon figures ($M = 323.94$, SD

= 182.21) and human figures ($M = 287.69$, $SD = 125.99$) and was not found to be significant, $F(4,36) = 1.70$, $p = 0.71$.

Figure 11 depicts heat maps for images with the shortest viewing time, while Figure 12 shows heat maps for images receiving the longest viewing time.

Figure 11. Sample aggregate heat maps for four objects that had the shortest total viewing time

Figure 12. Sample aggregate heat maps for four objects that had the longest total viewing time

From these heat maps it appears that there was one major area of fixation for the images with the shortest total viewing time (with the possible exception of the plant). In contrast, the fixation densities appear to be more 'spread' for the longer viewed objects.

Comparing Viewing Patterns for Cartoon versus Human Faces

Examination of heat maps for human faces showed that, for the most part, fixation densities were centrally located, and this was the case even when 'affect' and direction of where the face was looking varied (see Figure 13).

Figure 13. Sample aggregate heat maps of four human faces with varying affect

Despite the consistency in focusing on facial features regardless of affect, there appeared to be some differences in how human faces were viewed compared to cartoon faces. In the case of the former, peripheral cues appeared to draw more visual attention (see Figure 14 below).

Figure 14. (Above) Sample human faces with unusual jewelry, head costumes and hair

In the case of the African model (top left) the fixation densities appear to focus repeatedly on the earrings as well as parts of the model's necklace, a pattern that is also found for the Egyptian model (top right) where the eyes again fixate noticeably on the model's jewelry and head costume in addition to her facial features. A similar pattern may be observed for the man in Native American costume (bottom left) as well as the teen aged girl with purple hair (bottom right).

Figure 15. Sample cartoon faces with unusual features

Similar observations, however, can not be made when comparing viewing patterns of cartoon faces such as those depicted in Figure 15 above. Irrespective of uncommon features (the Caucasian woman's 'big wavy' hairstyle, the fox's beret, the elongated neck of the giraffe or the antlers on the Moose) visual density patterns appear centered mostly in the eye region.

Further evidence for this observation was also found in the heat maps of various cartoon figures used in this study. Overall, irrespective of the varied shapes and gestures of the cartoon bodies, the primary fixation densities were located on the faces (see Figure 16 below).

Figure 16. Sample aggregate heat maps of four cartoon figures

As was the case with the cartoon figures, there was again an overall pattern of fixations centering mostly in the head area, irrespective of gestures for human figures (see Figure 17 below).

Figure 17. Sample aggregate heat maps of four human figures

Analyses of Test of Free Recall

The mean viewing time for all 150 images was 4.72 ($SD = 0.82$) seconds, this ranged from 2.89 seconds to 6.84 seconds, which suggests a fairly consistent viewing time per image. Strikingly, the average number of recalled images per participant was 13.4 images ($SD = 5.70$). A one way within subjects ANOVA conducted to test for differences in mean number of images recalled by category of image was found to be significant $F(2,18) = 3.61, p < 0.05$. The result of pairwise comparisons using a Bonferroni correction of 0.0167, revealed that significantly more images of objects were recalled ($M = 5.00, SD = 1.89$) than images of cartoons ($M = 3.40, SD = 1.65$), $t(9) = 3.07, p < 0.01$. As seen in Figure 18 below, approximately the same number of images of objects were recalled as images of humans.

Figure 18. Mean number of images recalled per participant during test of free recall

Discussion

The average viewing time for each image was less than five seconds in this study. Considering the phenomenal number of images the average person is exposed to on a daily basis, this finding may not be as surprising as it seems. According to the literature on scene perception, which is arguably more visually complex material than images of objects and characters used in this study, viewers can understand the visual properties of a scene within 100 ms (Potter, 1976; cited in Harper, Michailidou, & Stevens 2009). This ‘gist of a scene’ comprises the perceptual as well as conceptual gist, the former entailing image properties such as colour, texture etc. while the latter involves extracting knowledge of the objects and events in an environment. However, given that participants spent an average of just under five seconds per image, it is surprising that less than 10 percent of images were correctly recalled. It was also not understood why certain images, that would not typically be considered ‘appealing’ to the participant age group in this study and that were not considered to be ‘visually complex’ (such as the tire gauge, or the simple beaded bracelet) had longer viewing times than items that were believed to be more interesting, such as the more exotic style jewelry or the Porsche (both traditionally construed to be ‘high status’ items), making it difficult to predict what kinds of objects will garner longer viewing times. This may draw attention to the importance of spokes-characters, as it may be that incorporating an additional character in an ad may help to maintaining an optimal level of arousal that ensures an ad ‘gets noticed’ irrespective of how long an image of a product is viewed.

As this study did not find any significant differences between how characters and images of common objects are viewed (how many times fixated upon, how long, etc.)

from this results alone, it is difficult to understand why spokes-characters ‘work’ Further, when participants were asked to recall as many images as they could, roughly the same number of images of humans and objects were recalled, while significantly more images of objects were recalled than images of cartoons. Considered together, these findings suggest that it may not something inherent about images of humans or cartoons that attract greater attention than images of typical products.

Notwithstanding, that for many images of figures (whether cartoons or humans) the bulk of the fixations focused on the faces, in cases where something ‘unusual’ was added to a human face (such as jewelry, or unusual head apparatus or costumes) attention was often drawn to these unusual areas. Surprisingly, this was not necessarily the case for images of cartoon faces. These findings may provide some guidance regarding the implications for the creation of spokes-characters, particularly with respect to the role of peripheral cues in the creation of spokes-character narratives. LeBel and Cooke (2008) have speculated that props as well as background variables may play a part in the creation of narratives that affect how spokes-characters are understood and subsequently liked. As was previously noted, in their research examining the role of physical attributes of these characters on perceived personality characteristics, LeBel and Cooke speculate how the Pillsbury Doughboy’s portrayal with children waiting for baked goods to appear may have contributed to the spokes-character being perceived as ‘exciting’, an attribute difficult to explain solely by means of this character’s physical attributes. While background variables were not examined in this research, some evidence was provided in this study that peripheral cues such as interesting hats, hairstyles and jewelry may be a means of capturing visual attention. Doing something as simple as incorporating an

image of a human face with interesting accessories in a visual advertisement may be worthwhile if it results in added interest and attention to a given advertisement.

The lack of significant differences in the viewing patterns of images of faces and full figured cartoons and humans, compared to images of common objects, in conjunction with the finding that significantly more images of objects were recalled than images of cartoons, suggest that there may not be something integrally attention grabbing about spokes-characters that make them more memorable than images of typical products. Indirectly, this might draw attention to the importance of pairing a spokes-character that symbolizes the attributes (emotional or physical) of a product, and the ensuing narratives this might create that contribute to their appeal and effectiveness in successful advertising.

Experiments 2 and 3 of this research will investigate if pairing a spokes-character that is *not related* to a product alters viewing patterns compared to ads that do not feature a spokes-character.

Experiment Two: The Effects of Spokes-Character Presence as a Guide to Viewer Attention

As discussed in the introductory sections of this dissertation, while much of the literature suggests that the effectiveness of spokes-characters may lie in the personal connection they help to instill a bond between a product and potential consumer, it is not clear how much of this relation is dependent on narratives built between the viewer of an ad and spokes-character. Stated differently, it is not yet well understood if the *mere presence* of a spokes-character – one that is unfamiliar to a viewer and does not physically represent any attributes of the product it is associated with – may alter how ads are viewed.

Do spokes-characters need to exhibit product relevant cues to be effective?

We may recall that one purpose of spokes-characters is to convey brand meaning. However many well known and ‘effective’ spokes-characters bear no visible relation to the products they depict. As Garretson and Burton point out:

“A common assumption is that spokes-characters convey relevant attributes about their respective products, which is true in some cases; for example, the Pillsbury Doughboy conveys freshness, and the Snuggle Bear suggests softness. Arguably, however, other characters may appear further removed from their product categories. For example, Tony the Tiger appears to have little connection to the relevant attributes of cereal” (Garretson & Burton, 2005; p. 118)

Perhaps one function of spokes-characters may be to simply motivate viewers to attend to an ad for a longer time (irrespective of the quality of an ad’s argument) by simply capturing and maintaining interest after attention wear out has affected attendance to other aspects of an ad. In other words, it may be that the affective bonds a consumer

creates with a spokes-character is of lesser importance than that it exists as a visual stimulus with visual attributes.

Indeed, there is some evidence from the perceptual literature that our eyes are drawn to 'semantically rich' aspects of an image during the exploratory stage and this component may be related to what is considered to be 'pleasing' and 'interesting' visual information. If this is the case, it may not matter what stories consumers project onto spokes-characters, but simply that *a visual stimulus exists* that is perceived to be interesting enough to attract longer inspection of an ad. With respect to informative aspects of images, Miniard et al. (1991) (cited in Pieters et al. 1996) distinguish between product-relevant and product-irrelevant pictures in advertising¹⁵. In the case of the former, pictures are more likely to be perceived as arguments than as cues, whereas pictures devoid of product relevant information are often perceived as 'cues.' Returning to the example of Tony the Tiger, a spokes-character who arguably bears little connection to the product of cereal, it may be speculated that the types of narratives consumers projected onto Tony the Tiger, may in part explain the effectiveness of his personality as an endorser for the cereal he is so famously known for. However, such narratives are built through time, and in the case of Tony the Tiger, through the medium of television, and through repeated exposure, often far before the character Tony was featured in print. Returning to the first function of a spokes-character, which is to 'convey meaning onto a brand', this opens up an important line of inquiry: if characters that bear no visible relation to products are depicted in ads and shown to viewers before a relationship can be created between a character and the viewer, does the presence of the spokes-character

¹⁵ While there is no a priori reason to expect that well known or 'effective' spokes-characters bear any relation to the product they depict, advertising campaigns may create associations between the two over time.

change the way ads are viewed? As an unfamiliar character, the spokes-character, in such a case as that described above, would exist simply as a visual stimulus, arguably conveying little if any meaning to the depicted product. This is a line of inquiry that forms the impetus for both the current and following experiment.

To summarize, this second experiment had three purposes: first to explore if the presence of spokes-characters altered viewing patterns, second, to examine if the likability of these characters influenced viewing patterns and third, to examine if textual recall of product information was greater in ads where these characters were present.

Three groups of ads were employed. The first group consisted of ads that featured only one product with accompanying text. In the second group a spokes-character was added and in the third group a second version of the product replaced the spokes-character. In consideration of the results of Experiment 1, which suggest that images representative of spokes-characters were not viewed significantly longer than images, representative of typical products, no differences in viewing patterns between spokes-characters and a second, identical version of the featured product in ads were expected. It was predicted that the presence of a spokes-character in an ad would not increase the viewer's inspection time and level of arousal in the ad. It was further hypothesized that textual components of ads with spokes-characters would not be better recalled than ads that did not feature spokes-characters.

To summarize: the question of whether putting an image of a spokes-character in an ad would result in increased dwell time lead to the development of the following hypothesis:

Hypothesis 1: Ads with spokes-characters will be looked at longer than ads with only one product or ads featuring an image of a second product in the place of a spokes-character.

If there is increased dwell time, this should entail better recall of textual components of ads? This lead to the development of the second hypothesis:

Hypothesis 2: Recall of textual components of ads with spokes-characters will be higher than ads without spokes-characters.

With increased dwell time, spokes-character should alter viewing patterns compared to ads that feature a duplicate second product in the place of a spokes-character. This lead to the creation of the third hypothesis:

Hypothesis 3a: Fixation durations will be longer for spokes-characters than those for the second product.

Hypothesis 3b: Pupil dilations will be larger for spokes-characters than those for the second product.

Given the importance of the likability of spokes-characters in fostering consumer engagement (Callcott & Phillips, 1996; LeBel & Cooke, 2008), even with spokes-characters that show no visible relation to depicted products, it was expected:

Hypothesis 4 a): More likable spokes-characters will receive longer fixation durations than disliked spokes-characters.

Hypothesis 4 b): Pupil size will be significantly larger for more likable spokes-characters.

Method

Participants

Twelve participants, comprising nine females and three males, between the ages of 18 and 25 were recruited online through the SONA system, <http://carleton.sona-systems.com>. They were run in individual sessions approximately one hour in length and given one course credit for their participation. After being given the eye-tracking screening questions only participants who fulfilled the eligibility criteria were invited to continue with this study.

Apparatus and Stimuli

In order to maintain ecological validity of the stimuli, established ad formats guided stimuli construction. To this end, 78% of the stimuli ads comprised spokes-characters, products and text that emulated the size and layout of those found in the one hundred most popular ad campaigns of the century (taken from <http://adage.com/century/campaigns.html>). While exact facsimiles of original ads could not be developed realistically, as is shown in the sample ads in Figure 19 care was taken to ensure that stimuli used in this research emulated original ads as closely as possible.

Figure 19. Sample of three original ads with corresponding stimuli ad: Campbell's Soup (top), DeBeers Diamonds (center) and Rolling Stones (bottom).

Assessment of Ecological Validity. In order to examine the ecological validity of the stimuli tested in this research, viewing patterns of a sample of the original ads were compared with viewing patterns of stimuli ads employed in this thesis. As only eight participants viewed the original ads, inferential statistics were not calculated, instead Tables 5 to 7 depict descriptive data for these viewing patterns for the iconic ads depicted in Figure 19 above compared to viewing patterns for the corresponding stimulus ad.

Table 5.

Comparing ads with one product and spokes-character (Campbell's Soup): Original vs. stimulus

Measure	Iconic Ad	Stimulus Ad
First fixation for spokes-character	100%	100%
Percentage of fixations on spokes-character	38%	27%
Percentage of fixations on product	8%	23%
Percentage of fixations on text	54%	50%

Table 6.

Comparing ads with one product (DeBeers Diamonds): Original vs. stimulus

Measure	Iconic Ad	Stimulus Ad
First fixation for product	67%	44%
First fixation for text	33%	56%
Percentage of fixations on products	26%	20%
Percentage of fixations on text	74%	80%

Table 7.

Comparing ads with two products (Rolling Stone): Original vs. stimulus

Measure	Iconic Ad	Stimulus Ad
First fixation for first product	57%	33%
First fixation for second product	0%	0%
First fixation for text	43%	67%
Percentage of fixations on first product	56%	41%
Percentage of fixations on second product	26%	23%
Percentage of fixations on text	18%	36%

As can be seen from the above data, while viewing patterns across iconic and stimuli ads were by no means identical, there are some notable similarities. For example, while approximately half of fixations occurred for text for the Campbell's Soup ad as well as for its facsimile, all first fixations for both versions of this ad occurred for the spokes-character (Table 5). For the DeBeers Diamonds ad, while there is a more equal distribution of first fixations across the text and product components for the stimulus ad

compared to the original version of the ad, the percentage of fixations for products (26% vs. 20%) and percentage of fixations for text (74% vs. 80%) are quite comparable (Table 6). Of the three ads, the Rolling Stones ad appears to have the most discrepancy in viewing patterns between the original and stimulus ad (Table 7). However, it is interesting to note, that for both versions of this ad, the second product did not garner first fixations, and the percentage of fixations on the second product are quite similar (26% vs. 23%) and quite low.

Ads were disqualified if they did not feature at least one spokes-character and one product with at minimum a single line of text. Ads were also disqualified if the spokes-character was portrayed as too much a 'part of the product' for a realistic facsimile of the ad featuring a spokes-character that is unrelated to the product to be created. The remaining ads that were employed as models for the stimuli in this study were found from a 'Google' search for 'iconic ads' (see Appendix H for sample ads). It should be noted, that while it was of interest to create ads that bore some resemblance to ads found in a real-life context, overly complicated ads were also avoided, as eye-tracking researchers have stated that when a visual stimulus is cluttered with many objects and distracters, searching typically becomes more demanding than when a given stimulus is relatively simple (Rayner and Castelhana, 2007). Thus all ads in this and future experiments comprised 'simple' ads with an image(s) of a product, spokes-character and one or two lines of text.

All ads were presented in a slide show format in Microsoft PowerPoint, shown through ClearView (version 2.2) software. A subset of products from Experiment 1 were chosen: after a median split was performed, roughly half (21) of the objects that had the

shortest mean viewing time and roughly half (19) of the objects that had the highest mean viewing time were used in this study. Spokes-characters comprised five human faces, the remaining characters were cartoons, (one animated object, the remaining animal or human characters). Based on the findings from Experiment 1, human figures were not used as spokes-characters in the present study. It was also believed that having more cartoon images would safeguard against ceiling effects for greater attention to human characters given that approximately the same number of human images and objects were recalled in Experiment 1.

Products and spokes-characters varied in size across the different ads, ranging from approximately 4.00" x 4.50" in size. The textual product descriptions comprised one to two lines of text, approximately nine to eleven words in length. The three practice stimuli were identical in nature to the formal stimuli set described above.

The cued test of recall comprised sixty multiple choice questions that assessed recall of textual information presented in the ads. Each question comprised four options. Care was taken to ensure that the questions assessed information that could only be gathered from reading the textual descriptions of the products as opposed to information that participants could 'guess' from inspecting the visual images of the products. For example, questions testing knowledge about furniture products typically assessed recall of whether the product came with a guarantee which is information participants could answer correctly if they had read the ad (versus visual product attributes).

The rating scale was in a Likert-style format where participants rated how much they liked each spokes-character on a scale of 1 (didn't like at all) to 10 (liked very much).

Design

A mixed subjects design was employed where each participant viewed 60 ads, with an equal number of ads in each of the following three versions:

1. Product, text and spokes-character (20 stimuli)
2. Product and text (20 stimuli) and;
3. Product, text and another product in the place of a spokes-character (20 stimuli)

Each participant viewed at least one version of each of twenty spokes-characters in set A (spokes-character coupled with text and product), then twenty more ads with another set of products comprising text and product only (set B) and another set of twenty ads consisting of a different set of products, comprising text and two versions of the same product (set C). When counter balancing for order to ensure that each product received at least one version where it was matched with a given spokes-character, overall, each spokes-character was coupled with each of three different products. In other words 'Product A' was portrayed with text only, in another version with a second version of itself and in a third version with a spokes-character and so forth for twenty different products (see Table 8 below).

Table 8.

<i>Counterbalancing for order of products and spokes-characters</i>		
Product 1 → Product 20 (with a spokes-character in each ad)	Product 1 → Product 20 (with text only in each ad)	Product 1 → Product 20 (with two versions of the same product in each ad)
Product 21 → Product 40 (with text only in each ad)	Product 21 → Product 40 (with two versions of the same product in each ad)	Product 21 → Product 40 (with a spokes-character in each ad)
Product 41 → Product 60 (with two versions of the same product in each ad)	Product 41 → Product 60 (with a spokes-character in each ad)	Product 41 → Product 60 (with text only in each ad)

Participants' fixation and dwell time on various parts of the ads as well as changes in pupil size comprised the dependent variables.

Procedure

As in Experiment 1, upon entering the laboratory participants were given the eye-tracking screening questionnaire to ensure that they met the requirements to participate in a study using eye-tracking technology. After this, they were asked to sit and relax in a comfortable chair after which they were instructed about the nature of the experiment and asked to sign an informed consent form (see Appendix I) while their age and gender was recorded.

The presentation of stimuli was randomized in order to safeguard against recency effects. Participants proceeded to the next stimulus by pressing a computer key when they viewed the stimulus for as long as they wished. As the results of some of the initial pilot testing suggested that participants were prone to superficially scan ads as quickly as they could if they had no motivation to carefully scrutinize them, participants were told that they would be asked to answer some questions about the ads after they had finished viewing them. Participants were instructed as follows:

As was stated in the informed consent, you will be shown a number of ads after which you will be asked a number of questions. You will control the pace of presentation, once you have seen an image long enough you will be asked to use the number keys on the keyboard to proceed to the next image. We will start with five practice images. Once you feel comfortable with the process, you will be shown 60 more images. Do you have any questions?

Before we start the study we will begin with a simple calibration exercise. This is to ensure that the monitor is able to track the position of your eyes accurately. Do you have any questions before we begin? If not, please press any key to begin.

When participants viewed the ads, length and location of gaze as well as number of eye-fixations and changes in pupil size were recorded unobtrusively. After all ads were viewed, half the participants received the cued test of recall (Appendix J) followed by the spokes-character rating scale (Appendix K), the order was reversed for the remaining participants. The researcher administered both the test and the rating scale, to ensure that participants saw each image for the same length of time and did not go back to re-inspect any particular image(s). Upon study completion, participants were debriefed (see Appendix L) and thanked for their participation.

Results

Data Preparation

The present study is the sole experiment in this research that employed pupil size data. Unlike fixation data, Clearview software provides validity codes for pupil gaze data (a measure of the system's certainty that it has recorded the correct data) for each eye with every gaze data point only data that receives a code of '0' (where the system is certain that it has recorded all relevant data for the particular eye, and that there is no risk of confusing left eye data with right eye data by the system). Only viewing data that met a quality threshold were used in this study, thus, data was pre-selected for analysis to ensure a high level of validity.

All data yielding a validity code¹⁶ of '4' defined as 'the system being certain that the actual gaze data is (sic) missing or is definitely incorrect' to a validity code of '1' (Tobii Technology, 2003) were discarded. Table 9 depicts the breakdown of raw output for each validity code¹⁷.

Table 9

<i>Breakdown of proportion of raw data fixations for each type of validity</i>				
Validity 0	Validity 1	Validity 2	Validity 3	Validity 4
4513	34	0	532	209
85%	1%	0	10%	4%

As participants in the current study viewed ads where spokes-characters were incorporated into ad participants' gaze patterns of text as well as images (product and spokes-characters) were quantified using the areas of interest (AOI) analysis. This

¹⁶ Validity codes are only provided for certainty in recording pupil size data. Due to the extremely labour intensive nature of analyzing pupil size data (and alternative ways of assessing mood), validity codes were not calculated in future experiments.

¹⁷ As pupil dilation data were not analyzed in Experiment 3, validity codes did not apply, thus, a breakdown of 'acceptable' data was not calculated for that study.

analysis enables fixation frequency, duration and change in pupil size for gaze positions within different areas of interest to be compared. In this study AOIs for text, products and spokes-characters were grouped together for future statistical calculations. White-space or other parts of an ad where text, products or spokes-characters were not present, were excluded from all analyses. This procedure was followed in the next experiment which also employed AOI analysis.

In this study, the number of fixations ranged from zero to sixty per stimulus yielding an average of 900 fixations per participant, or a total of approximately 11 000 fixations for all twelve participants. A subset of approximately half of these (5900 fixations) were manually coded¹⁸ comprising 'even number recordings' for odd number participants and vice versa.

The mean total viewing time for each ad ranged from 4.86 seconds to 14.75 seconds with an average viewing time of 8.35 seconds per ad. Given that each ad had at minimum two pieces of information (short textual description of the product and an image of the product) to three types of information (the same with either a spokes-character or second version of the product added) this suggests that rather than skimming through these ads, participants may have devoted some time to inspecting each ad they viewed.

In order to test Hypothesis 1, an ANOVA was conducted to test for differences in mean viewing time across the three types of ads. The results suggest that mean viewing time was highest for ads featuring spokes-characters ($M = 8.84$, $SD = 3.30$) followed by ads featuring two products ($M = 8.18$, $SD = 2.69$) and shortest for ads featuring one

¹⁸ Manual coding was necessary to link each fixation duration data with pupil size data as Clearview software does not link this information for the researcher. This procedure is in line with other studies using the Tobi 1750 eye-tracker using the same version of Clearview software as was used in the present study.

product only ($M = 7.81$, $SD = 2.81$) and that these differences were statistically significant, $F(2, 22) = 4.17$, $p < 0.05$. Post hoc pair-wise t-tests revealed that mean viewing time for ads with spokes-characters was not significantly longer than for ads featuring two products $t(11) = 0.95$, $p = 0.36$, nor was viewing time for ads with two products significantly longer than for ads featuring only one product $t(11) = -2.14$, $p = 0.06$. However the third post hoc pair-wise comparison showed that viewing time for ads with spokes-characters was significantly longer than ads which featured only one product $t(11) = 3.47$, $p < 0.01$.

The total number of correctly recalled items, for each of the three conditions, ranged from 47% to 87% suggesting that there was no ceiling effect and that the test required some cognitive effort for participant to perform well. A one-way ANOVA was conducted to test for differences in test scores for stimuli presented in the three different conditions. While the highest score was found for stimuli presented with spokes-characters ($M = 69.58$, $SD = 0.14$), followed by stimuli comprising product and text only ($M = 65.42$, $SD = 0.14$) with the lowest score for stimuli comprising text and two products ($M = 61.00$, $SD = 0.15$) these differences were not statistically significant, $F(2,22) = 1.94$, $p = 0.17$, thus Hypothesis 2 was not supported.

An item analysis enables the quality of a test to be assessed by examination of responses to individual test items. Table 10 presents an item analysis of the test of cued recall using the difficulty statistic, which refers to the proportion of participants who answered each item correctly. The difficulty index is calculated by dividing the number of participants who answered the item correctly by the total number of students taking the

test, thus, the difficulty index ranges from 0.00 (no one answered item correctly) to 1.00

(everyone answered the item correctly).

Table 10

Item analysis of test of cued recall

Question	Product Type Assessed	Difficulty Index
1	Kettle	0.67
2	Mop rest	0.83
3	Paper plates	0.75
4	Tooth brush	0.25
5	Bicycle	0.58
6	Baby pacifier	0.92
7	Curling iron	0.25
8	Basket ball goal post	0.50
9	Sleeping bag	0.50
10	Indoor grill	0.75
11	Slow cooker	0.58
12	Blender	0.75
13	Walker	0.50
14	Refrigerator	0.83
15	Hat	1.00
16	Alphabet rulers	0.92
17	Sunglasses	0.67
18	Blouse	0.42
19	Clock	0.58
20	Trampoline	0.50
21	Toy cookware	1.00
22	Plant	0.50
23	Electric shaver	0.83
24	Inflatable toy turkey	1.00
25	Baby thermometer	0.83
26	Baby crib	0.42
27	Vacuum cleaner	0.83
28	Halloween bag	0.42
29	Baby stroller	0.67
30	Car seat	0.75
31	Iron	0.75
32	Blanket	0.75
33	Espresso maker	0.75
34	Outdoor bathroom unit	1.00
35	Ottoman	0.67
36	Fan	0.58
37	Clipboard	0.50
38	Scrapbook cutter	0.42

Question	Product Type Assessed	Difficulty Index
39	Faucet	0.50
40	Sewing machine	0.25
41	Frog laundry hamper	0.67
42	Traditional laundry hamper	0.50
43	Garden bench	0.50
44	Garden arch	0.75
45	Rug	0.83
46	Stereo	0.42
47	Doll pram	0.58
48	Bracelet	0.83
49	Table	0.67
50	Sewing kit	0.58
51	Lawnmower	0.33
52	Television stand	0.92
53	Xylophone	0.75
54	Outdoor grill	0.83
55	Binoculars	0.75
56	Canoe	0.83
57	GPS	0.67
58	Truck tire	0.42
59	Water filter	0.83
60	Scissors	1.00

The item analysis leads to a number of observations regarding the distribution of incorrect answers in this test. First, it appears that there was little difference in questions for items that participants may or may not have been familiar with: both resulted in a comparable proportion of incorrect responses. For example, it is unlikely that participants from a young adult age group were highly familiar with household furniture, appliances or baby items yet the range of difficulty for questions assessing these items of 0.25 to 0.83 was comparable to the difficulty indices items assessing products such as stereos, sports related products and fashion products and apparel such as clothing, hair care items and sunglasses that ranged from 0.25 to 0.67. Further, a comparable degree of consistency obtained in the difficulty of various questions assessing recall of similar types of products (items 41 and 42 assessed recall of two different laundry hampers with

indices of 0.67 and 0.50 respectively, items 10 and 54 assessed recall of an indoor and outdoor grill with scores of 0.75 and 0.83 as well as items 29 and 47 the former assessing recall of a baby stroller, the second recall of baby pram, with scores of 0.67 and 0.58 respectively) suggests a high level of concurrent validity, which refers to the degree to which a given definition of a construct correlates with other measures of the same construct assessed in the same test. Disparity in the size, font, or borders in text also did not appear to make any difference in recall of textual information.

Viewing Patterns for Presence/Absence of Spokes-Characters on Gazing Behavior

Figure 20. Sample aggregate heat maps of stimuli featuring product and text (far left), product and text with spokes-character (middle) and product, text with second identical product (far right).

As can be seen from the heat maps in Figure 20, a similar pattern for fixation densities appears to occur for spokes-characters compared to a second product in its place. The pattern of viewing text, also does not appear to change irrespective of whether a spokes-character or second product was present in the ad.

It is noteworthy that fixation densities did not noticeably differ in ads comprising two, identical products. As shown in Figure 21 this finding is consistent across a number of different types of products, irrespective of the size and location of the products as well as the size and amount of text in these ads.

Figure 21. Sample aggregate heat maps of fixation distributions for two product ads

Comparing Ads with Products in the Place of Spokes-Characters

Comparing ads depicting products, text and spokes-characters with ads comprising a second (identical) product of the same size and placement of the spokes-character suggests an interesting finding: the replacement of spokes-characters with a second identical image of the product does not visibly alter fixation distributions/densities. This finding is evinced in Figure 22.

Figure 22. (Above) Sample aggregate heat maps for double product and spokes-character product ads

AOIs: An examination of relative fixation times and pupil size on different AOIs across the three conditions

A paired sample t-test conducted to compare fixation durations for spokes-characters ($M = 240.66$, $SD = 65.95$), and those for the second product (in ads where a spokes-character was replaced by an image of second product of the same size and in the same location) ($M = 221.97$, $SD = 50.94$) was found to be non-significant, $t(11) = 1.01$, $p = 0.34$, refuting Hypothesis 3a. A second paired sample t-test conducted to test for differences between pupil size changes for spokes-characters condition ($M = 639.36$, $SD = 86.69$) and those for the second product ($M = 629.00$, $SD = 82.23$) was also found to be not significant, $t(11) = 0.63$, $p = 0.54$ refuting Hypothesis 3b. Considered together, these analyses suggest that replacing a spokes-character with an image of second product in its place does not significantly alter viewing patterns when viewing ads.

Comparison of time taken to first fixate on each AOI defined as 'time elapsed until a specific AOI receives its first visual fixation' (Russell, 2002) enables understanding of what elements are capturing attention first. Figure 23 presents the

breakdown of the frequency, converted into percentages, with which each AOI received the first fixation for ads that featured spokes-characters.

Figure 23. Percentage of initial fixations for each AOI.

While text garnered the greatest number of first fixations ($M = 41.33$, $SD = 17.99$), followed by spokes-characters ($M = 33.42$, $SD = 21.39$) which were most likely to attract attention first than products ($M = 26.08$, $SD = 19.40$) these differences was not statistically significant, $F(2,22) = 1.21$, $p = 0.32$.

First AOI for Long (Conscious) Cognitive Processing

In order to explore if type of first fixation changes if only 'conscious' fixations are considered, the data was re-visited using fixations 200 or longer as the first fixation. Thus the 'first fixation 200 ms or longer' were tallied, while the order of the fixation was noted (see Figure 24). As can be seen from Figure 24, when only conscious fixations were considered, spokes-characters had a lower number of percentage of first fixations than either products or text.

Figure 24. Percentage of initial 'conscious' fixations for each AOI

In order to examine if gazing behaviour for products¹⁹ and text changed as function of ad type, four separate one-way ANOVAs were conducted. An ANOVA that examined differences in fixation duration for products across the three conditions: condition A ($M = 254.53$, $SD = 77.45$), condition B ($M = 244.04$, $SD = 81.62$), and condition C ($M = 226.84$, $SD = 50.69$) was found to be not significant $F(2,22) = 0.89$, $p = 0.43$, as was an ANOVA that tested for differences in pupil size when products were viewed across conditions: condition A ($M = 635.31$, $SD = 93.18$), condition B ($M = 644.94$, $SD = 88.01$), and condition C ($M = 629.23$, $SD = 87.23$), $F(2,22) = 0.50$, $p = 0.62$. The same analyses conducted to test for differences for how text was viewed across the three conditions: condition A ($M = 215.15$, $SD = 46.91$), condition B ($M = 210.82$, $SD = 41.91$), and condition C ($M = 217.46$, $SD = 48.83$) was also found to be not significant for fixation duration $F(2,22) = 0.14$, $p = 0.88$, as well as for pupil size: condition A ($M =$

¹⁹ It may be recalled that condition C comprised 2 products. For these analyses, the first product in Condition C was entered into the analyses (the one that did not replace the place of the spokes-character).

639.77, $SD = 91.33$), condition B ($M = 644.57$, $SD = 88.83$), and condition C ($M = 624.18$, $SD = 85.86$), $F(2,22) = 0.71$, $p = 0.50$.

As it may be that the type of spokes-character employed has a contributing role in how much visual attention it is able to attract. This is will be investigated in further detail in the section to follow.

Spokes-Character Likeability and Level of Arousal (Pupil Size)

Table 11 shows the means and standard deviations for each spokes-character's likeability ratings.

Table 11

Means and standard deviations for each spokes-character's likeability ratings

Spokes-Character	Likeability Rating (Mean)	Likeability Rating (SD)
Anthropomorphized Pencil	6.92	2.11
Cartoon 'Cool Guy'	3.75	2.73
Cartoon Chef	5.67	1.67
Cartoon Asian Teen	4.17	1.34
Cartoon Elderly Lady	5.42	2.81
Cartoon Bearded Man	5.5	2.11
Cartoon Scared Lady	5.5	2.81
Cartoon Tired Man	5.67	2.42
Cartoon Girl	4.50	1.73
Cartoon Man	3.42	1.24
Cartoon Lady in Hجاب	3.58	1.83
Sketch of Woman's Face (black and white)	4.92	2.39
Cartoon Monkey	8.08	1.24
Cartoon Donkey	7.08	1.78
Cartoon Chicken	7.00	1.48
Human Asian Girl	6.75	2.01
Human Gloomy Man	3.83	1.70
Human Smiling Lady	5.75	1.76
Human Angry Lady	4.08	2.84
Human Surprised Boy	6.08	2.94

Differences in viewing behavior for most and least liked spokes-characters

A quartile split, each representing a fourth of the sample, was conducted for the likability ratings. Mean ratings for the most liked spokes-characters (top 25% that scored highest on likability) ranged from 6.75 to 8.08/10 while the least liked (lower 25% that scored lowest on likability) ranged from 3.42 - 4.08/10. The standard deviation ranged from 1.24 to 2.94 suggesting a reasonable degree of consistency for the likability and dislikability of these characters across participants.

Analyses were performed to test for differences in viewing behavior between the most and least liked spokes-characters. Spokes-characters were grouped into two categories, the first group comprising the five most liked spokes-characters and the second group consisting of the five least liked spokes-characters. In order to test Hypothesis 4a a paired samples t-test was then calculated for the number of fixations with 'likeability' constituting the independent variable. The mean number of fixations for the liked spokes-characters ($M = 3.58$, $SD = 2.08$) and the least liked spokes-characters ($M = 3.50$, $SD = 1.92$) was not statistically significant $t(11) = 0.20$, $p = 0.84$ suggesting that participants fixated around the same number of times on spokes-characters that they liked and disliked. In order to test Hypothesis 4b second paired samples t-test was conducted to test for differences in fixation duration between liked ($M = 281.87$, $SD = 129.09$) and disliked ($M = 290.10$, $SD = 100.00$) spokes-characters was also not significant $t(11) = -0.29$, $p = 0.78$ suggesting that participants did not fixate longer on spokes-characters they liked than those they disliked. Finally, another paired samples t-test was performed to test for differences in pupil size between liked and disliked spokes-characters. Contrary to expectations, the mean pupil size for liked spokes-characters ($M = 633.55$, $SD = 33.02$)

was found to be less than the mean pupil size for disliked spokes-characters ($M = 661.92$, $SD = 23.07$), a difference that was statistically significant $t(11) = -2.78$, $p < 0.02$.

Summary

Table 12 summarizes the outcomes of the hypotheses tested in this experiment.

Table 12.

Hypothesis testing results for Experiment 2

Hypothesis Number	Prediction	Result of Analyses
1	Ads with spokes-characters will be looked at longer than ads with only one product or ads featuring an image of a second product in the place of a spokes-character.	Partially supported
2	Recall of textual components of ads with spokes-characters will be higher than ads without spokes-characters.	Not supported
3a	Fixation durations will be longer for spokes-characters than those for the second product.	Not supported
3b	Pupil dilations will be larger for spokes-characters than those for the second product.	Not supported
4a	More likable spokes-characters will receive longer fixation durations than disliked spokes-characters.	Not supported
4b	Pupil size will be significantly larger for more likable spokes-characters.	Not supported

Discussion

The aim of Experiment 2 was threefold: first to explore if the presence of spokes-characters altered viewing patterns, second, to examine if the likability of these characters influenced viewing patterns and third, to examine if textual recall of product information was greater in ads where these characters were present. While spokes-characters were more likely to garner the first fixation compared to products, overall, textual components of ads were the most likely AOI to attract the first fixation. Significant increases in pupil size were found for disliked spokes-characters and spokes-character presence had no significant effect on recall of textual components of ads.

While ads that featured spokes-characters were viewed longer than ads that featured a single product where these characters were not present, a number of findings from this study suggest that the presence of a spokes-character in ads did not appear to noticeably alter viewing patterns compared to ads where a spokes-character was not present. This was observed in aggregate heat map data where ads featuring a second product in the place of a spokes-character had fixation distributions and densities that were strikingly comparable to those that were found in the place of the spokes-character. This finding was robust across various quantitative analyses as well. For example no significant differences were obtained between total mean viewing time of ads with spokes-characters compared to ads where a second product replaced the spokes-character. Further, significant differences were not found for either fixation durations or pupil size changes between spokes-characters and the second product. Taken together, these findings provide little overall support for the function of spokes-characters as means of garnering viewer attention in visual ads.

Perhaps the most surprising finding of this research was significantly larger pupil dilations for disliked compared to liked spokes-characters. While this finding is somewhat consistent with the results of other studies that have found both unpleasant and pleasant visual stimuli to be fixated upon first and looked at longer than neutral stimuli (Nummenmaa, Hyönä & Calvo, 2006) it does not explain *higher arousal* occurring for the disliked characters. In her review of a decade of literature on the relationship between pupil size and positive and negative affect from the 1960s to 1970s, Janisse (1973) found more consistent evidence relating greater dilation to increases in the intensity of stimulation, irrespective of whether responses were positive or negative. As previously stated, pupil size changes may be indicative of changes in either arousal or cognition, but is not necessarily indicative of *preference*. It may be that the pupil size difference is suggestive of differences in interest perhaps due to the different emotional content of these types of images. Indeed, there is evidence to suggest that emotional stimuli are processed differently in the brain than neutral stimuli. For example, using Functional Magnetic Resonance Imaging (fMRI)s and Positron Emission Tomography (PET)s Bradley, Greenwald and Hamm (1993) found more extensive activation in the occipital gyrus when participants viewed emotional stimuli (pleasant or unpleasant) compared to when viewing neutral pictures. In their research, Bradley et al. (1993) presented participants with blocks of pleasant, neutral, or unpleasant pictures for 12-second on and off periods. The researchers concluded from their results that emotional stimuli elicit more complex information processing than non-affective stimuli in those parts of the brain that are responsible for pattern recognition. From the perspective of advertising, it makes sense to create characters that are better recognized than those that

are not. Nummenmaa, Hyönä and Calvo's (2006) review of studies (such as that of Mogg and Bradley 1999, cited in Nummenmaa et al, 2006) employed the dot-probe paradigm which has consistently found shorter reaction times for when participants are asked to press a button as soon as they detect a dot, when the dot is associated with an aversive stimulus compared to a neutral stimulus. However of greater pertinence to explaining the results of the current study are other studies these researchers cite that have consistently found stimuli comprising aversive or threatening faces to be detected faster than faces than are friendly (see Tipples, Atkinson, & Young, 2002 for a review). Nummenmaa et al. (2006) offer the following explanation: given that a major function of attention is to ignore irrelevant and select relevant stimuli in the environment for further scrutiny, it follows that if aversive stimuli comprise a greater threat value, a bias may exist for them.

It may be recalled that the introductory chapters of this dissertation reviewed a number of studies that argued that the effectiveness of spokes-characters may lie in their appeal, specifically in their association with or 'portrayal' of desirable product attributes (Callcott & Phillips, 1996; Kyung, Kwon, & Sung, 2011; LeBel & Cooke, 2008). The finding that disliked spokes-characters may garner greater interest, as assessed through a visceral response such as pupil size dilation, than liked spokes-characters, poses a serious challenge to this body of literature. Again, from the advertiser's perspective, it may be less important whether something is positive or negative, ultimately what may be of greater importance is to produce something captivating, as Heath (2007) reminds us: "[i]t follows that emotional content in advertising represents anything that is capable of stimulating the feelings of the viewer." In an intriguing study where emotional content of advertising messages was strategically manipulated, Heath (2007) found that when real-

time attention to advertisements was correlated with liking, an inverse relationship was obtained, statistically significant at 98.8%. The author explained his findings to suggest that when individuals like advertising they use less cognitive resource to process it, and consequently pay less attention to it.

Another key finding of the current study was the lack of significant differences in recall of textual information about products across the three conditions. Shrestha and Owen's (2009) research may help to provide some context for the interpretability of these findings. It may be recalled that participants in the present research viewed sixty ads with the average viewing time for each ad ranging from five to fifteen seconds with a mean total viewing time of close to eight seconds. In contrast, in Shrestha and Owen's study, where participants browsed a website for forty seconds, less than seven percent of participants were able to correctly recall the presence of an advertisement as well as the name of the site they had viewed immediately after browsing the site. As in the current study, participants in Shrestha and Owen's research were also told that they would be asked general questions about the page content after reading the site. Considered together, the results of Shrestha and Owen's study and the current research draws serious attention regarding 'just how much information is actually remembered?' when participants view ads, even when they are told beforehand that they will be assessed on the recall of what they are about to see? There is some evidence in the present study that participants paid some attention to the ads they viewed, given (1) heat map data that textual components were fixated upon, (2) the average viewing time for each ad was eight seconds and that (3) approximately fifty percent of fixations and time spent on

fixations was devoted to textual components compared to the remainder of time shared between products and spokes-characters.

When considering the finding that no significant differences were obtained across the three conditions in textual recall of product information it is noteworthy that the presence of an additional image (either spokes-character or a second, identical image of the product) did not enhance recall of textual information about the product. During the past three decades, scholars have postulated that the presence of a dominant image in a print ad can alter a consumer's cognitive activity while viewing the ad. However, a critical moderating factor may have been the relevancy of information cues present in pictorial information. Lutz and Lutz's (1977) study (cited in Edell & Staelin, 1983) examined brand recall of Yellow Page advertisements that had either one of two types of pictures: interactive (integrating the brand name and the product class in the picture) or non-interactive (depicting the brand name or product separately from the written form). The findings of their research suggests that recall of brand name was facilitated only by the interactive picture; from this, it was concluded that the integration of relevant information into a single image increased the recall of the corresponding item when given the cue. Given that neither spokes-characters or images of the product provided additional cues regarding the textual information provided about the product in the current research, Lutz and Lutz' findings suggest that it may have been a lack of information integration in the images that accounts for the lack of increased textual recall in the present study.

It should be noted that this study examined viewing patterns of spokes-characters during first exposure; this may help to explain contradictory findings which suggest that

on the one hand, viewers were inclined to pause longer to view ads with spokes-characters while on the other hand, they did not recall products better when these characters were present in ads. Considered together, these results might suggest that one key to the effectiveness of spokes-characters, is their ability to engage audiences over time.

While attitude and performance data were also collected, eye tracking technology was the principal method of data gathering in this study. Eye fixations and pupil size changes may each be perceived as an 'information acquisition response' (Russo, 1978). However, it remains unclear as to what types of cognitive processes are associated with them. As pointed out by Russo (1978) cognitive processing in the realm of consumer decision making comprises two types of activity: the acquisition of information as well as the internal strategies that inform a purchasing decision to be made. It is noteworthy that in Experiment 2, participants were instructed not to make any decisions about the stimuli they viewed, which may raise some concerns regarding the ecological validity of the findings. While it is not the goal of this research to examine decision making in-depth, given that this dissertation aims to understand the role of spokes-characters in visual advertising, it is of importance to gain some understanding of how these characters may or may not inform consumer decision making, specifically choices about purchasing decisions in ads where their presence is strategically manipulated. This is the aim of Experiment 3.

Irrespective of how the presence of spokes-characters may alter viewing patterns in visual advertising, the presence of these characters did not result in greater recall of textual information about the products in this study. This raises questions regarding the

merit of including spokes-characters in print advertising: if they do not reduce information processing effort by potentially increasing the connections amongst items in associative memory by, for example, attracting and/or holding consumers' attention when viewing an ad, what is their purpose? Does their presence influence product choice, irrespective of whether or not they enhance memorability of the textual components of an ad? This question will be investigated in Experiment 3.

Experiment Three: The Effects of Spokes-Character Presence on Viewing Patterns During Purchasing Decisions

Experiment 2 investigated if the presence of a spokes-character alters viewing patterns and recall of textual components of an ad. One drawback of this study, however, was the lack of a real life context; that is, the results of this study might have limited generalizability to how consumers actually view real life ads.

One way to investigate how consumers typically view ads is to study viewing patterns when participants are required to make a purchasing decision, which was done in the current study. Even recently, researchers have stated that while spokes-characters have been found to facilitate attention to and recognition of an ad, as well as influence positive attitudes toward a product, the relation between spokes-characters and product choice remains uncertain (Neeley & Schumann, 2004). Research has, however, identified product attributes to be major decision variables that influence both product evaluations and purchase behaviors of potential customers (Chang & Wildt, 1994). Accordingly, in order to further replicate a real life purchasing decision, it was believed that participants should be given product attributes, the number of which would be controlled, in two experimental conditions, in order to encourage some level of rational decision making.

Researchers have found that during encoding, factors that enhance attention to stimuli and encourage greater elaboration of stimulus elements (otherwise known as 'deeper processing') are known to enhance subsequent recall of this information (Craig & Lockhart 1972, cited in Biehal & Chakravarti, 1983). It is easy to visualize a scenario whereby a consumer may use information about product attributes to guide decision making. As Biehal and Chakravarti (1983) note: "product information may be acquired and stored in memory while buying products in a store, while forming evaluative

judgments of a set of brands in a product category based on information in *Consumer Reports*, or while watching television commercials” (Biehal & Chakravarti, 1983; p. 2). Thus, in addition to investigating if making a purchasing decision influences how ads -- with or without a spokes-character- are viewed, another goal of Experiment 3 was to investigate if the number of product attributes participants are given to attend to (through a fictitious shopping list) influence how these ads are viewed. Given that repeated inspections are expected during elaborate information processing, it was expected that a larger number of fixations that are of greater duration will be found for textual components of ads when participants are given a wish list to study than in the control condition where participants view ads without any guidance. Conversely, when participants view ads without being guided by a shopping list, it is expected that spokes-characters will garner a larger proportion of fixations that are of greater duration given that participants do not have to store information about product attributes in working memory.

Another limitation of Experiment 2 is that while extensive data on viewing patterns were obtained, the findings did not provide much insight into possible affective explanations of the effectiveness of spokes-characters. Perhaps ads with spokes-characters were viewed longer because they make viewers ‘feel better’. Motivated in part by the results of Experiment 2, as well as extensive literature on the importance of mood as a motivator for making purchasing decisions, (Batra & Holbrook, 1990; Kim, Lee and Choi, 2003; Ogilvy & Raphaelson, 1982; Park 2003) Experiment 3 also aimed to investigate the potential affective components of these characters in greater depth. It should be noted that the spokes-characters in the present study, as in Experiment 2, did

not incorporate product relevant cues. In consideration of this, it is of interest to examine what role, if any, affective components of characters that are not visibly related to the product play in influencing preferences for ads in which they are present.

It was hypothesized that participants will give greater attention to textual components of ads when they are required to make a purchasing decision that requires recall of product attributes compared to when ads are viewed under unguided (free viewing) conditions. It was also expected that dwell time on textual components will increase in the conditions where participants had to retain a number of product attributes in short term memory as a guide to their purchasing choices. In addition to eye tracking measures, this study employed free tests of recall for both spokes-character attributes as well as for product attributes as additional measures to assess how well spokes-characters and product attributes are being stored in short term memory after participants have performed their tasks. Given the task of memorizing a wish list that will guide the tasks in the experimental conditions, recall of product attributes (from textual descriptions) were expected to be higher than in the free viewing condition. Conversely, as cognitive load was expected to be lower in the free viewing condition, it was expected that participants in this condition will recall a higher number of spokes-characters given that they will be less distracted by the wish list when viewing the ads.

To summarize, if increased central route processing takes place with increased number of product attributes to consider, it is ideally expected that more time will be devoted towards viewing textual components of ads as a function of the number of product attributes participants are given to consider. From this, the following hypotheses were developed:

Hypothesis 1: Due to greater cognitive load in the search conditions where progressively larger amounts of product attributes need to be remembered and then matched with textual components of ads that are viewed, ads in these conditions will be viewed longer than ads in the free viewing condition.

Hypothesis 2: Fixation duration will be longer for the 2 attributes condition, than the 1 attributes condition which in turn will be longer than the free viewing condition.

Hypothesis 3: Percentage of fixations for text will be higher for the two guided conditions, than the free viewing condition.

Hypothesis 4a: A higher percentage of text will comprise the first fixation for the two guided conditions, than the free viewing condition.

Hypothesis 4b: A higher percentage of spokes-characters will comprise the first fixation for the free viewing condition compared to the two guided conditions.

With respect to tests of free recall, the following hypotheses were developed:

Hypothesis 5: More product attributes will be recalled in the guided conditions than the free viewing condition.

Hypothesis 6: More spokes-characters will be recalled in the free viewing condition than either of the guided conditions.

Finally, regarding the role of spokes-character in influencing affect, it was not clear from the results of Experiment 2 *why* ads with spokes-characters were looked at significantly longer than ads without them given they did not provide product relevant cues. Given that affective responses, such as the mood evoked by an advertisement are believed to constitute an important component of 'ad effectiveness' it was expected that ads with spokes-characters will score higher on positive affect and lower on negative affect than ads without these characters. Thus the following hypotheses were developed regarding expected on ratings from a mood scale that will be scored upon viewing each type of ad..

Hypothesis 7a: Overall, ads with spokes-characters will score higher on positive affect than ads without spokes-characters.

Hypothesis 7b: The per ad mean for positive affect will be higher for ads with spokes-characters

Hypothesis 8a: Overall, ads with spokes-characters will score lower on negative affect than ads without spokes-characters.

Hypothesis 8b: The per ad mean for negative affect will be lower for ads with spokes-characters

Method

Participants

Thirty-one participants, comprising twenty-one females and ten males between the ages of 18 and 45, were recruited through the online SONA system as well as through personal contacts. Data for one participant, who wore contact lenses, had to be excluded as reliable eye fixation recordings could not be gathered even after multiple attempts when the participant wore and eventually removed her corrective vision aid.

Stimuli and Materials

The stimuli set comprised forty ads. Two versions of each ad featured each of these twenty products: two versions of the ad for each product were identical except that one ad listed three product attributes one of which is the one that is 'sought' while the other featured three product attributes that did not feature the 'sought' attribute. Participants were asked to view ads which featured twenty different products, half of which comprised a product and textual description, while the other half featured a spokes-character (that had nothing to do with the product) in addition to the product and textual description. To control for the possible confound of participants quickly skimming for whether or not a given ad possess the desired attributes and then dismissing the second ad without properly viewing it, participants were asked to chose from one of four options: the first ad, the second ad, neither or both.

The Positive and Negative Affect Schedule (PANAS) was used in this study to assess mood upon viewing each ad. The PANAS developed by Watson et al. (1988) was originally derived from a principal components analysis of Zevon and Tellegen's (1982)

mood checklist originally tested on undergraduate students, and later validated on adult populations. The scale comprises two 10-item mood scales, one based on positive affect, the other measuring negative affect. Each item is rated on the following 5-point scale: 1 'very slightly or not at all', 2 'a little', 3 'moderately', 4 'quite a bit' and 5 'very much.' Studies in the advertising literature have found that both positive and negative affect, as assessed by the PANAS, are related to both product and service satisfaction as well as post-purchase behaviours (Mano & Oliver, 1993; Dube & Morgan, 1998; cited in Huang, 2001). The 'Mother's wish list' described the products participants would be shown in terms of the attribute (one) or attributes (two) they would use as criteria upon which to make their purchasing decisions. Both tests of recall (for product attributes and spokes-characters) were free tests of recall, thus, no prompts were given, and participants were allowed to recall both spokes-characters and product attributes in any order they chose.

Design

A 2 x 3 mixed-subjects design, with ten participants per condition was employed with the following independent variables: presence/absence of spokes-character (two levels) and purchasing decision (two conditions where participants were required to choose a product based on the wish list, hereafter²⁰ 2 attributes-guided and 1 attributes-guided, and a control group where no wish list guided their choice, hereafter 'free viewing condition'). Purchasing decision and number of product attributes were between subject variables, while presence of spokes-character was treated as a within-subjects variable (two levels, with or without).

²⁰ In certain cases, for the sake of clarity the three groups are also referred to as the 'two attributes conditions' (i.e. the two experimental conditions) versus the unguided or free viewing condition in various sections of this document.

Procedure

As in the previous experiments, participants were given the eye-tracking screening questionnaire to ensure that they met the requirements to participate in a study using eye-tracking technology. After this, they were asked to sit and relax in a comfortable chair after which they were instructed about the nature of the experiment and asked to sign an informed consent form (see Appendix M) during which time their age and gender was recorded.

In the control condition participants were instructed to view the ads as if they would view them in real life, and asked if they would choose a product based on these ads. More specifically, participants were asked to choose a product from two ads depicting the same product. The two ads were identical, except one comprised a spokes-character while the other did not. Order of ads with correct and incorrect product attributes as well as number of ads with and without spokes-character were counter balanced to safeguard against order effects. To safeguard against a forced choice condition where participants did not like either ad, or liked both equally, participants were given four options: the first or second ad, neither or both. Each ad was presented by itself, while participants were allowed to view each ad for as long as they liked, they were not allowed to return to the ad they had just seen to re-view it again. After choosing, they were asked to describe why they would purchase a product from the ad they had chosen. In the experimental conditions, participants were told that they would be asked to make a purchasing decision based on a 'gift giving' scenario for their mother. This entailed reading a wish list (see Appendix N) that listed twenty products that they are asked to

buy; in the first condition, this list comprised one product attribute per product, in the second condition two attributes were listed per product. Participants were instructed to study this wish list for as long as they liked while the time they took to do so was recorded. As in the control condition, the two ads were identical, except one comprised a spokes-character while the other did not, as well, one ad presented all the correct product attributes while the other did not. Participants were asked to choose between these two ads, with the same four options (ad 1, ad 2, neither or both), after which the number of correct and incorrect responses were recorded.

After participants finished viewing all ads, they were given two tests of free recall; in the first, participants were asked to recall the product attribute listed in the wish list for each of the twenty products they viewed (see Appendix O), in the second, they were asked to describe each of the spokes-characters they had just seen and encouraged to list any memorable physical attributes of these characters (see Appendix P). These verbal tests of memory for visual images was scored as follows: correct responses comprised the correct name of the spokes-character (in the case of animals, the name of the animal) or a description (in the case of humans) of the spokes-character. A reasonable facsimile also qualified as a correct answer (for example, in the case of the donkey spokes-character if a participant was able to describe a 'horse-like character' irrespective of whether the details of the character's gestures were recalled qualified as a correct response). To control for order effects, half the participants received the test of recall for products first, and the test of recall for spokes-characters second, for the remaining participants, this order was reversed. Participants in all three conditions completed the PANAS mood scale (see Appendix Q) to assess how their mood after viewing each ad.

The twenty item mood scale was administered at the end of each of the forty ads (twenty ads with spokes-characters with its identical version without the spokes-character). To control for order effects, the order of ads with or without spokes-characters was randomized. After participants completed the study they were subsequently debriefed (see Appendix R) and thanked for their time.

Results

The overall purpose of this study was to examine if viewing patterns changed when participants were asked to choose a product from ads based on criteria described in a shopping list (the 2 and 1 attributes conditions, or the ‘guided conditions’) compared to when participants viewed ads with no such instructions (0 attributes condition or the ‘free viewing condition’²¹). This study also assessed differences in recall and mood between these three conditions. In this study 8955 fixations were analyzed.

Average Viewing Time

In order to examine if mean viewing time differed across the three conditions, a mixed subjects ANOVA was conducted to test for differences in mean viewing time for ads where spokes-characters were either present or absent between the three conditions (2, 1 or 0 attributes). Figure 25 plots the means dwell times across conditions for this data.

²¹ To avoid confusion, ideally the terms ‘guided condition’ and ‘free viewing condition’ will be used hereafter. However in cases where specific reference is made to one of the guided conditions, the term ‘2 attributes’ or ‘1 attributes’ may be used to differentiate between these two experimental conditions.

Figure 25. Mean dwell times per ad across conditions

The interaction between condition and presence/absence of spokes-character was not found to be significant, $F(2, 27) = 1.54, p = 0.23$, nor was the main effect of presence/absence of spokes-character $F(1, 27) = 3.97, p = 0.06$ or the main effect for condition, $F(2, 27) = 1.65, p = 0.21$.

Considered together, these analyses show that condition does not appear to make a difference in time spent viewing ads with or without spokes-characters when the two attributes and free viewing condition are compared.

Fixation Durations across Three Conditions

A mixed subjects ANOVA²² with three levels of the between subjects variable (2, 1 and 0) and three levels of the within subjects variable (fixation duration for each of the

²² In this and in all future analyses where the three AOIs (spokes-character, product and text) are compared across conditions, the design of the test changes such that only stimuli including spokes-characters are included. This is in contrast to the previous ANOVA where total dwell time between ads with and without spokes-characters were compared.

3 AOIs) conducted to test Hypothesis 2. Mean fixation duration across conditions is plotted in Figure 26.

Figure 26. Mean fixation duration per ad across conditions

The interaction between condition and fixation duration for each AOI was not found to be significant, $F(4, 27) = 0.29, p = 0.88$, nor was the main effect for fixation duration for each AOI, $F(2, 27) = 1.74, p = 0.19$, or condition $F(2,27) = 3.17, p = 0.06$. These findings suggest that condition (number of attributes) did not significantly alter fixation durations for any of the AOIs.

Percentage of Fixations across the Three Conditions

Figure 27 shows the mean percentage of fixations per ad across conditions.

Figure 27. Mean percentage of fixations per ad across conditions

A mixed subjects ANOVA with three levels of the between subjects variable (2, 1 and 0) and three levels of the within subjects variable (percentage of fixations for each of the 3 AOIs) was conducted to test Hypothesis 3 and was found to be highly significant for the interaction between percentage of fixations for each AOI and condition, $F(4,54) = 10.88, p < 0.01$. Due to the significant interaction, tests of simple main effects were conducted. In the first set of analyses, type of AOI was held constant, while three separate one-way ANOVAs were performed for each attribute. When the AOI was held for spokes-characters, the ANOVA was significant $F(2,27) = 11.02, p < 0.01$. Post hoc tests were then conducted and it was found that percentage of fixations for spokes-characters were significantly higher for the 2 attributes condition ($M = 28.10, SD = 14.18$) compared to the 1 attributes condition ($M = 12.70, SD = 3.02$) as well as compared to the 0 attributes condition ($M = 11.80, SD = 4.29$). When the AOI was held for product,

the ANOVA was found to be non-significant $F(2, 27) = 3.02, p = 0.07$. When the AOI was held for text, the ANOVA was significant, $F(2, 27) = 13.11, p < 0.01$. Post hoc tests were then conducted and it was found that there was a significantly lower percentage of fixations for text in the 2 attributes condition ($M = 53.30, SD = 16.77$) than either the 1 attributes ($M = 74.80, SD = 5.31$) or 0 attributes conditions ($M = 74.30, SD = 5.93$).

In the second set of analyses, the factor of condition was held at the three different values and one-way ANOVAs were conducted on the factor AOI. All main effects were significant: $F(2, 18) = 11.38, p < 0.01$, (2 attributes condition), $F(2, 18) = 532.17, p < 0.01$, (1 attributes condition), $F(2, 18) = 413.35, p < 0.01$, (0 attributes condition). Post hoc pairwise t-tests conducted to test for differences between percentage of fixations for spokes-characters compared to either products or text were significant for the 1 attributes condition as well as the 0 attributes condition. For the 1 attributes condition, the following result was obtained: $t(9) = -24.66, p < 0.01$, suggesting the percentage of fixations for text ($M = 74.80, SD = 5.31$) was significantly higher than the percentage of fixations for spokes-characters ($M = 12.70, SD = 3.34$) in this condition. For the 0 attributes condition it was found that $t(9) = -23.39, p < 0.01$, again suggesting that the percentage of fixations for text ($M = 74.30, SD = 5.93$) was significantly higher than the percentage of fixations for spokes-characters ($M = 11.80, SD = 4.29$) in this condition.

Given the highly significant differences between percentage of fixations for text and spokes-characters, it was of interest to explore the breakdown of conscious and preconscious fixations between the AOIs between each of the conditions. These are depicted in Figures 28 and 29 below.

Figure 28. Percentage of preconscious fixations for each AOI between conditions

Figure 29. Percentage of conscious fixations for each AOI between conditions

The most noticeable difference when comparing Figures 28 and 29 is the lower percentage of conscious fixations for text in the 2 attributes condition compared to the other conditions, suggesting the possibility that text may have been skimmed in this condition for relevant information.

First Fixation by Type of AOI

As was done in the previous studies, it was of interest to determine which AOI was first fixated upon in ads that featured spokes-characters. Figure 30 depicts which

AOI was first fixated upon across the three conditions. While it is not clear why more first fixations occurred for text for the one attributes condition, from this graph, it appears that spokes-characters received more first fixations in the free viewing (0 attributes) condition than either of the attributes conditions.

Figure 30. Percentage of each AOI occurring as a first fixation across the three conditions

In order to test Hypothesis 4, a mixed subjects ANOVA was conducted with three levels of the between subject condition (each of the three conditions) and three levels of the within subjects condition (percentage of first fixation for each of the three AOIs). Figure 31 presents the means number of first fixations across conditions. and standard deviations for this analysis.

Figure 31. Mean number of first fixations across conditions

This ANOVA was found to be significant for the main effect of percentage of first fixation for each AOI, $F(2, 54) = 6.76, p < 0.00$, although not significant for the interaction between condition and percentage of first fixation AOI, $F(4, 54) = 1.46, p = 0.23$.

Recalling Ad Attributes

In the first test, participants were asked to list the product attributes from their mother's wish list, no prompts were given. The mean time to inspect and study the wish list was approximately 2.3 seconds for the one attribute condition and 3.7 seconds for the two attributes condition. The sections to follow report analyses conducted on both of these tests of free recall.

In order to test Hypothesis 5, a one-way between subjects ANOVA was conducted to test for differences in number of product attributes recalled across the three conditions and was found to be significant, $F(2, 27) = 3.46, p < 0.05$. A post hoc Tukey HSD test revealed that significantly more product attributes were correctly recalled in the

two attributes condition ($M = 27.75$, $SD = 12.58$) than in the free viewing condition ($M = 15.56$, $SD = 10.10$)

In the second test, participants were asked to list as many spokes-characters as they could; again no prompts were given. Thus in order to test Hypothesis 6 another one-way between subjects ANOVAs was conducted to test for differences in number of spokes-characters recalled across the three conditions and was found to be significant $F(2, 27) = 31.12$, $p < 0.00$. A post hoc Tukey HSD test revealed that significantly more spokes-characters were correctly recalled in the free viewing condition ($M = 7.20$, $SD = 0.92$) than in either the two attributes ($M = 2.70$, $SD = 1.64$) or one attribute condition ($M = 3.30$, $SD = 1.49$). Interestingly, of the spokes-characters recalled in the free viewing condition, none were recalled incorrectly, however in the two attributes condition three participants incorrectly described a particular spokes-character wearing the product (sunglasses) when he was not doing so in the ad.

Table 13 shows the percentage of each spokes-character recalled across the three conditions. Consistent with the findings of Experiment 2, the three most recalled spokes-characters, across conditions were of human images.

Table 13

Percentage of spokes-characters recalled by condition

Spokes-Character	Guided Condition (2 attributes)	Guided Condition (1 attribute)	Unguided Condition	Mean Recall Across Conditions
Anthropomorphized Pencil	20	20	40	27
Cartoon 'Cool Guy'	20	20	100	47
Cartoon Man	0	10	40	17
Cartoon Lady in Hajab	20	30	70	40
Cartoon Monkey	20	50	60	43
Cartoon Donkey	10	30	80	40
Cartoon Chicken	20	10	60	30
Human Asian Girl	40	30	100	57
Human Gloomy Man	70	90	70	77
Human Angry Lady	50	50	80	60

Reasons for Avoiding or Preferring Ads with Spokes-Characters

It should be made clear that the 'no attributes' condition was originally designed to be a control group for this experiment, enabling eye fixation data to be recorded when participants made product choice decisions in a 'free viewing' context that replicates how certain consumers may view ads in the real world (i.e., without guidance)²³. However, as it was believed that a number of the comments provided by participants for favouring or avoiding ads with spokes-characters would provide insight into decision making strategies, these are analyzed and discussed in further detail.

Strikingly, after viewing and making purchase-based decisions on forty ads, 90.5% of these preferences were based on reasons that were unrelated to product attributes. Of further note, fifty percent of participants whose decisions were not based on

²³ A secondary aim of providing these instructions was to prevent participants skipping through ads too quickly to reasonably process them in order to complete the study as fast as possible, which is something that had occurred during pilot testing.

the semantic content of the ads, expressed surprise at noticing that the ads (two for each of 20 products) described different product attributes, when debriefed after the study was over.

Contrary to expectations, only 34% of ads were favoured because of their spokes-characters²⁴. Of these, 85% were preferred because they were interpreted as being related to the product, 11% for their affective content. It was observed that a number of participants were willing to overlook a character being unrelated to a product, and express preference for it, if the affective component was appealing, for example: “though not related, the monkey was super happy, [it] drew my attention and [I] wanted to be happy like the monkey by having this product” (P3) “the donkey didn’t go with the hat but he could have easily been a cartoon animal and he enjoyed like he was enjoying playing with the hat” (P4) and “I like chickens. Whenever I see a chicken I laugh, even though it had nothing to do with the product” (P6). In other cases, positive affective components of spokes-characters over-rode less appealing product attributes for example: “despite the other ad featuring more speeds, the character in this ad gave a ‘party’ feeling to the product” (P1) and “even though the other one had more pumps, this one had an Italian mother figure who looked like she enjoyed the product” (P9). In other situations, the irritating quality of a spokes-character over-rode more attractive product features “even though the first ad with the character had more features (14 speeds) having the donkey irritated me, so I’d actually go with the one featuring 10 speeds (P6). Table 14 presents a sample of reasons for favouring or avoiding ads due to spokes-characters.

²⁴ Here ads which featured spokes-characters but were favoured due to textual components and no mention is made of the actual spokes-character are excluded from this analysis.

Table 14

Sample reasons for favouring or avoiding ads with spokes-characters

Reasons for Favouring	Reasons for Avoiding
"Because had a little girl and reminds me that when I was a child I liked that kind of thing" (P1 ²⁵)	"Didn't like the cartoon, made me feel foolish." (P2)
"Liked the kid who reminded me of my niece, I think she would like this item." (P2)	"More interesting without the cartoon. The cartoon makes me feel suspicious." (P2)
"Because of the animated guy, because it looked 'cartoony' and makes the product more accessible" (P4)	"The extra image was distracting." (P3)
"Because the figure would use the blanket and because you know the person is smiling so this must mean it [the blanket] is warm." (P5)	"The character didn't match a child's product" (P4)
"Liked the picture in context of the product, the cool guy. Cleaning is something that is a chore, so fun imagery suggests it can actually be fun." (P5)	"Because I didn't see the connection, it seemed that the picture of the child was there just to get attention." (P5)
"If the character is happy the product must be easy and less work to use." (P5)	"The figure detracted from the feeling of the product which is luxurious. Having a silly character like a cartoon devalued the product." (P5)
"Liked the cartoon boy with a friendly face suggests you will be O.K. with the product, though I don't know what the product was" (P7)	"Because it's a kitchen appliance, a funny cartoon didn't belong." (P5)
"Because strollers are for babies, and the monkey looked really excited. If the monkey is happy, makes you feel like your child will like it too." (P9)	"The guy dominated the ad, didn't know if the guy or the product (blender) could crush ice, need to know in order to trust the product." (P7)
"The person seemed excited about the product, pointed to the product, and it seems like the product must be a good one because the person looked so happy." (P9)	"Because the guy was not wearing the sunglasses. This made me suspicious." (P7)
"Even though the picture of the monkey was too big, because the product was a sleeping bag, it related to the outdoors, fun with friends etc. and the cartoon fitted with fun times." (P9)	"The chicken was strange because it had nothing to do with the product, so I'm wondering if I buy it, will other think me I'm goofy and strange as well?" (P9)

²⁵ This was a male participant.

The Influence of Spokes-Characters on Mood Upon Viewing Ads

In order to test Hypothesis 7a, a paired sample t-test was conducted between the number of positive affect items scored for ads with spokes-characters and compared to the number of positive affect items scored for identical versions of these ads without spokes-characters. This analysis was not found to be significant, $t(9) = 2.15, p = 0.06$ suggesting that ads with spokes-characters did not score significantly higher on positive affect than ads without spokes-characters. Support for Hypothesis 7b was found from a second paired sample t-test that was significant, $t(9) = 4.05, p < 0.04$, showing that the per ad mean for positive affect was higher for ads with spokes-characters ($M = 3.60, SD = 2.92$) than ads without them ($M = 2.86, SD = 2.76$).

A second paired sample t-test was performed to test Hypothesis 8a, that is to test differences between the number of negative affect items scored for ads with spokes-characters and compared to the number of positive affective items scored for identical versions of these ads without spokes-characters. This analysis was not found to be significant, $t(9) = 2.15, p = 0.07$ suggesting that ads with spokes-characters did not score significantly higher on negative affect than ads without spokes-characters. A second paired sample t-test conducted to test Hypothesis 8b was also not found to be significant $t(9) 0.16, p = 0.56$, showing no difference in the per ad mean for negative affect for ads with or without spokes-characters.

Viewing patterns across the three conditions

At this stage, it was believed that examining sample heat maps of how spokes-characters, products and text were viewed across the three conditions might provide valuable insight in explaining the results of this third experiment.

Figure 32 depicts heat maps in which aggregate viewing patterns for three sample ads depicting liked spokes-characters for each of these three conditions are shown. Figure 33 depicts the same, for ads featuring disliked spokes-characters.

Figure 32. Sample aggregate heat maps of ads with liked spokes-characters across conditions, located as follows: ads from the two attributes condition (ads on the far left), one attribute condition (centrally located ads) and the no attributes condition (ads on the far right).

Figure 33. Sample aggregate heat maps of ads with featuring disliked spokes-characters across conditions, located as follows: ads from the two attributes condition (ads on the far left), one attribute condition (centrally located ads) and the no attributes condition (ads on the far right).

An intriguing observation when comparing ads across conditions is that irrespective of whether a spokes-character was liked or disliked, *spokes-characters received noticeably higher fixation densities* in the free viewing condition than either of the two attributes conditions. Two examples of this where the differences are particularly noticeable are the ads for the monkey and chicken (top and bottom ads respectively, Figure 32) (arguably the chicken goes almost unnoticed in the two attributes condition) and the ad featuring the man in the pink shirt (bottom ad, Figure 33). Considered together, these heat maps may help to explain why a significantly higher number of spokes-characters were recalled in the free viewing condition than either of the attribute

conditions, where participants chose between ads based on criteria described in the Mother's wish list.

In addition to the noticeable differences in how spokes-characters may have been viewed across conditions, further inspection of these heat maps may also help to explain why so few significant differences were obtained in how spokes-characters were viewed across conditions when compared to viewing patterns for product and text. In contrast to the striking consistency in how spokes-characters were viewed across conditions, there appears to be more variability in how products and text were viewed across these same conditions. For example, while there appears to be little difference in fixation densities for the products in the ad for the grill (bottom ad, Figure 32) or the blanket (middle ad, Figure 33) products appear to be briefly skimmed over in the stencils ad in the 2 attributes condition (middle ad, Figure 32) as well as in the ad for the sunglasses (bottom ad, Figure 33), and barely noticed in either the 2 or 1 attributes condition in the ad for the clock (top ad, Figure 33). The same lack of consistency may be observed for textual components of these ads. For example, while the text appears to go almost unnoticed in the free viewing condition in the sunglasses ad (bottom ad, Figure 33) roughly similar fixation densities are found for textual components for all the remaining ads with the exception of the ad for the clock (top ad, Figure 33), where fixation densities for text appear highest in the free viewing condition. It is also noteworthy, that on the whole, with the exception of the ad for sunglasses (bottom ad, Figure 33), fixations in the heat maps in the free viewing condition appear more scattered than in the more guided conditions, possibly suggestive of more exploratory searching patterns than in the guided conditions.

Summary

Table 15 summarizes the outcomes of the hypotheses tested in this experiment.

Table 15

Hypothesis testing results for Experiment 3

Hypothesis Number	Prediction	Result of Analyses
1	Mean viewing time will be longer in the two guided conditions than in the free viewing condition.	Not supported
2	Fixation duration will be longer in the two guided conditions than in the free viewing condition.	Not Supported
3	Percentage of fixations for text will be higher for the two guided conditions, than the free viewing condition.	Not supported
4a	A higher percentage of text will comprise the first fixation for the two guided conditions, than the free viewing condition.	Not supported
4b	A higher percentage of spokes-characters will comprise the first fixation for the free viewing condition compared to the two guided conditions.	Not supported
5	More product attributes will be recalled in the 2 attributes condition than in the 1 attributes condition which in turn will be higher than the 0 attributes condition.	Supported
6	More spokes-characters will be recalled in the free viewing condition than either of the attributes conditions.	Supported
7a	Overall, ads with spokes-characters will score higher on positive affect than ads without spokes-characters.	Not supported
7b	The per ad mean for positive affect will be higher for ads with spokes-characters	Supported
8a	Overall, ads with spokes-characters will score lower on negative affect than ads without spokes-characters.	Not supported
8b	The per ad mean for negative affect will be lower for ads with spokes-characters	Not supported

Discussion

Overall, the findings from Experiment 2 suggested that incorporating a spokes-character in an ad did not significantly alter viewing patterns compared to ads which had a duplicate product in the place of the spokes-character. Experiment 3 extended this study by providing a purchasing context where viewing patterns and recall of various features of the ads could be assessed within an environment believed to be more reflective of how consumers may typically view ads. Results provided mixed evidence that the way a purchasing decision is made (motivated by pre-determined criteria versus free viewing) alters how ads are viewed. While significant differences were not obtained for a number of the eye-tracking measures, tests of recall as well as ratings on a mood scale provided some evidence that ads with spokes-characters are viewed and evoke different affective responses than ads where these characters are absent.

In this experiment it was hypothesized that the more product attributes participants were given to consider, the more likely that elaborate processing of textual components would take place. The significantly greater recall of product attributes in the two guided conditions as well as the significantly greater recall of spokes-characters in the unguided condition suggests differences in how deeply each of these ad components were processed. When participants were instructed to focus on a specific component in the free viewing condition, they appeared to devote less 'attention' to looking at the spokes-characters. Conversely in the free viewing condition, when they devoted considerable attention to looking at the spokes-characters, they were not motivated to devote similar attention to carefully reading the text. From this it appears that viewers are

inclined to devote only a certain amount of attention to an ad as a whole: if one component of an ad gets attention, this seems to be at 'the expense' of other components.

In consideration of the findings from the recall data, the significantly higher percentage of fixations for text in the free viewing condition as well as the higher percentage of fixations for spokes-characters in the two attributes condition appear confusing. It should be noted, however, that percentage of fixations is not the same as number of fixations. Given the evidence to suggest that at least half of the participants in the free viewing condition did not scrutinize the text that they were reading closely enough to notice discrepancies in the textual descriptions of the products across forty different ads, the finding that these participants spent a longer percentage of time on text than participants in the two attributes may suggest that participants in the latter condition quickly 'skimmed' the text for relevant information that fit their search. If participants in the two attributes condition performed a quick search for relevant textual information, while not expected, it does follow, that a higher percentage of their overall time on the ads were devoted to other content of the ads such as products or in this case, spokes-characters. What the findings of this study may suggest are two types of viewing patterns that loosely fits with two clusters of searching and browsing behavior first described by Dumais, Buscher and Cutrell, (2010). In the free viewing condition participants' viewing patterns corresponded more closely with the 'Exhaustive Searcher's' tendency of exploring a visual array fairly broadly, compared to the two guided (task related search) conditions which appeared to exhibit what Dumais et al refer to as 'Economic Searching' behavior in which a stimulus is scrutinized in a more focused fashion and stimuli that are not relevant are given less attention. The results of the current study are somewhat

consistent with the findings of Shrestha and Lenz' (2007) research which investigated differences between searching and browsing behavior of web pages that comprised both text and picture based content. In Shrestha and Lenz' study, participants were found to display more dispersed scan paths when browsing, compared to more concentrated fixation distributions when searching, from this the researcher extrapolated that participants searching for specific information tended to read the text more closely than participants that were browsing. While some evidence was found that participants in this experiment were also paying more attention to different parts of the ads depending on whether they were searching for specific information or not (especially in differences in visual density patterns of how images of products and spokes-characters were viewed across the three conditions) examination of the heat maps do not show noticeably denser fixations for textual ad components in the guided conditions of this study.

When applying the results of this study to a real-life context, while it is not known what proportion of consumers make decisions guided by 'a shopping list of criteria' (and how rigidly such criteria are followed) compared to the proportion of consumers who make decisions driven more by 'instinct', for shoppers in the former category, the results of this research imply that when a consumer is focused heavily on matching product attributes, spokes-characters may barely be noticed. Conversely, when a consumer views an ad without a list of attributes to attend to, the mood a spokes-character conveys may be of paramount importance as it may be used to make a 'decision' (albeit a visceral one) even at the expense of careful scrutiny of the textual component of an ad.

Recent evidence suggests that when a visceral reaction takes place, emotions precede cognition. LeDoux's (1996; 2000) research, for example, has identified a small

bundle of neurons that lead directly from the hypothalamus to the amygdala across a single synapse. These findings suggest that the amygdala does not depend entirely on signals from the neocortex as originally believed but rather 'our body may be telling us what we like' before we are able to 'cognitively process and thereby understand' what it is we are seeing. Applied to the context of consumer behavior, it could be that as in the case of the disrupt-reframe hypothesis, the role of spokes-characters may be to create an affective bond with a product when we look at an ad too quickly, or do not care enough to bother to process the actual semantic content of product information.

In consideration of studies that suggest mood evoked by an advertisement constitutes an important component of 'ad effectiveness' (Batra & Holbrook, 1990; Kim, Lee and Choi, 2003; Ogilvy & Raphaelson, 1982; Park 2003) the findings of the current study provide weak evidence of this, given that only one of the four hypotheses regarding mood were supported. However, the lack of significant findings on mood may be instructive in itself. Given qualitative data from participants in the free viewing condition that suggested participants were inclined to perceive spokes-characters as distracting unless they had a compensating affective quality (e.g., were cute, or funny or otherwise likable) the analyses of the mood data may suggest that the relevancy of a spokes-character in symbolizing product attributes is an important component in instilling a positive connection between the consumer and product.

The finding that a significantly higher percentage of first fixations occurred for spokes-characters, compared to products when condition was not taken into account is interesting. One possible interpretation of this findings is that spokes-character are perceived to be a different type of image than a product, as the spokes-characters in this

study held no product relevant cues, they may have garnered initial fixations due to the fact that they 'did not belong.' While some of the other findings of this study suggest that participants exhibited a strategic style when viewing ads in the guided conditions, first fixation data provides a better understanding of the visceral response when viewing ads for the first time. It is interesting to note that in the current experiment, when condition was not considered, spokes-characters garnered a significantly higher number of first fixations than products, and that in Experiment 2, spokes-characters attracted a higher number of first fixations than either products or text. Scholars have argued that the first fixations may reveal the locations where viewers *expect* to find relevant information on a page before commencing detailed exploration and reading (Buscher, Cutrell & Morris, 2009). If this is true, this begs the question: what kind of 'information' are viewers expecting to find when looking at these characters?

General Discussion

Although spokes-characters have been a ubiquitous component of visual advertising for the past one hundred years, the literature on these characters is sparse even as of five years of this writing. According to existing studies, the effectiveness of these characters lie in their ability to distinguish one product from another, typically by establishing a personal connection with would be consumers (LeBel & Cooke, 2008). It is speculated that such connections may be founded on narratives that a viewer may create with a given character, hence with the passing of time, we may come to associate Green Giant frozen vegetables with the giant that shouts 'Ho ho ho', the Snap Crackle and Pop elves with rice crispies cereal and Snuggles fabric softener with the soft and cuddly bear. Such narratives, however, take time to develop. As was stated previously, long before a spokes-character appears in a print ad, it is typically through the medium of television that the consumer gathers his/her first impression of the personality of a given spokes-character (what s/he says and how s/he behaves in relation to the featured product) an 'impression' that is later transferred when deciphering a spokes-character's association with a product in a print ad²⁶.

From the perspective of visual perception, an interesting question is whether the mere presence of a spokes-character is sufficient to alter the way consumers view ads when no prior relationship exists between the viewer and a given character, an issue that arguably has practical relevance at the very beginning of an advertising campaign. By

²⁶ It is acknowledged that television may not necessarily provide the first opportunity for viewer engagement with a spokes-character given that a number of spokes-characters analyzed in the content analysis were created in the early part of the twentieth century/during the eras of radio and print (i.e. Aunt Jemima and Betty Crocker amongst others). However, for the purpose of this dissertation television commercials were chosen as it was believed that television provides a powerful introduction to the narratives that may inform many modern day consumers on how popular spokes-characters (such as the Keebler Elves, Pillsbury Doughboy etc. may be currently perceived).

means of three sets of experiments using both quantitative and qualitative methods, the aim of this dissertation was to explore this issue in further depth.

The results of Experiment 1 did not provide evidence that images of common objects (representative of products) are viewed differently than images of humans or cartoons (representative of spokes-characters). Specifically images of humans (full figure images as well as images of faces) as well as cartoons (full figure images as well as images of faces only) were not viewed longer and did not have longer mean fixation durations than images of objects. The analysis of free recall data showed significantly less recall of images of cartoons than common objects. Considered together, the results of this first experiment draws question to how the incorporation of images of characters (spokes-characters) in ads may be an effective way of gaining greater viewer attention in ads, given that when viewed independently, images representative of typical spokes-characters are not viewed differently than images representative of common objects. The results of this study also provide some indirect evidence for the power of the narrative components consumers have been found to project onto these characters given that 'unknown' characters were not viewed differently than products.

Experiments 2 and 3 explored how viewing patterns may change when spokes-characters are placed in actual ads. Experiment 2 investigated if simply replacing a spokes-character with a second image of a product alters the way ads are viewed, these viewing patterns were also compared to those in ads where only one product was present. The results of this study suggest that while ads that featured a spokes-character were viewed longer than ads that featured one product only, in other respects, viewing patterns in ads where a spokes-character was not present were not significantly different from ads

where these characters were absent. For example, comparison of visual density patterns as well as quantitative analyses of total mean viewing time of ads, suggested that placing a second, identical version of a product in the same place as a spokes-character draws similar visual attention to the second product compared to attention paid to a spokes-character. According to descriptive statistics, when only 'conscious fixations' were considered, spokes-characters were less likely than either products or text to garner a viewer's attention first, suggesting that while viewers may be more likely to look at a spokes-character than a product when they first look at an ad, they may not be inspecting spokes-characters with the same attention that is devoted to the scrutiny of either products or text in these ads.

Experiment 3 examined viewing patterns of ads that did or did not feature a spokes-character that were more reflective of actual shopping contexts. Viewing patterns of text, products and spokes-characters were compared across three different conditions: in two experimental groups where participants were asked to decide if either or neither of the ads they saw matched the features they were asked to look for when choosing various products; in the control group, participants were simply asked to explain if they would buy a product from either of the ads they saw where one ad featured a spokes-character and the other did not, but where each ad described different product attributes. Inspection of heat map data suggest that spokes-characters were barely noticed when participants viewed ads with pre-determined product criteria in mind compared to the free viewing condition. However, it was also found, contrary to expectations, that spokes-characters were avoided unless they had a redeeming quality such as a noticeable (potential) relation to the product and/or an affective quality that viewer found to be so captivating that

overrode a general tendency to avoid 'distracting' characters. Participants' tendency in the free viewing condition to base much of their choices on how much they favoured or disliked depicted spokes-characters is more in-line with the meaning-based models discussed in previous chapters, than information-based models which do not capture the 'irrational' dimension of product choice decisions. Further, participants' reasons for disavouring ads with spokes-characters that were not noticeably consistent with depicted products, are inconsistent with Phillips' (1997) analysis of visual advertisements which found that pictures which deviated from expectations, were found to pique the curiosity of viewers.

From the advertiser's perspective what is of ultimate interest is if the presence of a spokes-character significantly increases product memorability/recall of textual descriptions of featured product(s). The results of this research did not provide convincing evidence that it does. In Experiment 2 no significant difference was found in the recall of textual descriptions of product features in ads that featured or did not feature a spokes-character. In the guided conditions of Experiment 3, where participants were asked to study certain product attributes prior to inspecting a number of ads featuring these attributes, doing so was found to be associated with significantly lower recall of spokes-characters. Of greater importance, was the finding that when spokes-characters were remembered better in the free viewing condition, product attributes were recalled significantly less, suggesting that with a given amount of attention viewers are willing to devote to ad inspection, ad components that capture attention may do so at the 'cost' of less attention being devoted to other 'competing' ad components. Considered together,

the findings of this dissertation do not provide much evidence to justify the incorporation of spokes-characters into visual ads if they are unrelated to products.

Limitations of the present work

While eye-tracking data provides a rich data source for examining how visual stimuli are actually viewed, one limitation of this type of data is that it does not capture peripheral vision (Rayner & Castelhana, 2007). In peripheral vision, a person can still see or be 'aware' of things without directly fixating on them, and it is believed that peripheral vision can comprise more than half of our visual field.

Furthermore, the last two studies in this research, were also limited in that they may not have accurately emulated how consumers actually view ads and make purchasing decisions in real life contexts. While the logistics of conducting such a study with eye tracking equipment needs further development, arguably in this study, even Experiment 3 did not replicate a realistic purchasing decision, as participants were not able to re-visit the first ad in the forced choice conditions which they are likely to have done in a real life context. Furthermore, while many consumers make purchasing decisions from a pre-determined agenda, such as a shopping list, it may be speculated that ultimately purchasing choices do not adhere strictly to these criteria as was the context in the third experiment of this dissertation.

Another limitation of this study was the assumption that mood can be developed within a very limited space (first exposure to a single print ad) comprising images that do not provide product-relevant cues. It might be that spokes-characters (irrespective of whether they are related to products they are depicted with) engage audiences over time, suggesting the need for subsequent studies that might involve providing participants with

repeated exposure to products and spokes-characters, each time offering slight modifications to the image, in order to gauge the viewer's evolving engagement with a spokes-character after multiple exposure.

Future Directions

It should be noted that as the scope of this dissertation was to focus on how spokes-characters that are unrelated to products are viewed in fictitious ads, a number of their other functions were not considered or examined. This leads to a number of possibilities for future research.

One puzzling finding from Experiment 2, was that contrary to expectations, 'disliked' spokes-characters garnered significantly larger pupil sizes than liked characters. As this finding is contrary to the extensive amount of literature that suggests how important it is to create likable spokes-characters it may be fruitful for future studies to investigate the relationship between the likability of these characters and pupil size and relate this relationship with ad memorability to explore this issue in further depth. It may be recalled that changes in pupillary size have been linked to a variety of responses, including arousal, surprise and emotionally toned or otherwise interesting visual stimuli (Aboyoun & Dabbs, 1998; Hess & Polt, 1960; Partala, Jokiniemi, & Surakka, 2000; Preuschoff, Hart & Einhäuser, 2011). In this line, future studies might also explore how viewing spokes-characters may garner these and other affective responses, of potential importance within an advertising context.

Second, future replications of the current work might employ stimuli comprising spokes-characters modified to better align with the 'look' of the products they are designed to depict. As was discussed in the introductory sections of this dissertation,

what is worthy of note is that certain spokes-characters, famous or otherwise, embody the physical attributes of the product they endorse, (two famous examples include the Honey Nut Cheerios Bee and the Kool-Aid Jug). While this dissertation employed *unfamiliar* spokes-characters that bore no physical relation to products, in order to ascertain if the sheer presence of these characters influenced viewing patterns as well as recall of the text, a worthwhile direction for future research would be to replicate the current study using spokes-characters that assimilate physical or emotional properties of the products they represent. Physical attributes, no doubt, have some influence on how certain spokes-characters are perceived, and often this is manifested in noticeable similarities between spokes-characters and products; for example, the soft and cuddly Huggies bear and the fabric softener or the portrayal of Betty Crocker as 'the average woman' whose cakes bore resonance for the 'average consumer/family'. In the present research, spokes-characters were intentionally created to be as neutral as possible (i.e., bear as little resemblance as possible to the product) in order to test a 'mere presence theory.' It may be recalled that a primary complaint in the final study was that such spokes-characters were found to be 'distracting' if they bore no visible relation to the product they were featured with. Future work would do well to systematically manipulate a spokes-character's 'visual closeness to products' where eye gazing behavior is monitored to explore if there is an optimal level (similar to Berlyne's inverted U shaped distribution of visual interest) of consumer interest when viewing these characters in visual ads. Such studies, possibly guided by Paivio's dual coding theory, could assess if employing more product relevant spokes-characters influence viewing patterns as well as recall of textual information about depicted products.

Third, further investigation is needed that explores how certain affective components of these characters, particularly those of a multi-modal nature, may influence consumers' viewing patterns when these characters are present in an ad. For example, voices of characters in advertising are important vehicles for emotional content; sound effects also help reinforce and augment the explicit emotions of these characters (Chiu, Lin & Liu, 2006).

Theoretical Contribution

Considered together, the results of this research provide greater support for the Heuristic Systematic model than the Elaboration Likelihood model of persuasion.

Unlike real ads where spokes-characters are typically shown holding, interacting with or exhibiting physical properties of a given product, it should be recalled that all spokes-characters in the second and third studies of this research were designed to be *unrelated* to the product they were placed with in a given ad. In this way, this dissertation aimed to directly examine the importance of the narrative component of spokes-characters; specifically, if placing a random character in an ad is just as effective in capturing viewer attention and making an ad memorable. In Experiment 2, while ads with spokes-characters were viewed significantly longer than ads featuring only one product, a greater percentage of fixations was devoted to inspecting textual components of all ads irrespective of whether or not a spokes-character was present. Participants in that study were told before hand that they might be tested on their recall of these ads, however they did not know what parts of these ads they might be asked to recall. In this study, descriptive statistics of first fixation data suggested that while spokes-characters were more likely to attract first fixations than products, spokes-characters were less likely

than either text or products to capture first fixations when only conscious level fixations were taken into account. Of greater importance is that while ads that featured spokes-characters were viewed longest, the additional viewing time did not result in higher recall of textual components of these ads. In sum, the placement of a spokes-character that did not comprise any product relevant cues did not make ad content more memorable.

A secondary aim of this dissertation was to compare viewing patterns of spokes-characters to other ad elements in contexts where motivation to view ads was strategically manipulated. According to the work of MacInnis and Jawarski (1989) motivation to attend to a given stimulus influences how that stimulus is processed. MacInnis and Jawarski posit that if attention is very low, stimuli are immediately analyzed at the pre-attentive stage. When motivation is moderate to low users are more likely to direct their attention to the message since their cognitive capacity still remains low and they are likely to make a heuristic assessment of the message. It is only when users are moderately to highly motivated to try to integrate the full information of the message that central route processing is more likely to occur. Experiment 3 comprised three conditions: a control group where participants were free to view ads as they pleased and only provide a justification for which product they preferred in one of two ads and two experimental groups where participants had to match textual information in ads they were viewing with a list of product attributes stored in short term memory. According to MacInnis and Jawarski's levels of motivation, arguably the control condition exemplified a 'low' or 'unguided' motivation condition whereas the experimental groups where participants were required to match text that they were reading with information they had just read as 'moderate or high' motivation conducive to central route processing. As

indicated by comparison of aggregate heat map data as well as recall of spokes-characters across these three conditions, perhaps one of the most noteworthy findings of this study was that spokes-characters appear to have been barely noticed when participants were focused on matching product attributes in the ads they were viewing to a pre-determined shopping list. Significant differences in the textual attributes of products being recalled in the guided conditions further suggest that greater focus on central route processing of textual components of these ads resulted in less attention devoted to processing images of characters that were not helpful to the task at hand. Stated differently, having random characters in ads when viewers were trying to focus on a shopping task did not garner sustained visual interest. It may be that in this context, these random characters increased cognitive load for viewers, a speculation that is at least partially substantiated by qualitative data that suggested many participants reported the spokes-characters (which did not provide product-relevant cues) to be distracting. Of note is that in the unguided or free viewing condition, half of participants reported not reading the text carefully enough to notice that the text in each of the two ads described different product attributes. Strikingly, more participants in this group chose ads based solely on affective components of these characters as opposed to semantic content of product attributes, this provides further evidence that when viewers in the unguided condition employed spokes-characters as a heuristic to help guide their decision making on which ad they preferred.

The current research extends the work conducted in Judith Garretson's (2000) dissertation which examined spokes-characters that offer product relevant cues by showing how viewers may process spokes-characters that are not relevant to the products they are portrayed with in visual ads. Garretson has argued that a distinguishing feature

of pictures that make them more memorable is the relevancy of the visual information which can ‘transform’ a more peripheral cue into an argument (Miniard et al. 1991; cited in Garretson, 2000). Citing a number of studies in the consumer literature, Garretson elaborates on how this construct of relevancy has been operationalized in a number of ways:

“[R]elevancy has been examined in terms of the congruence between a stimulus (i.e., visual) and the main theme of an advertisement (Heckler & Childers, 1992; Lee & Mason, 1999), between the verbal and visual information in print advertisements (Houston, Childers & Heckler, 1987), and between an advertisement containing visual cues and the ad evoked advertisement schema (Goodstein, 1993). Relevancy has also been examined in terms of whether a visual cue conveys attribute pertinent details about an advertised target object (Miniard et al., 1991; Sengupta, Goodstein & Boninger, 1997).”

Recalling that Experiments 2 and 3 examined spokes-characters that conveyed no product relevant cues, Figure 34 depicts a proposed model of how such characters may be processed according to the Elaboration Likelihood Model of persuasion.

Figure 34. Proposed model of how spokes-characters that are unrelated to ad content are processed according to the Elaboration Likelihood Model. Adapted from Goose's (2006) adaptation of Petty and Cacioppo's original 1986 model.

Based in large part on the qualitative results from the third experiment, the model proposes that spokes-characters that do not provide product-relevant cues may result in negative attitude change (i.e. avoidance).

Contributions to the Advertising Literature

Ad design, including the strategic use of spokes-characters, comprised a \$100 billion industry even a decade ago (Howard, 2001, cited in McNeil & Ji, 2003; p. 402). The power of visual 'sales talk' can begin as early as 24 months, when children have been found to possess sufficient marketplace awareness to enable them to make their first

request for a product (McNeal & Yeh, 1993, cited in McNeal & Ji, 2003). In an intriguing study assessing children's visual memory of cereal packaging, content analysis of 125 first, third and fifth graders' drawings of cereal boxes revealed a higher occurrence of the inclusion of spokes-characters than either the cereal's slogan or the name of the manufacturer (McNeal & Ji, 2003).

In the introductory chapters of this dissertation, literature was reviewed that suggest spokes-characters typically invite consumer trust by conveying 'brand personality' which refers to how these characters typically embody the personality of a given brand they endorse by conveying the intangible and abstract benefits of a product. However a limitation of many of these studies was that they were largely founded on the results of questionnaires and surveys of reported preferences. As the first known study that has systematically investigated how these rhetorical figures may or may not capture our visual attention and direct it towards ad content, employing a data set comprising over 16 000 eye fixation data, the results of this research provided mixed support for the worthiness of this endeavor. As stated by Russell (2002)"the results of eye-tracking are often compelling in the apparent revelation of behaviors otherwise invisible to both the researcher as well as the participant" (Russell, 2002; p.88).

When shoppers make purchasing decisions based on pre-determined criteria, according to the results of the final study, spokes-characters may not be noticed nearly to the same extent. This begs the question of how worthwhile they may be to this second type of consumer. In Experiment 2 it was found that simply placing a second image of a product in the place of a spokes-character can garner similar viewing patterns. Further, as the results of Experiment 2 suggest, simply having a spokes-character in an ad does not

attract greater attention towards text, indeed, when viewers look at an ad with the aim of searching for specific product attributes, the presence of a spokes-character may make products *less* memorable.

However, in the free viewing condition of the final study, decisions to buy a product were more strongly guided by the appeal of spokes-characters than textual descriptions of product attributes. It would appear then, that one potential role of spokes-characters may be to serve as a 'heuristic.' It is not sufficient to be eye-catching; if a spokes-character is incongruent with a product in an ad, this may 'turn-off' a would-be consumer from becoming interested in an ad. However, if a character in an ad, seems to fit with a product and more importantly, elicits a positive affect, this affect may be transferred to feelings towards a product, in turn, a consumer may be more likely to buy the product based on such reasons as opposed to what an ad actually says about the product. This is in-line with the tendency of modern advertising to appeal more to 'passions' compared to early advertising which intended to appeal more to 'understanding' (Postman, 1985). Images, then, *are* important, perhaps even more so than text.

Concluding Thoughts

"Michael didn't drink Pepsi because he didn't like it [w]hich was a potential problem when Joseph and Don lined up a \$5 million Pepsi sponsorship deal, together with two television commercials that would rewrite "Billie Jean" and use it as a jingle. Michael was in his dressing room one day when he decided to grind a can into a plate of food, poured Pepsi all over it like gravy, and then posed for a photo: a close-up of his sequined glove presenting his "dish." If ever there was an image ...that summed the difference between brand Michael and the real Michael, that might have been it. ...[In the end] when it was explained to Michael that he

didn't need to *drink* Pepsi or be filmed drinking it, he was happier to compromise."

- (Excerpt from 'You are not Alone: Michael: Through a Brother's Eyes', italicized added)

The above anecdote provides a dramatic real life example of how spokes-characters are not necessarily required to be portrayed with or even liking a product to serve as convincing models for would-be consumers to purchase the product they are 'associated' with in the public's memory. Irrespective of participants' motivation when viewing the ads in this research, overall, the results of this dissertation did not provide strong evidence that a high level of cognitive processing took place when ads were viewed. This is in-line with Postman's observations, discussed in the introductory chapters of this dissertation, that modern advertising appears more intended to appeal to 'passions' compared to early advertising which intended to appeal more to 'understanding.'

Heath's (2007) work on the role of engagement and attention in advertising may offer interesting insights on how to interpret these findings. In his working paper Heath (2007) draws attention to the importance of considering not just the direction of attention but the level of attention being paid in an advertisement. Here level of attention is defined as '[t]he amount of cognitive resource being deployed', or the amount of conscious thinking directed at an advertisement, is distinguished between engagement defined as '[t]he amount of subconscious 'feeling' going on when an advertisement is being processed'. Citing a series of experiments conducted by Krugman and Macworth during the 1970s, Heath points to the importance of considering how much attention is really paid when viewing television advertising. From this and replication studies conducted by

Heath and others, the conclusion reached was that viewers can 'engage' with television ads without necessarily needing to use the same amount of conscious thinking that they use when reading a newspaper, but rather in a 'lazy' manner that is consistent with Krugman's description of 'motionless, passive eye characteristics' where elaborate processing of content may not be taking place (Heath, 2007).

If it is the case that advertising is processed in our current world, in a manner that does not necessitate a high level of cognitive processing as suggested by Heath (2007), such a context may provide a perfect breeding ground for spokes-characters who say little or do little to 'sell' their products. If consumers do not take the time to think critically, it follows that spokes-characters may be able to get away with puffery which was defined as "advertising or other sales representations which praise the item to be sold with subjective opinions, superlatives, or exaggerations, vaguely and generally, stating no specific facts" (Kamins & Marks, 1987; p. 6). Spokes-characters, then, may be promoting a context for a low information-to-action ratio in modern day visual advertising.

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APPENDIX A
List of Urls for the Commercials Analyzed in the Content Analysis

1940s

Chiquita Banana

<http://www.youtube.com/watch?v=RFDOI24RRAE&feature=related>

Length: 1:25

1950s

Betty Crocker

<http://www.youtube.com/watch?v=VeJ2UrrF2Rk&feature=related>

Length: 1:35

Kool-Aid 1950s

<http://www.youtube.com/watch?v=TppRjknOryk&feature=related>

Length: 59 seconds

Mr. Clean

<http://www.youtube.com/watch?v=wbiofcuTZBo>

Length: 59 seconds

Snap Crackle Pop (Rice Crispies)

<http://www.youtube.com/watch?v=q6TIsxTdrCU&feature=related>

Length: 1:01

Willy the Hillbilly for Mountain Dew

<http://www.youtube.com/watch?v=4xd8fzk8Rlk&feature=related>

Length 1:00

1960s

Campbell's Kids Commercial

<http://www.youtube.com/watch?v=VmkcxD4ikD8>

Length: 30 seconds

Captain Crunch

<http://www.youtube.com/watch?v=ILr8l4rbr70&feature=related>

Length: 1:00

Colonel Sanders for Kentucky Fried Chicken

<http://www.youtube.com/watch?v=pwURoueDzFo&feature=related>

Length: 1 minute

The Flintstones (for Winston cigarettes)

<http://www.youtube.com/watch?v=eYvOgnabABU&NR=1>

Length: 1:22

Frito Bandito from

http://www.youtube.com/watch?v=_jftHrIClew&feature=related

Length: 33 seconds

Jolly Green Giant Commercial from the

<http://www.youtube.com/watch?v=Q8ilBsr9n3o>

Length: 1:30

Yogi Bear for Kellogg's O.K.s Cereal

<http://www.youtube.com/watch?v=5rb53WNGLDI&feature=related>

Length: 1:02

1970s

Charlie the Tuna for Star-Kist Tuna

http://www.youtube.com/watch?v=u-Wy_BRFEIc

Length: 34 seconds

Farrah Fawcett for Ultra Brite Toothpaste

<http://www.youtube.com/watch?v=ZAQLJvVPF3E&feature=related>

Length: 30 seconds

Madge for Palmolive

http://www.youtube.com/watch?v=_bEkq7JCbik

Length: 42 seconds

Mikey for Life Cereal

<http://www.youtube.com/watch?v=vYEXzx-TINc&feature=related>

Length: 29 seconds

Milton the Toaster for Pop Tarts

<http://www.youtube.com/watch?v=y-HfXBdzzWo&feature=related>

Length: 31 seconds

Shake 'N Bake with Pete

<http://www.youtube.com/watch?v=INvHgPWFtbM&feature=related>

Length: 32 seconds

Pillsbury Doughboy for Pillsbury Crescent Rolls

<http://www.youtube.com/watch?v=i64NSCzkNys>

Length: 28 seconds

Punchy for Hawaiian Punch

<http://www.youtube.com/watch?v=2UihIjK9xm4&feature=related>

Length: 29 seconds

Ty-D-Bol "Man in the Boat" Commercial

http://www.youtube.com/watch?v=3DC_M2VgfVA&feature=related

Length: 26 seconds

1980s**A & W Root Beer Bear Commercial**

<http://www.youtube.com/watch?v=AxmqlJeOU2s>

Length: 31 seconds

Alice for Minute Rice

http://www.yourememberthat.com/media/11316/Ann_B_Davis_Minute_Rice_Commercial/

Length: 30 seconds

Bill Cosby for Jello Pudding

<http://www.youtube.com/watch?v=mjrtsIY4WqQ>

Length: 15 seconds

California Raisins

http://www.youtube.com/watch?v=pM2OK_JaJ9I

Length: 29 seconds

Florence Henderson for Wesson Oil

http://www.youtube.com/watch?v=woCTOTRsW_I

Length: 30 seconds

Honey Nut Cheerios Bee Commercial

<http://www.youtube.com/watch?v=hrIHQJSW6Ec>

Length: 30 seconds

Irish Spring Man for Irish Spring Soap

<http://www.youtube.com/watch?v=tAXPGtpZvQI&feature=related>

Length: 15 seconds

Keebler Elves

<http://www.youtube.com/watch?v=EullpM3TKuw>

Length: 31 seconds

Max Headroom for Coca-Cola

<http://www.youtube.com/watch?v=Wgm5GUo8o7I&feature=related>

Length: 1:01

Peanuts for Metlife Insurance

http://www.youtube.com/watch?v=Cgx_Drcez1E&feature=related

Length: 34 seconds

Snuggle Bear Commercial

<http://www.youtube.com/watch?v=eZvCP25ka3E>

Length: 29 seconds

Wilford Brimley for Quaker Oats

http://www.youtube.com/watch?v=L_ori4-inTo&feature=related

Length: 30 seconds

1990s

Brawny Commercial

<http://www.youtube.com/watch?v=IjUciFgLAra>

Length: 31 seconds

Dave Thomas for Wendy's

http://www.youtube.com/watch?v=29scU_HBNiA&feature=related

Length: 32 seconds

Energizer Bunny Commercial

<http://www.youtube.com/watch?v=HyraEvkY53k>

Length: 17 seconds

Fruit Loops for Cereal Colossal Island

<http://www.youtube.com/watch?v=GN8nZRBYPY&feature=related>

Length: 30 seconds

Little Caesar's Pizza

http://www.dailymotion.com/video/xkog2n_1994-little-caesars-commercial_shortfilms

Length: 29 seconds

Lucky Charms

<http://www.youtube.com/watch?v=bp3Dt1Nk3WE>

Length: 30 seconds

Mr. Peanut

<http://www.youtube.com/watch?v=J0L2br7XsCI>

Length: 33 seconds

Ronald McDonald for McDonalds

<http://www.youtube.com/watch?v=NP3a6ShtJk4&feature=related>

Length: 30 seconds

Tony the Tiger for Frosted Flakes Cereal Commercial

<http://www.youtube.com/watch?v=UEh6MocydHY&feature=related>

Length: 32 seconds

2000s

Aflac Commercial

<http://www.youtube.com/watch?v=g2oz2PHdzlA>

Length: 32 seconds

Coca-Cola Polar Bear Commercial

http://www.metacafe.com/watch/2161444/coca_cola_beautiful_polar_bear_commercial/

Length: 32 seconds

Flo for Progressive Insurance

<http://www.youtube.com/watch?v=GrtMM5suUCg&NR=1>

Length 33 seconds

Geico Gecko Dollar Commercial for Geico Insurance

<http://www.youtube.com/watch?v=7OIEFo2axGE>

Length: 30 seconds

Jessica Simpson for Pizza Hut

<http://www.youtube.com/watch?v=xEqHOETejiU&feature=related>

Length: 30 seconds

Old Spice Man

<http://www.youtube.com/watch?v=owGykVbfgUE>

Length 33 seconds

Trix Rabbit for yogurt

http://www.youtube.com/watch?v=i2QZM_WLss

Length: 30 seconds

APPENDIX B

Pilot Study

The purpose of this study was to examine if the mere presence of a spokes-character alters gazing behavior in an ad. To ensure internal validity, in half the ads spokes-characters were strategically located in each of four possible positions (upper and lower left and right corners) and were approximately equal distance from a centrally located product in each ad. To ensure external validity, in half the ads, the size, type and position of spokes-characters emulated those found in typical real life ads.

Method

Participants

Three females and two males between the ages of 17 and 55 participated in the pilot study yielding a total of 2026 eye fixation data. Due to the small sample size, inferential statistical tests were not conducted on this data.

Data were collected for fixation duration data as well as pupil size changes for each participant, Table 16 displays the within-subjects variability for each of these measures.

Table 16.

<i>Within-subjects variability for each of the dependent measures for pilot testing</i>					
	Participant 1	Participant 2	Participant 3	Participant 4	Participant 5
Product	100-1097	100-299	100-1057	100-1515	100-558
Fixation	(166.50)	(69.12)	(117.38)	(243.28)	(81.10)
Duration					
Range (SD)					
Text Fixation	100-1017	100-218	100-917	100-458	100-399
Duration	(130.15)	(37.78)	(100.90)	(76.27)	(75.63)
Range (SD)					
Spokes-Character	100-1077	120-319	100-718	100-1376	100-618
Fixation	(216.36)	(63.78)	(139.41)	(266.63)	(144.46)
Duration					
Range (SD)					
Product Pupil	494.64-649.24	470.59-669.95	627.41-749.84	487.89-588.92	794.14-849.90
Size	(31.35)	(55.17)	(13.81)	(21.02)	(10.04)
Range (SD)					
Text	503.07-632.52	618.50-753.00	651.35-748.66	489.80-629.83	807.51-850.37
Pupil Size	(30.06)	(35.51)	(17.22)	(26.23)	(9.88)
Range (SD)					
Spokes-Character	500.08-625.17	644.42-753.51	700.26-743.88	476.02-607.78	810.97-845.10
Pupil Size	(21.85)	(49.96)	(9.98)	(30.34)	(11.10)
Range (SD)					

In half the ads, the size and type of spokes-character remained consistent across stimuli although location was strategically randomized (hereafter referred to as structured ads). For the remainder of the ads, the size and location of spokes-characters emulated real life ads and therefore differed across sets of stimuli (hereafter referred to as unstructured ads). All ads were presented in a slide show format through ClearView software and consisted of products approximately 4.00" x 4.50" in size along with textual product descriptions comprising one line of text, approximately nine to eleven words in length. For the structured stimuli set, spokes-characters were approximately 2.0" x 2.40" size and were located in the upper or lower left and right hand sections of each ad, thus they were an equal distance from centrally located products in each ad. For the unstructured stimuli set, products ranged in size from 3.5" x 4.00" to 4.5" x 5.0"; spokes-

characters ranged from 2.0" x 2.40" to 3.5" x 4.5" in size; and differed in distance from products across the different ads.

The analyses were guided by the following questions: (1) Does the mere presence of a spokes-character alter gaze distributions; (2) is there a difference between products, text and spokes-characters in number of fixations and (3) are there any differences between these ad components in terms of superficial versus more in-depth cognitive processing?

Results

Figure 35 depicts gaze patterns in how various areas of interest in the ads were viewed in four sample ads.

Figure 35. Comparing gaze patterns for product, text and spokes-characters across four different stimuli

An interesting observation is that in the top figures, the observer looks at the product, then the text, then the spokes-character and returns to the product, whereas in the bottom ads the gaze patterns are product, text and again returning to the product. As it may be that the slighter longer time gazing at the ad as a whole (albeit time looking at the spokes-character that doesn't provide any information about the product) may result in making the product/ad more memorable, this will be investigated in further depth in the formal experiments. However, as it may be that the type and positioning of spokes-characters used in this study did not emulate real life ads, this was an issue for further exploration in the next pilot study.

(1) Does the mere presence of a spokes-character alter gaze distributions?

Spokes-characters had the longest fixation duration ($M = 271.67$) followed by products ($M = 221.00$). Text had the shortest fixation durations ($M = 199.65$).

(2) Is there a difference between products, text and spokes-characters for number of fixations?

Russell (2002) points to the importance of inspecting hotspot plots (also referred to as heat maps) relative to a given AOI, given that visual attention may not be distributed evenly across an AOI. Figure 36 shows aggregate hotspots in cases where spokes-characters received more visual fixations than either text or products, visual attention appeared to be concentrated on the facial areas of the spokes-characters compared to other parts of the body.

Figure 36. Sample ads where fixations occurred primarily on spokes-characters

(3) *Are there any differences between these ad components in terms of superficial versus more in-depth cognitive processing?*

Mean fixation duration that were categorized as ‘superficial processing’ was higher for spokes-characters ($M = 152.77$) than the mean fixation duration for either products ($M = 104.06$) or text ($M = 109.39$). When fixation data suggestive of ‘deeper cognitive processing’ were considered, mean fixation duration for spokes-characters ($M = 459.29$) was higher than the mean fixation duration for either products ($M = 270.58$) or text ($M = 300.08$).

Concluding Thoughts

It appears that spokes-characters were a greater source of visual interest than other ad components in having the longest mean fixation durations and also from examination of a number of heat maps. It is worth noting that while the manner in which participants were instructed in this study: ‘look at the ads as if you are seeing them on television or in a magazine’ may reflect the way consumers typically scan ads (paying attention to what truly appeals to their interests), these instructions may also have resulted in superficial scanning behavior, as participants had no real motivation to carefully inspect the ads they were shown. However, irrespective of whether superficial or more conscious processing

fixation data were considered, spokes-characters had longer mean fixations than either products or text.

APPENDIX C

Experiment 1 Informed Consent

This study has received clearance by the Carleton University Psychology Research Ethics Board

Introduction

The purpose of an informed consent is to ensure that you understand the purpose and your involvement in the study. After reading the informed consent, you should be able to determine whether or not you wish to participate in this study.

Study

Experimental studies of parameters of visual information in product advertising.

Research Personnel

The following personnel are involved in this research project and may be contacted at any time. Devjani Sen, _____ (Principal Investigator), Dr. Brian Tansley (Faculty Sponsor), 520-2600 ext. 2707, brian_tansley@carleton.ca. If any ethical concerns about this study should arise please contact Dr. Monique Sénéchal (Chair, Carleton University Psychology Research Ethics Board), 520-2600 ext. 1155, monique_senechal@carleton.ca. Should you have any other concerns about this study, please contact Dr. Anne Bowker (Chair, Dept of Psychology,) 520-2600 ext. 8218, psychchair@carleton.ca

Purpose

The purpose of this study is to explore how people view visual images.

Task Requirements

You will be shown a number of images and asked to press a key after you have finished viewing each of them. After this you will be asked to perform a simple task.

Duration and Locale

This study will be conducted in room 3111 Human Computer Interaction Building and will be one hour in total. You will receive one course credit for your participation.

Potential Risk or Discomfort

There are no potential risks or discomfort in this study.

Confidentiality

All data will remain strictly anonymous. As a result, you will be ensured 100% confidentiality. The data collected will be coded in such a manner that your name will not be associated with the data. Only the researchers involved in this project will see the data.

Right to Withdraw

Please note that you have the right to withdraw from the study at any time without penalty and that your participation in this study is entirely voluntary. At any point during the study you have the right not to complete certain questions or to withdraw from the study without any penalty whatsoever.

I have read the above description of the study and understand the conditions of my participation. I agree to participate in this research project.

Please note that according to FIPPA requirements, any personal information collected on this informed consent form and any of the questionnaires used in this study will be kept for six months after which they will be destroyed.

Participant Name: _____

Participant Signature: _____

Researcher Name: _____

Researcher Signature: _____

APPENDIX D
Eye-Tracking Screening Questions²⁷

Eye Information: I am now going to ask you some different questions. These are about your eye because we are going to use some simple technology to track eye and mouse movements during the study.

1. Do you wear contacts or eyeglasses in order to read the computer screen?

☐ Yes CONTINUE

☐ No Skip to 3

2. Are your glasses for:

☐ Reading only CONTINUE

☐ Seeing distant objects only CONTINUE

☐ Both (Do you wear bifocals, trifocals, layered lenses, or regression lenses)

TERMINATE

3. Can you read a computer screen and the Web without difficulty with your contacts and/or

eyeglasses on?

☐ Yes CONTINUE

☐ No TERMINATE

4. Do you have cataracts?

☐ Yes TERMINATE

☐ No CONTINUE

5. Do you have any eye implants?

☐ Yes TERMINATE

☐ No CONTINUE

6. Do you have Glaucoma?

☐ Yes TERMINATE

☐ No CONTINUE

7. Do you use a screen reader, screen magnifier or other assistive technology to use the computer and the Web?

☐ Yes TERMINATE

☐ No CONTINUE

8. Are either of your pupils permanently dilated?

☐ Yes TERMINATE

☐ No CONTINUE

²⁷ Source Pernices and Nielson (2009).

APPENDIX E

Calibration Instructions and Procedure

Instructions: "You are going to see as large blue dot on the screen. Please concentrate on focusing your eyes on this image. You do not have to keep your head perfectly still during calibration – in fact it is better if you are relaxed, as this tends to improve the quality of the calibration."

Sample calibration plots of high quality (left) and poor quality (right).

APPENDIX F
Test of Free Recall

Please list as many of the images as you can, in as much detail as you can recall, from the images you just saw.

APPENDIX G

Experiment 1 Debriefing

This study has received clearance by the Carleton University Psychology Research Ethics Board

What are we trying to learn in this research?

This study sought to explore how aspects of different types of images capture our attention. You saw a number of cartoon and human characters as well as a number of images of common objects. Using eye-tracking technology we wanted to study if these different types of images were viewed differently in terms of where you looked and for how long you viewed each type of image..

Why is this important to scientists or the general public?

The purpose of this study was to explore gazing behavior with eye-tracking technology. In this study, the monitor where you were looking at was fitted with two cameras that recorded your eye gazing movements. Eye-tracking studies have been conducted since the 1950s the spectral emission of eye-trackers is limited to the near-infrared (IRA, 780-1400 nm) spectral band and therefore does not pose any threat to personal safety.

As the study was exploratory in nature, no hypotheses were tested.

APPENDIX H

Original Ad with Sample Ad Stimuli

APPENDIX I

Experiment 2 Informed Consent

This study has received clearance by the Carleton University Psychology Research Ethics Board

Introduction

The purpose of an informed consent is to ensure that you understand the purpose and your involvement in the study. After reading the informed consent, you should be able to determine whether or not you wish to participate in this study.

Study

Experimental studies of parameters of visual information in product advertising.

Research Personnel

The following personnel are involved in this research project and may be contacted at any time. Devjani Sen, (Principal Investigator), Dr. Brian Tansley (Faculty Sponsor), 520-2600 ext. 2707, brian_tansley@carleton.ca. If any ethical concerns about this study should arise please contact Dr. Monique Sénéchal (Chair, Carleton University Psychology Research Ethics Board), 520-2600 ext. 1155, monique_senechal@carleton.ca. Should you have any other concerns about this study, please contact Dr. Anne Bowker (Chair, Dept of Psychology,) 520-2600 ext. 8218, psychchair@carleton.ca

Purpose

The purpose of this study is to explore how people view visual advertisements.

Task Requirements

You will be shown a number of images and asked to press a key after you have finished viewing each of them. After this you will be asked to perform a few simple tasks.

Duration and Locale

This study will be conducted in room 3111 Human Computer Interaction Building and will be one hour in total. You will receive one course credit for your participation.

Potential Risk or Discomfort

There are no potential risks or discomfort in this study.

Confidentiality

All data will remain strictly anonymous. As a result, you will be ensured 100% confidentiality. The data collected will be coded in such a manner that your name will not be associated with the data. Only the researchers involved in this project will see the data.

Right to Withdraw

Please note that you have the right to withdraw from the study at any time without penalty and that your participation in this study is entirely voluntary. At any point during the study you have the right not to complete certain questions or to withdraw from the study without any penalty whatsoever.

I have read the above description of the study and understand the conditions of my participation. I agree to participate in this research project.

Please note that according to FIPPA requirements, any personal information collected on this informed consent form and any of the questionnaires used in this study will be kept for six months after which they will be destroyed.

Participant Name: _____

Participant Signature: _____

APPENDIX J
Instructions and Sample Questions from Test of Cued Recall

Test of Recall

We are now going to ask you some questions about the products depicted in the ads you just saw.

The questions are in multiple choice format. Please pick the option for each question that is not true based on what you read from the ads you were shown.

APPENDIX K
Spokes-Character Rating Scale

On a scale from 1 (don't like at all) to 10 (liked very much) please rate how much you liked each character you just saw.

APPENDIX L

Experiment 2 Debriefing

This study has received clearance by the Carleton University Psychology Research Ethics Board

What are we trying to learn in this research?

This study sought to explore aspects of visual advertisement that capture our attention. Of specific interest was if the presence of spokes-characters (defined in the literature as a 'symbolic object that has been created for the promotion of a product, service, or idea with conveying a brand attribute or personality', popular examples include the Geikko Gekko, The Energizer Bunny as well as Tony the Tiger) influences where viewers spend their time looking in an ad and if having a spokes-character in an ad has any effect on recall of textual information about products featured in the ad.

Why is this important to scientists or the general public?

Spokes-characters have been prevalent in North American culture and advertising for the past hundred years. However, little is known about the principles that underlie the use or success of these characters, to date, no studies have examined how these characters capture our visual attention when looking at ads. The purpose of this study was to explore gazing behavior with eye-tracking technology. In this study, the monitor where you were looking at was fitted with two cameras that recorded your eye gazing movements. Eye-tracking studies have been conducted since the 1950s the spectral emission of eye-trackers is limited to the near-infrared (IRA, 780-1400 nm) spectral band and therefore does not pose any threat to personal safety.

In this study, the following hypothesis was tested: The presence of a spokes-character in an ad will increase the viewer's inspection time and alter the viewer's fixation distribution as well as the viewer's level of arousal/interest.

Where can I learn more?

You can learn more about what others have done and have to say about this area of research from the following references:

McCracken, G. (1989). Who is the celebrity endorser? Cultural foundations of the endorsement process. *Journal of Consumer Research*, 16, 310-321.

Philips, B. J. (1996). Defining Trade Characters and Their Role In American Popular Culture, *Journal of Popular Culture*, *The Journal of Popular Culture*, 29(4), 143-158.

Pieters, R., Rosbergen, E. & Wedel, M. (1999). Visual attention to repeated print advertising: A test of scanpath theory, *Journal of Marketing Research*, 36, 424-438.

What if I have questions later?

If you have any complaints, concerns, or questions about this research, please feel free to contact, Devjani Sen (Principal Investigator), (613) 680-2206, or Dr. Brian Tansley (Faculty Sponsor), 520-2600 ext. 2707, brian_tansley@carleton.ca. If any ethical concerns about this study should arise please contact Dr. Monique Sénéchal (Chair, Carleton University Psychology Research Ethics Board), 520-2600 ext. 1155, monique_senechal@carleton.ca. Should you have any other concerns about this study, please contact Dr. Anne Bowker (Chair, Dept of Psychology,) 520-2600, ext. 8218, psychchair@carleton.ca.

Thank you for your participation in this study. Your time and effort are greatly appreciated!

APPENDIX M

Experiment 3 Informed Consent

This study has received clearance by the Carleton University Psychology Research Ethics Board

Introduction

The purpose of an informed consent is to ensure that you understand the purpose and your involvement in the study. After reading the informed consent, you should be able to determine whether or not you wish to participate in this study.

Study

Experimental studies of parameters of visual information in product advertising.

Research Personnel

The following personnel are involved in this research project and may be contacted at any time. Devjani Sen, _____ (Principal Investigator), Dr. Brian Tansley (Faculty Sponsor), 520-2600 ext. 2707, brian_tansley@carleton.ca. If any ethical concerns about this study should arise please contact Dr. Monique Sénéchal (Chair, Carleton University Psychology Research Ethics Board), 520-2600 ext. 1155, monique_senechal@carleton.ca. Should you have any other concerns about this study, please contact Dr. Anne Bowker (Chair, Dept of Psychology,) 520-2600 ext. 8218, psychchair@carleton.ca

Purpose

The purpose of this study is to explore how people make purchasing decisions.

Task Requirements

You will be asked to go shopping for a friend. First you will be shown a fictitious friend's 'wish list' that describes various items she wants you to purchase for her. The wish list will describe various product attributes that you friend wants you to consider when choosing these products. You can study this wish list for as long as you like.

You will then be shown a number of different ads. For each product you will be shown two identical ads: one will include the attribute that you have been asked to look for when making your purchasing decision, the other ad will not list this feature. You will be asked to choose the correct based on your friend's preferences.

Duration and Locale

This study will be conducted in the Social Science Research Building and will last little more than an one hour in total. You will receive one and a half course credits for your participation.

Potential Risk or Discomfort

There are no potential risks or discomfort in this study.

Confidentiality

All data will remain strictly anonymous. As a result, you will be ensured 100% confidentiality. The data collected will be coded in such a manner that your name will not be associated with the data. Only the researchers involved in this project will see the data.

Right to Withdraw

Please note that you have the right to withdraw from the study at any time without penalty and that your participation in this study is entirely voluntary. At any point during the study you have the right not to complete certain questions or to withdraw from the study without any penalty whatsoever.

I have read the above description of the study and understand the conditions of my participation. I agree to participate in this research project.

Please note that according to FIPPA requirements, any personal information collected on this informed consent form and any of the questionnaires used in this study will be kept for six months after which they will be destroyed.

Participant Name: _____

Participant Signature: _____

Researcher Name: _____

Researcher Signature: _____

APPENDIX N
Mother's Wish List (1 attributes condition)

I need you to purchase these twenty items for me that have the following attributes:

1. a kettle with a grip handle that is not difficult to grip
2. a mop rest that has 3 inch casters
3. a sleeping bag with elastic roll ups
4. an indoor grill with a grate that is not fixed
5. a blender with more than 10 speeds
6. a walker that folds easily
7. a hat with velvet trim
8. rulers that have a upper case alphabet
9. a pair of sunglasses with a classic shape
10. a clock with a glass lens
11. a toy cooker with a working microwave
12. a plastic plant that is packed with 12 fronds
13. a baby stroller with a 2 cup holder
14. a car seat cover that is specifically good for bucket seats
15. a polyester blanket
16. an espresso maker with a 15 bar pump
17. an ottoman that is faux leather
18. a fan with a rugged design
19. a laundry hamper that comes with 3 cotton bags
20. a water faucet that has a quarter turn

Additional items added to the wish list for the 2 attributes condition:

1. and that has a built-in whistle
2. and that has a dirty water separator
3. and a full length zipper
4. and is portable
5. and is dishwasher safe
6. and with safety wheel locks
7. and a knot detail
8. and are sold as a 12 pack
9. with 100% U.V. protection
10. that is made of aluminum
11. that has clicker knobs
12. and is 5' in height
13. with locking wheels
14. and that is durable
15. that is made of 100% polyester
16. that can be used with espresso pods
17. that has tufting
18. that has an easy grip handle
19. and wheels that lock easily
20. and a washer-less control cartridge

APPENDIX O
Test of Free Recall (Products)

Please list the product attribute(s) that your Mother had mentioned was important for her the products you just saw:

1. Kettle _____
2. Mop restler _____
3. Sleeping bag _____
4. Indoor grill _____
5. Blender _____
6. Walker _____
7. Hat _____
8. Rulers _____
9. Sunglasses _____
10. Clock _____
11. Toy cooker _____
12. Plastic plant _____
13. Baby stroller _____
14. Car seat cover _____
15. Blanket _____
16. Espresso maker _____
17. Ottoman _____
18. Fan _____
19. Laundry hamper _____
20. Water faucet _____

APPENDIX P
Test of Free Recall (Spokes-Characters)

Please list as many of the characters as you can remember, in as much detail as you can recall from the ads you just saw.

APPENDIX Q
PANAS Mood Scale

Please rate the extent to which you have experienced each of the following emotions

ATTENTIVE

- 1 'very slightly or not at all'
- 2 'a little'
- 3 'moderately'
- 4 'quite a bit'
- 5 'very much'

Please rate the extent to which you have experienced each of the following emotions

INTERESTED

- 1 'very slightly or not at all'
- 2 'a little'
- 3 'moderately'
- 4 'quite a bit'
- 5 'very much'

Please rate the extent to which you have experienced each of the following emotions

ALERT

- 1 'very slightly or not at all'
- 2 'a little'
- 3 'moderately'
- 4 'quite a bit'
- 5 'very much'

Please rate the extent to which you have experienced each of the following emotions

EXCITED

- 1 'very slightly or not at all'
- 2 'a little'
- 3 'moderately'
- 4 'quite a bit'
- 5 'very much'

Please rate the extent to which you have experienced each of the following emotions

ENTHUSIASTIC

- 1 'very slightly or not at all'
- 2 'a little'
- 3 'moderately'
- 4 'quite a bit'
- 5 'very much'

Please rate the extent to which you have experienced each of the following emotions

INSPIRED

- 1 'very slightly or not at all'

- 2 'a little'
- 3 'moderately'
- 4 'quite a bit'
- 5 'very much'

Please rate the extent to which you have experienced each of the following emotions

PROUD

- 1 'very slightly or not at all'
- 2 'a little'
- 3 'moderately'
- 4 'quite a bit'
- 5 'very much'

Please rate the extent to which you have experienced each of the following emotions

DETERMINED

- 1 'very slightly or not at all'
- 2 'a little'
- 3 'moderately'
- 4 'quite a bit'
- 5 'very much'

Please rate the extent to which you have experienced each of the following emotions

STRONG

- 1 'very slightly or not at all'
- 2 'a little'
- 3 'moderately'
- 4 'quite a bit'
- 5 'very much'

Please rate the extent to which you have experienced each of the following emotions

ACTIVE

- 1 'very slightly or not at all'
- 2 'a little'
- 3 'moderately'
- 4 'quite a bit'
- 5 'very much'

Please rate the extent to which you have experienced each of the following emotions

AFRAID

- 1 'very slightly or not at all'
- 2 'a little'
- 3 'moderately'
- 4 'quite a bit'
- 5 'very much'

Please rate the extent to which you have experienced each of the following emotions

SCARED

- 1 'very slightly or not at all'
- 2 'a little'
- 3 'moderately'
- 4 'quite a bit'
- 5 'very much'

Please rate the extent to which you have experienced each of the following emotions

NERVOUS

- 1 'very slightly or not at all'
- 2 'a little'
- 3 'moderately'
- 4 'quite a bit'
- 5 'very much'

Please rate the extent to which you have experienced each of the following emotions

JITTERY

- 1 'very slightly or not at all'
- 2 'a little'
- 3 'moderately'
- 4 'quite a bit'
- 5 'very much'

Please rate the extent to which you have experienced each of the following emotions

IRRITABLE

- 1 'very slightly or not at all'
- 2 'a little'
- 3 'moderately'
- 4 'quite a bit'
- 5 'very much'

Please rate the extent to which you have experienced each of the following emotions

HOSTILE

- 1 'very slightly or not at all'
- 2 'a little'
- 3 'moderately'
- 4 'quite a bit'

5 'very much'

Please rate the extent to which you have experienced each of the following emotions

GUILTY

1 'very slightly or not at all'

2 'a little'

3 'moderately'

4 'quite a bit'

5 'very much'

Please rate the extent to which you have experienced each of the following emotions

ASHAMED

1 'very slightly or not at all'

2 'a little'

3 'moderately'

4 'quite a bit'

5 'very much'

Please rate the extent to which you have experienced each of the following emotions

UPSET

1 'very slightly or not at all'

2 'a little'

3 'moderately'

4 'quite a bit'

5 'very much'

Please rate the extent to which you have experienced each of the following emotions

DISTRESSED

1 'very slightly or not at all'

2 'a little'

3 'moderately'

4 'quite a bit'

5 'very much'

APPENDIX R

Experiment 3 Debriefing

This study has received clearance by the Carleton University Psychology Research Ethics Board

What are we trying to learn in this research?

This study sought to explore aspects of visual advertisement that capture our attention when a purchasing decision is being made. Of specific interest was if the presence of spokes-characters (defined in the literature as a 'symbolic object that has been created for the promotion of a product, service, or idea with conveying a brand attribute or personality', popular examples include the Geikko Gekko, The Energizer Bunny as well as Tony the Tiger) influences where viewers spend their time looking in an ad and if having a spokes-character in an ad has any effect on recall of textual information about products featured in the ad as well as the recall of the spokes-characters in an ad. In this study there were three conditions. In some conditions participants were given a wish list from their Mother to help guide their choices, in the control condition they were not. We were interested to examine what effect the presence of a spokes-character had on how ads were viewed depending on what condition participants were in.

Why is this important to scientists or the general public?

Spokes-characters have been prevalent in North American culture and advertising for the past hundred years. However, little is known about the principles that underlie the use or success of these characters, to date, no studies have examined how these characters capture our visual attention when looking at ads. The purpose of this study was to explore gazing behavior with eye-tracking technology. In this study, the monitor where you were looking at was fitted with two cameras that recorded your eye gazing movements. Eye-tracking studies have been conducted since the 1950s the spectral emission of eye-trackers is limited to the near-infrared (IRA, 780-1400 nm) spectral band and therefore does not pose any threat to personal safety.

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Thank you for your participation in this study. Your time and effort are greatly appreciated!