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Perceived Reality of Images of Women in Magazines

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PERCEIVED REALITY OF IMAGES OF WOMEN IN MAGAZINES

by

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ABSTRACT
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Researchers have posited for decades that media, and magazines in particular, have a negative impact on women's body satisfaction. However, that relationship is a complex one. Several theories, including sociocultural and social comparison theories, have been used to better understand the relationship.

Furthermore, with advances in technology, magazine images of women are now fictional portrayals rather than reflections of reality. This project addresses the question of the extent to which women perceive magazine images to be real and whether there is a relationship between that perception of reality and body satisfaction.

Perceived reality as it relates to magazine images is an area that has been relatively neglected by researchers, so the present study investigated the issue in an exploratory manner. To that end, a new scale was created to measure perceived reality of magazine images of women. It was implemented in an online survey of women ages 18 to 34. Data were gathered using a convenience sample.

Three lines of analysis were then conducted. First, after identifying the most effective items, the reliability, face validity, and convergent validity of the perceived reality of magazine images of women scale were largely established. Within the validity analysis, a confirmatory factor analysis of the scale was conducted which illuminated three factors: real world, factuality, and emotional involvement. A summated version of the new scale was then created for further analysis.

In a second line of analysis, inconsistent and weak relationships were found between perceived reality of magazine images of women and body satisfaction. This result is discussed in light of sociocultural and social comparison theories. In a final line of analysis, consistently moderate relationships were found with the new scale and awareness of digital alteration. The impact of this finding on helping understand what makes up reality judgments is discussed.

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Chapter One: Introduction and Rationale

The findings of a large-scale study conducted in 2004 indicated that 36% of women were somewhat or very dissatisfied with their body weight and shape. Furthermore, 7% identified that they were somewhat or very dissatisfied with their beauty (Etcoff, Orbach, Scott, & D'Agostino, 2004). For each woman, body satisfaction can be a complex issue, with multiple contributing factors. For some women, one such factor is media consumption, particularly magazine reading. Researchers have suggested that women may become dissatisfied with their bodies in part because of exposure to magazines that present an idealized picture of beauty. That body of research will be discussed in depth later in this thesis.

The Importance of Body Satisfaction

The link between magazines and body satisfaction is important to researchers because body dissatisfaction can have devastating outcomes. According to Dittmar (2005), "Body dissatisfaction, the experience of negative thoughts and esteem about one's body, is important to study because it results in a number of significant consequences, including negative self–perception, depressed mood, and disordered eating" (p. 1081). Research regarding body satisfaction and magazine reading is also important because of the prevalence of magazine reading. As many as 47% of consumers read magazines once a week or more often to get beauty and fashion information (Magazine Publishers of America, 2009).

Researchers in the area of media and body satisfaction have primarily focused on why women become dissatisfied with their bodies because disordered eating, perhaps the most serious consequence of body dissatisfaction, is approximately three times more prevalent among women than men (National Institute of Mental Health, 2007). It is important to note however that weight is only one component of body satisfaction. Individuals can be satisfied or dissatisfied because of any number of facial or body features. The topic of women's body satisfaction as it is related to magazine use is explored further in the present study.

Media and Body Satisfaction

The relationship between media images and women's body satisfaction has been assumed for many years. In fact, Wykes and Gunter (2005) suggest:

Causal or probable relationships between media representations and body image have been regularly, theoretically posed since Orbach (1978), who briefly noted the tendency for the media to produce a picture of ideal femininity as "thin, free of unwanted hair, deodorised, perfumed, and clothed … They produce a picture that is far removed from the reality of everyday lives (1978: 20-21)." (pg. 2).

Several theories have been used to better understand the relationship. Two often-cited theories are sociocultural theory and social comparison theory. Sociocultural theory suggests that mass media and other sources of sociocultural pressure provide powerful diffusion and reinforcement of standards of beauty (Dittmar, 2005). A model based on this theory suggests "that current societal standards for beauty inordinately stress the importance of thinness as well as difficult to achieve standards of beauty" (Thompson,

Heinberg, Altabe, & Tantleff-Dunn, 1999, p. 85). Exposure to mass media containing

unrealistic standards of beauty does not always result in body dissatisfaction. It has been

suggested that there are three parts to media influence as it relates to body image: media

exposure, awareness of societal standards, and internalization of those standards

(Cusumano & Thompson, 1997). The last part, internalization of societal standards,

points to the idea that individual differences may play a part in whether or not media

exposure results in decreased body satisfaction.

    In fact, certain individual differences have been found to make some people more

susceptible to negative effects. Two examples are the aforementioned internalization

factor and propensity to comparison. Several researchers have found that it is not

exposure to standards of beauty but rather the internalization of those standards that

results in body dissatisfaction (Dittmar, 2005). One such study dealing specifically with

magazines was that of Cusumano and Thompson (1997). They created a scale to measure

both awareness of the thin ideal and internalization of that ideal. Their study indicated

that exposure to thin-ideal media alone was not an indicator of body dissatisfaction but

that awareness and even more so internalization of that thin ideal were related to body

dissatisfaction. Internalization of social standards is just one individual difference that

may mediate the relationship between mass media exposure and body dissatisfaction.

Another individual difference variable discussed in this line of research is the tendency

toward social comparison. The social comparison variable is supported by social

comparison theory.

    The theory of social comparison was first proposed by Festinger. In 1954,

Festinger suggested that people establish their personal identities through comparing

themselves to others. Social comparison theory asserts that when an individual compares

in an "upward" direction, meaning to someone who is considered better, the comparison

has a negative impact on self-satisfaction (Wykes & Gunter, 2005). Social comparison

therefore could be one explanation for why media images have a negative impact on body

satisfaction. As previously described, women portrayed in media tend to be thin and

attractive. This could lead to upward comparisons. Compared to the "perfect" models

portrayed in media images, the average woman may seem less attractive. Thus,

individuals who are prone to social comparison may compare to media images in an

upward direction which could lead to body dissatisfaction. As described, both

sociocultural and social comparison theories point to media's influence on body

satisfaction. Anecdotal evidence and research, mostly centered on television and

magazines, have been used to further explain that relationship.

Magazines and Body Satisfaction

Beauty and fashion magazines, with their images of glamorous models and

celebrities, have been recognized as a factor affecting women's body dissatisfaction. In

1984, *Glamour Magazine* conducted a survey about women and body satisfaction. In

2009, they reprised that survey with 16,000 participants. (Beyond the number of

respondents, the rest of their methodology was unreported, and the survey was

presumably unscientific.) The authors discussed why they undertook the survey, writing,

"Talk of size acceptance and body love are everywhere. Women of all body types—from

voluptuous Adele to pin-thin Keira Knightley—are rightly praised as gorgeous. We seem

to have learned to see beauty in one another, but have women's true feelings about their

own bodies changed? *Glamour* decided to find out" (Dreisbach, 2009, ¶ 2). *Glamour's* primary finding was that over 40 percent of women are unhappy about their bodies, a number relatively unchanged from their 1984 survey.

In their report, the *Glamour* authors made several recommendations for how to combat body dissatisfaction including working toward professional achievements, exercising, having sex, eating well, and giving and accepting compliments. *Glamour's* advice was based on responses to their survey, but one may wonder, as some of those who commented on the article did, if *Glamour* itself was not a contributor to women's body dissatisfaction. The article discussing the body image survey on glamour.com was surrounded by ads and articles with some of these headlines, "Lose Up to 5 Pounds in 1 Week with Body by *Glamour*," "Exactly What to Eat to Lose Weight," "Diet Like a Diva," and "OMG Alert: Spanx Launches Swimwear (AND it's Cute!)." The images around the article included super-thin models in bathing suits, an ad with tennis players Serena and Venus Williams, and a mostly nude woman who is heavier than the average model but likely thinner than the average American woman. (See Figures 1 through 3.)

Figure 1

Women in bathing suits from glamour.com.

Figure 2

Serena and Venus Williams from glamour.com.

Figure 3

Mostly nude woman from glamour.com.

One user who commented on the article used the words *body-image hypocrisy* to describe the juxtaposition of the content and ads on the *Glamour* website with the information on body satisfaction.

This is just one anecdotal example of how magazines that say they are encouraging *body love* may also fuel *body hate*. In Chapter Two, academic research regarding the relationship between women's magazine consumption and body image will be discussed in depth. As a preview, much of that research focuses on the issue of weight, and research findings indicate that the relationship is a complex one with many potential mediating factors. For example, magazine reading has a negative impact on some women's body satisfaction. While researchers have long examined the magazine-body satisfaction relationship in general, a technological development, namely Photoshop, has changed the nature of the images in magazines, and little research has addressed this. Photoshop is computer software that was first released in 1990 (West, 2010). Twenty years and twelve versions later, Photoshop allows photo editors to make numerous realistic alterations to any photo, and it is the industry standard for touching up images used in magazines. While researchers have barely touched the surface of the topic of digital alteration in magazines and what it means for women's body satisfaction, photoshopping has become an increasingly salient issue. Photoshopping as a phenomenon is discussed in greater depth in the next section.

Digital Alteration of Images

The word "photoshop" is no longer just a trade name or industry jargon. It appears in the Merriam-Webster Dictionary as a transitive verb defined as "to alter (as a

digital image) with computer software" (Merriam-Webster, 1992). In reality, the word *photoshop* has come to mean much more. Photoshopped images are commonplace on the internet and in print, and can be found throughout the pages of magazines worldwide. The editor of Canada's *Flare* magazine said, "Any fashion periodical that claims not to retouch photos is lying" (Harris, 2008, ¶ 10). A premier photo manipulator recounted that in one issue of *Vogue* (US) alone he retouched 107 advertisements, 36 fashion photos, and the cover image (Long, 2008). Photoshopped images are found not just in fashion magazines either. For instance, in 2005, *Newsweek* put Martha Stewart's head on a thinner woman's body in their magazine (Harris, 2008). The frequency and importance of photoshopping is further evidenced by the prevalence of the discussion of photoshopping online, in the news, and in editorials.

Popular discussion of photoshopping is increasing. In 2007, *The New York Times* ran an article regarding excessive photoshopping of celebrities. The article referenced retouched celebrity photos from the covers of *Men's Fitness*, *US Weekly*, and *In Touch* (Newman, 2007). Exposing photoshopped images like this has become a pop culture staple. The website jezebel.com features a "Photoshop of Horrors." They highlight poor photoshop work and excessive alterations found in magazines, advertisements, and product packaging. Some of the "offenses" that they point out are body parts left in photos without attached bodies and numerous occurrences of unnatural waistlines, bust lines, and facial features. In some cases, the alteration is obvious at face value, in others a candid photo of the target celebrity is provided for comparison (jezebel.com, 2008). The website popeater.com by AOL Television also has several features regarding photoshopping. In one feature, "Picture Perfect," they include the cover art of nine

different magazines featuring celebrities such as Beyonce Knowles, Brooke Shields, Jennifer Lopez, and Kirsten Dunst. Some of the changes between the cover art and unretouched photos of the celebrities are smaller waistlines, larger breasts, fewer wrinkles, straightened teeth, and smoother skin (AOL Television, 2008). The commentary on both websites encourages magazine editors to stop photoshopping celebrities.

Another example of the discussion of photoshopping and unrealistic images in popular culture is the Dove Campaign for Real Beauty. In 2004, Dove began their campaign with a series of ads featuring real women rather than models. They have committed not to significantly alter the images used in any of their ads in ways that promote an unrealistic or unattainable standard of beauty since then (Unilever, A word about our images, 2008). Dove has expanded the Campaign for Real Beauty to include further ads, a website, materials for teaching girls about beauty and self esteem, and viral videos. One of the viral videos, called Evolution, specifically highlights the issue of photoshopping (Unilever, Evolution). In the video, a young woman is seated under professional lighting, her hair is styled and make-up applied, and photos are taken. Then her image is altered on a computer. Her lips are enlarged, neck elongated, hair perfected, eyebrows lifted, face thinned, and eyes made larger. The image then appears on an outdoor billboard. Afterwards, text appears on the screen that says, "No wonder our perception of beauty is distorted." The video demonstrates how seamlessly and quickly alterations can be made to a photo and how different a final image can look from the person who was photographed.

There are multiple points of view in the discussion of digital alteration. Shari Graydon, a director at Ontario-based Media Action, is of the opinion that readers have the right to expect that images represent the truth. She suggests that readers should be able to trust the images in a publication as much as the text in that publication (Harris, 2008). She also suggests that companies who sell fashion and beauty products are not practicing truth in advertising if they photoshop images for their ads. Critics of this line of thought suggest that if everyone knows that images are manipulated then unrealistic portrayals are a non-issue. They suggest that rational people can separate imagination from reality (Long, 2008). Another argument in favor of photoshopping is that advertisers and publishers would not be as commercially successful without it. A previous editor of *Cosmo Girl* has said, "We could change, but if we change then we won't make as much money" (Heckscher, 2008). Researchers have begun to refute that argument with scientific evidence (Halliwell & Dittmar, 2004). Others have taken a middle of the road approach. Sally Brampton, the former editor of *Elle* said, "Retouching is neither good nor bad: it is clearly something we want and until we decide we don't want it, it will remain that way" (Long, 2008, p. 14). As these opinions demonstrate, there are many sides to the debate about photoshopping.

Despite the fact that there are mixed opinions regarding the use of digital alteration in media, the fact that digital manipulation is pervasive cannot be denied. Building on that premise, the present study explores digital alteration in greater depth by attempting to understand women's perceptions of the reality of images that they see in media, particularly the images in beauty and fashion magazines.

Rationale

The central point of the discussion about digital alteration is that photoshopping creates images of women that are not real. Rather each altered image is a fictionalized portrayal of what the woman who was photographed looks like. Because photoshopping is undisclosed, readers must judge the realism of images for themselves. Furthermore, there is little research in this area. We do not know the extent to which women who read magazines perceive the images to be real. In addition, the extent to which women perceive images in magazines to be real may be a factor in their level of body satisfaction because there is a relationship between magazine reading and body satisfaction which is dependent on individual differences. The present study will explore this issue.

A further review of literature relevant to the present study including that regarding magazines and body satisfaction, digital alteration, and *perceived reality* of media follows in the next chapter. As discussed so far, there is an apparent lack of research focusing on the overlap of these topics, implying that how digital alteration is related to the *perceived reality* of media images and also body satisfaction needs additional discussion. To add to the discussion, the present study, which analyzes collected survey data, will examine women's perception of realism of magazine images of women through the creation of a new scale. The goal of the present study is not only to test the new scale but also to look at the relationship between *perceived reality* of magazine images of women and awareness of digital alteration and body satisfaction. Three research questions, offered in Chapter Two, will be used to address these goals.

In Chapter Three, the methods employed to gather data in the present study are explained. Chapter Four is a presentation of the results of this research. The discussion of the results of the study is informed by two theories, *sociocultural theory* and *social*

comparison theory. Finally, Chapter Five includes interpretation of the results, limitations

of the present study, and suggestions for future research which conclude this thesis.

Chapter Two: Literature Review and Research Questions

In this chapter a review of relevant literature is presented. The review includes the following. The fact that magazine reading has a negative impact on some women's body satisfaction has been well established by researchers. However, there has been very little research regarding the digital alteration of images or the *perceived reality* of media images as they relate to body satisfaction. Research has been conducted regarding *perceived reality* of media in general, but that research lacks a consistent conceptualization of *perceived reality* as a construct. To address this issue, Hall (2003) conducted a qualitative study focusing on the criteria media audiences use to judge realism in media. The different dimensions that emerged from that study are used to conceptualize the construct of *perceived reality* in the present study. Next, a discussion of previous research related to magazines and body dissatisfaction, digital alteration, and *perceived reality* of media are presented followed by a synopsis of how the present study addressed gaps in the current research.

Magazines and Body Dissatisfaction

Numerous researchers have investigated the effects of media consumption on women's body satisfaction with a wide variety of findings. Drawing on that body of research, Groesz, Levine, and Murnen (2002) conducted a meta-analysis of experimental research on the relationship between media use and body satisfaction. They used 25 studies to calculate an overall effect size which was found to be "small but relatively consistent and significant" (Groesz, Levine, & Murnen, 2002, p. 11). Groesz and

colleagues concluded that in experimental settings women who were exposed to media

images of thin models were more dissatisfied with their bodies than those who were

exposed to other types of media images (average to plus sized models or controls). A

somewhat broader meta-analysis was conducted by Holstrom (2004). She also calculated

the overall effect size of media on body image. Holstrom's meta-analysis, which included

34 survey and experimental studies, indicated that the overall effect size of media use on

body image was small. Holstrom identified several potential reasons for the small effects

size such as flaws in methodology and participant desensitization in the original studies.

Others have postulated that small effect sizes are found because effects are not present

among some subgroups of women (Dittmar, 2009). A later meta-analysis was conducted

by Levine and Murnen (2009) that was more inclusive than their prior study with Groesz.

This analysis included 77 correlational or experimental studies, and Levine and Murnen

concluded that media have a small to moderate effect on body satisfaction.

Theories

More specific to the present study, research has been conducted related to

sociocultural and social comparison theories and magazine use. Previous studies support

both theories. Research was conducted by Cusumano and Thompson in 1997 regarding

sociocultural theory, and they found that internalization of societal standards of

appearance is related to body image disturbance, eating dysfunction, and self-esteem.

Their primary finding was that magazines contributed to "societal standards of

appearance" (Cusumano & Thompson, 1997, p. 701). This key study set the tone for

further research regarding sociocultural theory. Glauert and colleagues (Glauert, Rhodes,

Byrne, Fink, & Grammer, 2009) investigated the idea of internalization of the thin ideal further. They found that the more women internalized the thin ideal the thinner the body they selected as their ideal. Also, while some women who were exposed to fat bodies then identified an ideal that was heavier, women who were high internalizers were less impacted by exposure to fat bodies. The experiments in Glauert and colleagues' study used computer-generated, nude, female bodies as exposure stimulus, not magazine images. However, these findings support the idea that women who internalize the thin ideal are more impacted by viewing thin images than women who do not internalize the ideal.

Stice and colleagues (Stice, Mazotti, Weibel, & Agras, 2000) took a more applied approach to their evaluation of sociocultural theory. Rather than simply measure the effect of internalization on body dissatisfaction, they set out to test the impact of internalization through a body image disturbance prevention program. Stice and colleagues had a group of undergraduate females with heightened body image concerns go through a group program wherein they learned to refute the thin ideal which was understood to be perpetuated by family, friends, and the media. Stice and colleagues concluded that internalization was related to body dissatisfaction in that when they were able to systematically reduce women's internalization their body dissatisfaction was also reduced. Further supporting sociocultural theory, Dittmar, Halliwell, and Stirling (2009) found similar results, that women who internalize a socially-constructed thin ideal are probably more affected by media exposure than women who do not.

On the social comparison front, Tiggemann and McGill (2004) set out to investigate the role of social comparison in women's responses to magazine

advertisements. They presented women with different types of images and different instructions, one of which encouraged comparison. Through regression analysis, Tiggemann and McGill found that the amount of social comparison women engaged in mediated the effects of image type on mood and body dissatisfaction. Bessenoff (2006) also found that social comparison mediated the relationship between magazine advertisements and body dissatisfaction. She found that women who already had higher body dissatisfaction were more likely to engage in social comparison from exposure to thin-ideal images and were also more likely to experience negative effects as a result of that social comparison. Likewise, Tiggemann, Polivy, and Hargreaves (2009) found that when women were instructed to engage in social comparison during magazine reading they were more likely to have body dissatisfaction than those who were given fantasy instructions. Similar findings include those of Krcmar, Giles, and Helme (2008). They found that exposure to fashion, celebrity, and fitness magazines had a negative effect on women's body satisfaction and furthermore that comparison was the mechanism through which body satisfaction was lowered. More relevant to the present study is the work of another researcher, Bissell (2004). She studied whether or not women engaged in social comparison if they knew that the model presented was digitally manipulated. Bissell's study will be described in detail in the next section.

Sociocultural and social comparison theories have been evaluated side by side as well. For example, Morrison, Kalin, and Morrison (2004) compared the impacts of exposure to magazines and television with idealistic images and frequency of self-comparison to idealistic targets such as fashion models. Their primary finding was that sociocultural theory was minimally supported while social comparison theory was

strongly supported. Dittmar and Howard (2004) also compared the two theories but found

different results. Their study found that "internalization is a more proximal and specific

predictor of women's anxiety than more general social comparison" (p. 768). Clearly

there is no consensus as to which theory provides better prediction of body satisfaction.

While not tested directly, both sociocultural and social comparison theories were used as

background for the present study. As described, there has been much research conducted

on the subject of magazines and body satisfaction. In contrast, there has been little

research conducted on digital alteration of magazine images.

Digital Alteration

Bissell (2004) questioned the role of digital alteration in women's social

comparison processes and resulting body satisfaction, so she conducted an exploratory

study. Her study included an experiment wherein some participants were exposed to an

image of a model with the statement, "The image below has been digitally manipulated to

enhance the model's appearance" (p. 10), and other participants were shown the same

photograph with no disclaimer. Bissell found that participants who knew that the image

had been manipulated were less likely to want to look like the model in the image. Those

women were also less likely to be dissatisfied about the size of their bodies. Overall,

Bissell concluded that "knowledge of digital manipulation may be one factor that

mediates the more harmful messages found in entertainment and fashion magazines and

entertainment television" (p. 21). While exploratory, Bissell's study points to knowledge

of digital manipulation as a mediator of body dissatisfaction related to media use.

Reaves, Bush-Hitchon, Park, and Yung (2004) also examined the role of digital manipulation in media effects. Their primary focus was on effects of the thinness of fashion models in magazines. In their experiment, Reaves and her colleagues presented participants with an image of a model from a magazine and a "restored image" (a version of the same model altered to show a healthier body weight). Participants were then questioned regarding their awareness of and attitudes towards digitally manipulated images in magazines. The primary finding of their study was that readers are aware of and disapprove of altering models to look thinner. This study was somewhat limited in scope because it only included the manipulation of weight. As discussed with popular press examples, other characteristics of women such as breast size, neck length, facial features, hair, skin, and teeth are digitally altered in media as well.

Reaves (2005) continued investigating digital alteration by collecting comprehensive survey data regarding the ethics of digital manipulation. Analysis of the survey data revealed that photojournalists are much more apt to disapprove of photoshopping than magazine photographers. The ethics of photo manipulation is the most discussed aspect of digital alteration in scholarly literature. In fact, at least one book was devoted to the subject (Wheeler, 2002). As Reaves's study would indicate, the issue of ethics is most often addressed in the context of journalism rather than other types of media. Digital alteration outside of journalism is widespread if not widely accepted. While the discussion of the ethics of photo manipulation is not useful in determining the extent to which digital alteration impacts body satisfaction, the results of research on the latter may inform the ethical debate.

One of the arguments that some practitioners use to argue that digital alteration is ethical is that everyone knows that images are manipulated. This argument assumes that readers already know that media images are not real. Bissell's study (2004) would imply that this is not the case. There are no digital manipulation disclaimers required in the United States. Additionally, knowledge of digital alteration is just one of many factors that may influence whether or not an image is perceived to be real. Those factors will be discussed in depth in the next section.

Perceived Reality of Media

Many studies have been conducted regarding *perceived reality* of media, particularly in the context of television. Shapiro and Chock (2003) asserted that, "Investigators have long recognized that the perceived reality of a media presentation may influence mental processes, attitudes, beliefs, and behaviors" (p. 1). For example, one study found that the extent to which a child believes that television is an accurate portrayal of life significantly mediated the relationship between television violence and aggression (Eron, 1982). A similar study with adults found that those who viewed a movie clip which they were told was a documentary had increased resulting aggressive behavior, compared to those who were told that the same clip was a Hollywood production (Berkowitz & Alioto, 1973). In another study, *perceived reality* was found to be a mediator of the relationship between watching a family sitcom and children's concern about negative emotional events in their own lives (Weiss & Wilson, 1998).

More specific to the topic at hand, an experiment was conducted with women in Korea regarding *perceived reality* of thinness portrayed in magazines and television

shows and body satisfaction (Han, 2003). In that study, a correlation was found between upward social comparison and body dissatisfaction, however no correlations were found between *perceived reality* of magazines and body dissatisfaction. A potential reason for this lack of a relationship between *perceived reality* and body dissatisfaction may lie in the way that Han conceptualized and operationalized *perceived reality*. The researcher defined *perceived reality* as "how realistically participants perceived thin media images compared to real people" (page 70). *Perceived reality* was measured in three Likert-type questions: generally models in ads have a slender body, I run into many thin girls who are just as thin as models in ads, and I think models in ads are too thin. This type of *perceived reality* could be referred to as the typicality of the portrayal and does not consider other components of *perceived reality* which will be discussed later in this section. Other than Han (2003), no other researcher to date has looked at the relationship between *perceived reality* of magazine images and body satisfaction. The current project will address this gap in the literature.

As discussed earlier, conceptualization and operationalization of *perceived reality* are critical. However, as reported by Hall (2003) and others, previous research suffers from a lack of agreement among researchers regarding how to define and measure *perceived reality.* As Hall (2003) stated, "Despite the frequency with which perceived realism has been advanced as moderator of media influence, there is little agreement about how it should be conceptualized or how it is best measured. The contrasts across studies in the measurement and conceptualization of realism pose a challenge to the interpretation of existing studies and to the development of further research" (p. 624).

Other researchers have also acknowledged this issue and have attempted to clarify the

dimensions of perceived reality. A summary of the work of those researchers follows.

In order to clarify the various conceptualizations of *perceived reality*, specifically

of television, Busselle (1995) reviewed the literature on the subject. Busselle identified

six unique dimensions of perceived reality of television: 1) magic window, the viewer's

perception of how similar the television programming is to real life 2) plausibility, the

extent to which the viewer believes what he sees on television could exist in the real

world, 3) probability, the likelihood that what is being viewed does exist in the real

world, 4) instruction, the usefulness of the media being viewed to the viewer's life, 5)

identity, the extent to which the viewer believes that what he is viewing is similar to his

own experience, and 6) superficiality, the triviality of the content being viewed. Busselle

suggested that this combination of six items may be used by viewers to analyze reality on

multiple levels of abstraction including global or all television, genre, program, and

episode. In the present study, the level of abstraction that participants were asked to

evaluate is similar to the episode level. Respondents were asked questions regarding

specific magazine pages instead of TV show episodes. While Busselle's six dimensions

were found across numerous studies, the conceptualizations used in individual research

tend to be narrow. The present study will attempt to address this limitation by taking a

more holistic approach to defining *perceived reality*, using multiple dimensions.

Whereas Busselle (1995) used a review of relevant literature to compile items that

researchers used to measure viewers' perception of the reality of television, Hall (2003)

conducted a study in which she asked consumers to identify the framework that they use

to evaluate the reality of media. Hall conducted a qualitative study asking focus groups to

discuss the elements that make up their reality judgments. She found six dimensions that

audiences use to evaluate realism including *plausibility*, *typicality*, *factuality*, *emotional*

involvement, *narrative consistency*, and *perceptual persuasiveness*. The groups in Hall's

study mainly discussed television and film.

One of the primary ways that participants defined realism was *plausibility* or

whether the characters and events could actually occur. Examples of elements that

participants identified as unrealistic because they were implausible were characters with

supernatural powers, "perfect" family storylines, overly-sophisticated teenagers, and

characters with a standard of living too high for their occupations. Participants often used

their own lives as a benchmark for whether or not a media representation was plausible.

The second dimension that participants relied on to define realism was *typicality*. Some

participants noted that if a particular situation represented in media is possible for one

person but is out of the ordinary that realism is decreased. A third dimension that

participants used to define realism was *factuality*. A factual presentation of real events

was cited as the "gold standard of realism" (Hall, 2003, p. 633). Participants noted that

when people and events are manipulated or contrived in a program then it becomes less

real. The fourth criterion that participants used to evaluate realism was *emotional*

involvement meaning the potential for them to become involved with or relate to

characters. For example, some participants noted that if they felt an emotional attachment

to a character or cried because of an element in the storyline that felt real, they could

overlook the unrealistic elements. The fifth dimension that participants articulated that

they used to evaluate realism was *narrative consistency*. This criterion was voiced less

often but spoke to the way in which audiences suspend disbelief. A few participants

discussed how even with an unrealistic genre like science fiction it is easy to suspend

disbelief because of the logical explanations for technology or events. Others mentioned

how they expect a series to be internally consistent. The last dimension discussed by the

participants was *perceptual persuasiveness*. This criterion references the visual quality of

a given medium. For example, because of their production quality, movies would be seen

as more realistic than soap operas in this sense. Participants indicated that they were

evaluating not the content but rather the appearance of reality. Hall asserted that some

people may have a tendency to emphasize one or more dimension of realism over the

others. Individual differences may drive the users' interpretations of a media text as real

or unreal.

To recap the literature review, research regarding *perceived reality* of media lacks

a consistent conceptualization of *perceived reality* as a construct. To address that issue,

Hall (2003) conducted a qualitative study identifying the dimensions media audiences use

to judge realism. The different dimensions that emerged from Hall's study are used to

conceptualize *perceived reality* in the present study through the creation of a new scale.

The validity and reliability of the new scale are addressed in research question one

presented in the next section. Furthermore, the fact that magazine reading has a negative

impact on some women's body satisfaction has been well established by researchers.

However, there has been very little research regarding the digital alteration of images or

the *perceived reality* of media images as they relate to body satisfaction. Those two gaps

in the literature are addressed in the present study through research questions two and

three, also presented in the next section.

Research Questions

In the present study, Hall's six dimensions of *perceived reality* were used to develop a holistic scale to measure *perceived reality* specifically as it relates to magazine images. Hall's dimensions were chosen as the basis of the new scale because they provided the most comprehensive definition of *perceived reality* as articulated by consumers available. It was important that the new scale tap into as many factors of *perceived reality* as could be identified. Hall's dimensions were also easily adapted to the context of beauty and fashion magazines. The narrative examples provided in Hall's publication served as a guide for crafting the statements in the new scale for the present study.

A primary goal of this study was to establish the validity and reliability of the *perceived reality* of magazine images of women scale. Since past research suggested that *perceived reality* might influence body satisfaction, the relationship between the newly posited measure of *perceived reality* of magazine images and body satisfaction was also examined in this study. Furthermore, since awareness of digital alteration may be a factor in *perceived reality,* the relationship between awareness of digital alteration and *perceived reality* of magazine images was looked at in the present study. Related to these goals, three research questions were posed:

RQ1: What are the strengths and weaknesses of the *perceived reality* of magazine images of women scale created in this study in terms of validity and reliability?

RQ2: What is the relationship between *perceived reality* of magazine images of women and women's body satisfaction?

RQ3: What is the relationship between awareness of digital alteration of images and *perceived reality* of magazine images of women?

Finally, conclusions were drawn regarding the implications of the scale for future research on both *perceived reality* of media and perceived reality's impact on body satisfaction.

Chapter Three: Methods

In order to address the research questions, the following methods were used. First, a pilot study was conducted to test the survey instrument, especially the new scale capturing *perceived reality* of magazine images of women. Then a full-scale study was conducted. Results of the full-scale study in light of the research questions are presented in the next chapter.

Sample

Research indicates that adults under age 35 are the most avid readers of magazines with females ages 18 to 24 reading the most (Magazine Publishers of America, Inc., 2008). Because they are the most likely group to be impacted by magazine reading, females ages 18 to 34 were recruited for this study. To confirm that the sample was appropriate, data regarding participants' magazine consumption were gathered. Participants' ethnicity and education levels were also requested for the purpose exploring the generalizability of the present study by comparing the demographics of the study's convenience sample to the population of women ages 18 to 34.

For the pilot study, 36 participants were recruited via the researcher's online social network. Six participants did not complete key components of the survey, so 30 participants were included in the pilot study analysis. Participants were ages 19 to 33 with an average age of 26 (n = 30). In regards to ethnicity, 26 described themselves as white, 2 as black or African-American, 1 as Asian, and 1 as a combination of ethnicities (n = 30). The education levels of the participants were varied with 1 having a high school

diploma or GED, 10 finishing some college, 2 having a 2-year degree, 8 possessing a 4-

year degree, 7 having a master's degree, and 2 with a doctoral degree (n = 30).

For the full-scale study, 368 participants were recruited through the researcher's

university contacts and online social network. Seventy-two participants exited before the

end of survey and were not included in the analysis. An additional seven participants

reported that their age was older than the target group and were also excluded from the

analysis. Of the remaining participants, 48 did not answer the age question. Since the

desired age range was prominently featured in both the recruitment message and the

consent form and the number of participants who answered that they were an age outside

of the range was less than a half of one percent, those who did not answer the age

question were still included in the analysis. Therefore, 289 surveys were included in the

full-scale analysis. Of those who responded to the age question, participants were ages 18

to 34 with an average age of 26 (n = 241). Eighty-nine percent or 258 participants

reported that they were white or European-American (n = 289). The remaining

participants identified themselves as the following ethnicities: 1 black or African-

American, 8 Hispanic or Latino, 6 Asian, 13 a combination of ethnicities, and 3 none of

the ethnicities listed. The education level of participants was varied. One did not

complete high school, 15 had a high school diploma or GED, 76 completed some college,

24 had a two-year degree, 114 obtained a four-year degree, 50 received a master's

degree, and 7 completed a doctoral degree (n = 287). On average, participants paid more

attention to magazines for beauty and fashion information (M = 3.04) than movies (M =

2.45), television (M = 2.56), or websites (M = 2.87) on a scale from 1 to 5. The majority,

58 percent, reported reading one or more issues of beauty and fashion magazines in the

typical month. The range of the number of issues read was from 0 to 15. Participants spent about an hour and a half reading beauty and fashion magazines in the typical month on average (M = 92.25 minutes). The range of time spent reading was from 0 to 20 hours.

Procedures

To address the research questions, a survey was conducted using convenience samples. Institutional Review Board approval was granted for the study prior to any collection of data. The pilot and full-scale studies were conducted using an online survey collection site. For the pilot study, the researcher contacted individuals through her online social network. For the full-scale study, the researcher contacted individuals through university contacts and online social networks, primarily through Facebook. Contacts were asked to complete the survey and/or to refer the survey to friends who met the recruitment criteria. The remaining procedures were identical for the pilot and full-scale studies. Before beginning the survey itself, participants were presented with an informed consent form asking for their voluntary participation in the study (See Appendix A). The informed consent form also included an optional field for participants to provide their e-mail address for inclusion in a drawing for $50. The informed consent form reiterated that participation was voluntary and that questions could be skipped or the survey could be exited at any time. All those who entered e-mail addresses were included in the drawing, regardless of whether or not they finished the survey. When recruits pressed the submit button on the informed consent form, they were automatically redirected to the online survey instrument.

Instrument

The survey included questions about demographics, media use, the new scale, awareness of digital alteration, and body satisfaction. (See Appendix B.) Demographic questions included age, race, and education. To measure prior magazine use, participants were asked the number of beauty and fashion magazine issues they read in the last month and the amount of time that they spent reading them. Participants were also asked to gauge the amount of attention they pay to different sources for beauty and fashion information on a five-point Likert-type scale. To prevent participants from guessing the intent of the survey, questions were also asked about the amount of attention they pay to different sources for political and technology information as well. The *perceived reality* of magazine images of women scale was used with four, specific, visual examples including a full-body photo ad (Magazine Page 1), a close-up photo ad (Magazine Page 2), a full-body photo editorial page (Magazine Page 3), and another close-up photo ad (Magazine Page 4). The first two images were selected because they were more stylized and the latter two because they were more natural based on the researcher's interpretation in order to provide variety for testing of the new scale. For each magazine example, five-point, Likert-style questions were asked that together addressed all six dimensions of reality outlined by Hall (2003). For each question, participants were asked to respond to a series of statements on a scale from strongly disagree to strongly agree. The statements broken down by the six Hall dimensions are as follows:

Plausibility Statements 1 and 2 – It's not possible for a real woman to look like the model shown in this magazine page. I could look as good as the model shown in this magazine page.

Typicality Statements 1 and 2 – I never see women who look like the model in this

magazine page. The model shown in this magazine page is a typical American

woman.

Factuality Statements 1, 2, and 3 – If I met the model in this image on the street, I

would expect her to look the same as shown here. A photo of the model shown here

was taken for the magazine and used exactly as it was taken. The photo of the model

in this image was airbrushed or altered on a computer.

Emotional Involvement Statements 1 and 2 – I don't like looking at this magazine

page. Looking at this image makes me feel happy.

Narrative Consistency Statements 1 and 2 – The model in this magazine page looks

like most women shown in media like TV, the internet, and advertisements. The

model here looks like most models in beauty and fashion magazines.

Perceptual Persuasiveness Statements 1 and 2 – This magazine page looks like it was

created by a professional designer. The model shown in this magazine page is

attractive.

Along with these thirteen statements, an item to measure the participant's general reality

judgment for each magazine page was included. That statement said, "The photo in this

magazine page looks real."

Likert-type questions about awareness of digital alteration were also adapted from

those used by Reaves et al. (2004). These questions asked how widespread, how

frequently, and how commonly the participants thought digital alteration is used in

magazines. Body satisfaction was measured using the Body Esteem Scale for

Adolescents and Adults (BESAA) (Mendelson, Mendelson, & White, 2001). This scale too uses five-point, Likert-style questions. The BESAA was selected because it is sufficiently broad, addresses long-term attitudes, and has three factors for more robust analysis. The scale's three factors are general feelings about appearance, weight satisfaction, and attributions of positive evaluations about one's body and appearance to others. The BESAA has acceptable reported reliability (Cronbach's alpha = .81-.94) (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). In addition to all of these items which were used to answer the research questions in this thesis, several other scales were included in the survey which will be used for future research. The same survey instrument was used for both the pilot and full-scale studies for reasons discussed in the next section.

Coding and Analysis

The following sections describe the coding and analysis that were completed for the pilot study and the full-scale study.

Pilot Study

When 30 completed surveys were obtained for the pilot study, data were downloaded from the online survey collection site and loaded into SPSS. First, descriptive statistics were gathered. Then, missing data were addressed. Outside of the age question, which 7 participants did not answer, only three missing data points were found among all 30 surveys. According to Hair, Black, Babin, and Anderson (2010),

when there are relatively low levels of missing data and complete information is needed

for every case, replacing missing data points with the mean for their respective questions

is an appropriate and widely-used solution. Complete cases were necessary for the

present study because the analysis would include structural equation modeling which

does not compute with missing data points. Therefore, in the pilot study, three missing

data points were replaced with the mean for their respective questions, corresponding

with the solution that would be employed for the full-scale study. Next reversed-coded

scale items were re-coded. Descriptive statistics were used to confirm that the correct

changes were made. For the pilot study, the primary analysis conducted was to confirm

that the survey instrument and new scale therein were performing as anticipated. A

measure of internal consistency for the new scale was performed which showed that the

perceived reality of photos of women in magazines scale was internally consistent for the

four different magazine images (Magazine Page 1: Cronbach's alpha = .599, Magazine

Page 2: Cronbach's alpha = .801, Magazine Page 3: Cronbach's alpha = .656, Magazine

Page 4: Cronbach's alpha = .816). Internal consistency was also measured for the

BESAA scale with acceptable results (Cronbach's alpha = .947).

An exploratory factor analysis was conducted with the *perceived reality* of photos

of women in magazines scale for each magazine page with the intent of preliminarily

evaluating the scale while acknowledging that 30 is a small sample size for a factor

analysis. The results were generally in line with the expectation that the factors would

coordinate with the six dimensions used to create the scale. The factor analysis using data

from Magazine Page 4 had results that were the most consistent with the six dimensions.

(See Table 1.)

Table 1

Primary Loadings of the Factors of the Perceived Reality of Photos of Magazine Images of Women Scale used with Magazine Page 4
Factor Analysis using Varimax Rotation

	Factor 1	Factor 2	Factor 3	Factor 4
Typicality Statement 1	.838			
Plausibility Statement 1	.804			
Typicality Statement 2	.770			
Plausibility Statement 2	.677			
Factuality Statement 2		.855		
Factuality Statement 3		.821		
Perceptual Persuasiveness Statement 2		-.699		
Factuality Statement 1		.496		
Perceptual Persuasiveness Statement 1			.892	
Emotional Involvement Statement 2			.806	
Emotional Involvement Statement 1			.544	
Narrative Consistency Statement 2				.970
Narrative Consistency Statement 1				.956

In consideration of this analysis, the researcher proceeded with the full-scale

investigation with no changes to the survey instrument.

Full-Scale Study

When a sufficient number of surveys were collected for the full-scale study, data

were downloaded from the online survey site and loaded into SPSS from 368 surveys.

Incomplete surveys, those by participants who did not reach the end of the survey, and

surveys by participants who reported ages older than the target were removed. Then, the

same process of data preparation used for the pilot study was conducted with the

remaining 289 surveys. Reversed-coded scale items were re-coded. Then missing data

were addressed. Missing data for the perceived reality of images of women in magazine

scale were replaced with the mean for their respective items. For most items within these

scales missing data were only from one or two participants. Different participants missed

different items meaning no participants who skipped entire scales were included in the

analysis. Frequencies were used to verify that the number of cases was 289 for each item

after the changes were made and that the correct mean was entered for each missing case.

After the database was prepared, analyses were conducted to address the research

questions.

To address research question one, validity and reliability analyses of the perceived

reality of magazine images of women scale were conducted. Analysis of validity included

exploratory factor analyses, one for each magazine page that was used with the scale, to

establish face validity. To establish convergent validity, correlation analyses between the

perceived reality of magazine images scale items and the general reality judgment were

conducted. Then internal consistency was analyzed to determine reliability for each use

of the scale. Finally, a confirmatory factor analysis was conducted for each use of the

scale. Throughout the validity and reliability analyses, the most effective perceived

reality of magazine images of women scale items were identified. Ten items were found

to be the most effective and were used to create summated scales, one for each of the four

magazine pages, which were used in further analysis. For research question two, the scale

measuring body satisfaction, the BESAA scale, was summated. Then correlations were

analyzed between the perceived reality of magazine images of women scale and the

BESAA. A regression analysis of perceived reality of magazine images of women and

the BESAA scale controlling for magazine use was also conducted. Lastly, to address

research question three, the awareness of digital alteration scale was summated. Then

correlation analyses were conducted between the perceived reality of magazine images of

women scale, both the factuality items of that scale and the summated version, and the

scale measuring awareness of digital alteration. The results of the analyses related to all

three research questions are presented in the next chapter.

Chapter Four: Results

After identifying the most effective items, the reliability and validity of the perceived reality of magazine images of women scale were largely established. A confirmatory factor analysis of the scale illuminated three factors: real world (plausibility and typicality), factuality, and emotional involvement. Given its reliability and validity, the scale was summated for further analysis. Using the summated scale for analysis, inconsistent and weak relationships were found between the new perceived reality of magazine images women scale and body satisfaction while consistently moderate relationships were found between the new scale and awareness of digital alteration. Specific responses to the research questions detailing this analysis are presented next. Then, the implications of these results are outlined in Chapter Five.

Research Question One

The first research question was, "What are the strengths and weaknesses of the *perceived reality* of magazine images of women scale in terms of validity and reliability?" To answer this question, first, validity was analyzed. Face validity was built into the scale through the use of Hall's six dimensions of perceived reality of media. In this way, the scale measured the extent to which readers judge images to be real based on the criteria consumers previously cited that they use to judge reality of media. Because the scale was created using six dimensions, an exploratory factor analysis was conducted for the new scale using each of the four magazine pages in order to measure whether the scale items grouped together as expected. A Promax rotation was used because

correlations were expected between the factors. The factors found in the analysis were

compared to the six dimensions used to create the scale. See Table 2 for the results of the

factor analysis grouped and ordered to demonstrate similarities between the analyses of

each page.

Table 2

Factors of the Perceived Reality of Magazine Images of Women Scale by Dimension Used to Create the Scale
Grouped and Ordered to Demonstrate Similarity

	Real World	Emotional Involvement	Factuality	Narrative Consistency
Magazine Page 1	Plausibility Statement 1 Plausibility Statement 2 Typicality Statement 1 Typicality Statement 2	Emotional Involvement Statement 1 Emotional Involvement Statement 2 Perceptual Persuasiveness Statement 2	Factuality Statement 1 Factuality Statement 2 Factuality Statement 3	Narrative Consistency Statement 1 Narrative Consistency Statement 2
Magazine Page 2	Plausibility Statement 1 Plausibility Statement 2 Typicality Statement 1	Emotional Involvement Statement 1 Emotional Involvement Statement 2 Perceptual Persuasiveness Statement 2	Factuality Statement 1 Factuality Statement 2 Factuality Statement 3 Perceptual Persuasiveness Statement 1 Typicality Statement 2	Narrative Consistency Statement 1 Narrative Consistency Statement 2
Magazine Page 3	Plausibility Statement 1 Plausibility Statement 2 Typicality Statement 1 Typicality Statement 2	Emotional Involvement Statement 1 Emotional Involvement Statement 2 Perceptual Persuasiveness Statement 2	Factuality Statement 1 Factuality Statement 2 Factuality Statement 3 Perceptual Persuasiveness Statement 1	Narrative Consistency Statement 1 Narrative Consistency Statement 2
Magazine Page 4	Plausibility Statement 1 Plausibility Statement 2 Typicality Statement 1 Typicality Statement 2 Emotional Involvement Statement 1 Emotional Involvement Statement 2 Perceptual Persuasiveness Statement 2		Factuality Statement 1 Factuality Statement 2 Factuality Statement 3 Perceptual Persuasiveness Statement 1	Narrative Consistency Statement 1 Narrative Consistency Statement 2

The factor structures were generally consistent with the dimensions used to create the scale. The first grouping of factors contained plausibility and typicality which are similar dimensions. Together they form a "real world" construct. This group measured the extent that the image reflected what could exist (plausibility) or what does exist (typicality) in the real world.

The second grouping contained two statements of emotional involvement and one of perceptual persuasiveness. Since these items were consistently grouped together, the perceptual persuasiveness statement, "The model shown in this magazine is attractive," may have also measured the emotional involvement of the reader. This is a reasonable deduction in light of social comparison theory. If a comparison was engaged, the attractiveness of the model could have impacted the reader's enjoyment of the magazine page.

The third grouping usually included factuality statements and Perceptual Persuasiveness Statement 1. The perceptual persuasiveness statement was, "This magazine page looks like it was created by a professional designer." The statement was negatively loaded in the group. The reason Perceptual Persuasiveness Statement 1 was included in the scale was to measure the perceived quality of the magazine page. Hall's dimensions indicated that the visual quality of the media may make the item seem more real. In fact, the negative loading demonstrated that the statement had the opposite effect. Based on the other items the statement grouped with, readers used the quality of the page to judge the factuality of the image. The presumed logic behind this is that if the page looks professionally created, it is less factual, and therefore less real. In this way, the perceptual persuasiveness statement actually contributed to participants' judgments of

overall factuality, not perceptual persuasiveness. Readers who saw the page as created by a professional designer saw the image as more altered, less factual.

The last grouping was narrative consistency. This factor represented the dimension exactly as intended in all occurrences. Overall, the factor analysis added to the face validity of the scale, but did not solidify an exact factor structure. For that reason, a confirmatory factor analysis was conducted for each magazine page which took place after further investigation regarding the validity of the scale.

In addition to face validity, the convergent validity of the scale was also analyzed. The general reality item, "The photo in this magazine page looks real," was included with each magazine page in order to test convergent validity. If the scale measured what it was designed to measure, correlations would be found between each scale item and the item measuring the general reality judgment of the image. A correlation analysis was conducted, and statistically significant relationships of varying strength with the general reality judgment were found with 9 of 13 items for Magazine Page 1, 11 of 13 items for Magazine Page 2, 11 of 13 items for Magazine Page 3, and 11 of 13 items for Magazine Page 4. (See Table 3.)

Table 3

Correlations between the Perceived Reality of Magazine Images of Women Scale Items and the General Reality Judgment Item
Pearson Correlation Coefficients

	Magazine Page 1	Magazine Page 2	Magazine Page 3	Magazine Page 4
It's not possible for a real woman to look like the model shown in this magazine page.	.34**	.36**	.39**	.39**
The model in this magazine page looks like most women shown in media like TV, the internet, and advertisements.	ns	ns	ns	ns
I don't like looking at this magazine page.	.19**	.29**	.27**	.32**
If I met the model in this image on the street, I would expect her to look the same as shown here.	.24**	.26**	.38**	.43**
This magazine page looks like it was created by a professional designer.	ns	-.26**	-.17**	-.31**
I never see women who look like the model in this magazine page.	.12*	.30**	.35**	.43**
A photo of the model shown here was taken for the magazine and used exactly as it was taken.	.26**	.34**	.31**	.43**
I could look as good as the model shown in this magazine page.	ns	.16**	ns	.27**
The model shown in this magazine page is a typical American woman.	.23**	.33**	.38**	.48**
The model shown in this magazine page is attractive.	.17**	.25**	.18**	.18**
The model here looks like most models in beauty and fashion magazines.	ns	ns	-.16**	ns
The photo of the model in this image was airbrushed or altered on a computer.	.19**	.32**	.33**	.36**
Looking at this image makes me feel happy.	.18**	.29**	.26**	.29**

**p < .01
*p < .05

The correlation analysis indicated that the scale had convergent validity with certain exceptions. The item, "The model in this magazine page looks like most women shown in media like TV, the internet, and advertisements," was not correlated with the overall reality judgment for any of the four magazine pages. The item, "The model here looks like most models in beauty and fashion magazines," was not correlated with the overall reality judgment for three of the four magazine pages. Together these two items made up the *narrative consistency* dimension of the scale. This analysis indicated that participants did not use *narrative consistency* in their judgment of the overall reality of the images. Therefore, *narrative consistency* does not contribute to the convergent validity of the scale. In two of four instances, "I could look as good as the model shown in this magazine page," did not correlate with the general reality judgment. The contribution of that item to convergent validity of the scale is inconclusive. In summary, convergent validity for 10 of the 13 scale items was established.

To address the second part of research question one, regarding reliability, internal consistency was calculated for each use of the scale using all 13 items. Acceptable, though not strong, levels of internal consistency were found – Cronbach's alpha = .52 for Magazine Page 1, .63 for Magazine Page 2, .65 for Magazine Page 3, and .67 for Magazine Page 4. Since in the validity analysis the narrative consistency dimension did not contribute to the convergent validity of the scale, a second internal consistency analysis was conducted with those two scale items removed. Internal consistency of the scale was improved – Cronbach's alpha = .60 for Magazine Page 1, .67 for Magazine Page 2, .71 for Magazine Page 3, and .72 for Magazine Page 4. A third internal consistency analysis was conducted with the removal of the item, "This magazine page

looks like it was created by a professional designer." This item was removed because based on the validity analysis it functioned in the opposite direction as what was intended. Internal consistency of the scale was again improved – Cronbach's alpha = .65 for Magazine Page 1, .73 for Magazine Page 2, .75 for Magazine Page 3, and .78 for Magazine Page 4. Since internal consistency remained relatively stable across magazine pages and internal consistency values were within acceptable limits, reliability of the scale was established using 10 of the 13 items.

Using the knowledge gained from the exploratory factor analysis, convergent validity analysis, and reliability analysis, a confirmatory factor analysis (CFA) for the perceived reality of magazine images of women scale was conducted using IBM SPSS® Amos structural equation modeling software. The 10 items within the scale that contributed to convergent validity and had the best internal consistency were used in the CFA. Three factors based on the exploratory factor analysis were modeled in the CFA which were: real world, factuality, and emotional involvement. The items included in the factors were as follows:

Real World

Typicality Statements 1 and 2 – I never see women who look like the model in this magazine page. The model shown in this magazine page is a typical American woman.

Plausibility Statements 1 and 2 – It's not possible for a real woman to look like the model shown in this magazine page. I could look as good as the model shown in this magazine page.

Factuality

Factuality Statements 1, 2, and 3 – If I met the model in this image on the street, I would expect her to look the same as shown here. A photo of the model shown here was taken for the magazine and used exactly as it was taken. The photo of the model in this image was airbrushed or altered on a computer.

Emotional Involvement

Emotional Involvement Statements 1 and 2 – I don't like looking at this magazine page. Looking at this image makes me feel happy.

Perceptual Persuasiveness Statement 2 –The model shown in this magazine page is attractive.

Initial goodness of fit scores were not acceptable – RMSEA = .04 for Magazine Page 1, .07 for Magazine Page 2, .08 for Magazine Page 3, and .07 for Magazine Page 4 – GFI = .97 for Magazine Page 1, .95 for Magazine Page 2, .94 for Magazine Page 3, and .95 for Magazine Page 4. Error terms were then correlated which improved goodness of fit. This was an appropriate use of error term correlations because they could be interpreted and replicated (Ho, 2006, p. 289). In fact, several of the correlations were the same across

all four versions of the model which indicated that those error terms were not unique to

the dataset but rather a part of the instrument. Goodness of fit was achieved for the same

CFA model with all four magazine pages using only differing error term correlations.

(See Table 4 and Figures 4 through 7).

Table 4

Goodness of Fit Indicators for Perceived Reality of Magazine Images of Women Scale
Confirmatory Factor Analysis (n = 289)

	X^2	df	GFI	RMSEA
Magazine Page 1	30.04	29	.98	.01
Magazine Page 2	31.72	28	.98	.02
Magazine Page 3	30.02	24	.98	.03
Magazine Page 4	27.01	25	.98	.02

Figure 4

Perceived Reality of Magazine Images of Women Scale Confirmatory Factor Analysis
Magazine Page 1
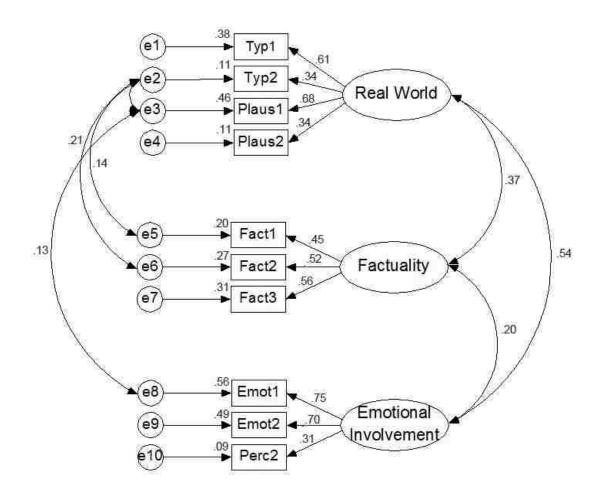N = 289
$X^2 (29) = 30.04$
RMSEA = .01

Figure 5

Perceived Reality of Magazine Images of Women Scale Confirmatory Factor Analysis
Magazine Page 2
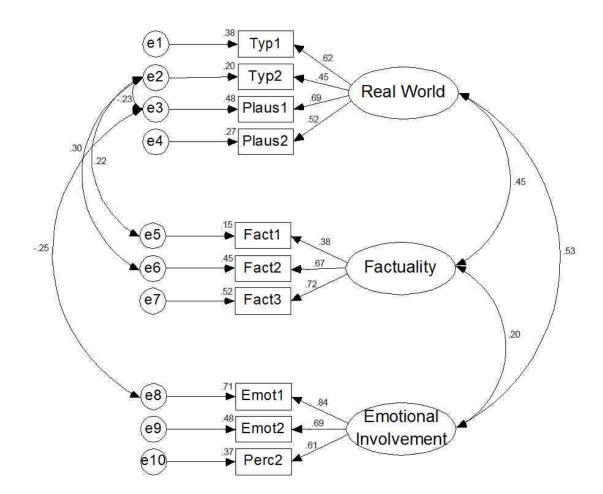N = 289
$X^2 (28) = 31.72$
RMSEA = .02

Figure 6

Perceived Reality of Magazine Images of Women Scale Confirmatory Factor Analysis
Magazine Page 3
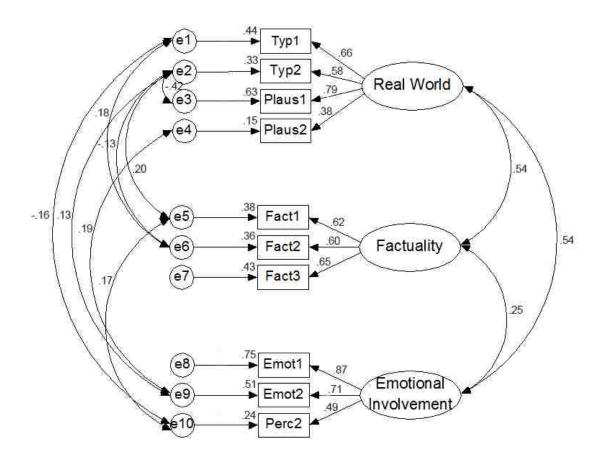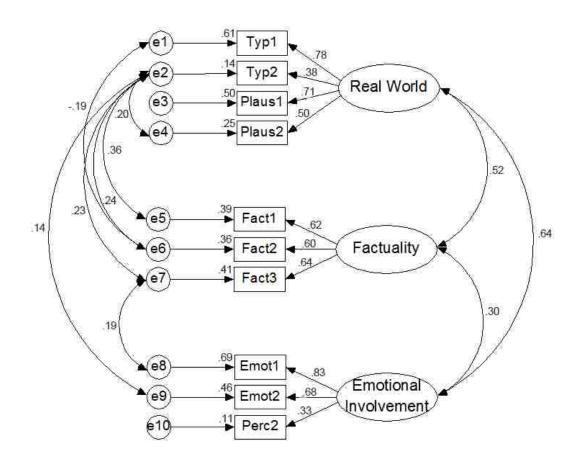N = 289
$X^2(24) = 30.02$
RMSEA = .03

Figure 7

Perceived Reality of Magazine Images of Women Scale Confirmatory Factor Analysis
Magazine Page 4
N = 289
$X^2 (25) = 27.01$
RMSEA = .02

The CFA indicated that while the scale may not measure all items related to perceived reality of magazine images of women, it did measure the included items with relative consistency. Since it confirmed factors similar to those used to create the scale, the CFA also contributed to the validity of the perceived reality of magazine images of women scale by increasing face validity. Finally, the CFA provided useful information for future use of the new scale.

To proceed with other analyses, a summated scale was created for the perceived reality of magazine images of women scale using the 10 items that maximized reliability. On a scale from 1 to 5, the mean for the summated scale was 2.45 with a range of 1.40 to 3.70 and standard deviation of .44 for Magazine Page 1, 2.51 with a range of 1.00 to 3.60 and a standard deviation of .48 for Magazine Page 2, 2.91 with a range of 1.20 to 4.00 and a standard deviation of .51 for Magazine Page 3, and 2.88 with a range of 1.30 to 4.40 and a standard deviation of .51 for Magazine Page 4. Before continuing with the use of the new summated scale, correlations were computed for the summated scale and the general reality question for each magazine page to establish the convergent validity of the summated version. (See Table 5.)

Table 5

Strength of Relationship between Perceived Reality of Magazine Images of Women
Summated Scale and General Reality Judgment Item
Pearson Correlation Coefficients

	Magazine Page 1	Magazine Page 2	Magazine Page 3	Magazine Page 4
Perceived Reality of Photos of Women in Magazines Scale and General Reality Question	.37**	.53**	.52**	.62**

**p < .01

Relatively strong relationships were found which established validity of the summated version of the scale. Next, the summated scale was used to respond to research questions two and three.

Research Question Two

Research question two was, "What is the relationship between *perceived reality* of magazine images of women and women's body satisfaction?" The measure of women's body satisfaction used in the survey instrument was the 23-item BESAA. Prior to conducting analysis for research question two, a reliability check was conducted for the BESAA. Internal consistency was excellent (Cronbach's alpha = .94). Therefore, a BESAA summated scale was created to represent body satisfaction. On a scale from 1 to 5, the mean for the summated scale was 3.01 with a range of 1.30 to 4.61 and a standard deviation of .69. Next a correlation was calculated between the summated perceived reality of magazine images of women scale and the BESAA. Of the four magazine pages that were used with the perceived reality of magazine images of women scale, two statistically significant, though weak, relationships were found between perceived reality and body satisfaction (Magazine Page 1: $r = .17$, $p < .01$, Magazine Page 2: $r = .17$, $p < .01$). Positive correlations indicated that individuals who perceived the images to be more real had higher levels of body satisfaction. For further analysis, correlations were calculated between the general reality question for each page and the BESAA. No significant correlations were found.

Since magazine use has the potential to impact body satisfaction through sociocultural pressure based on the literature review, a regression analysis was conducted

using two measures of magazine use as controls. For Magazine Page 1, time spent

reading beauty and fashion magazines accounted for 6% of the relationship between

perceived reality of magazines and body satisfaction ($F = 9.09$, p <. 00, $R^2 = .06$) and

number of beauty and fashion magazines read accounted for 7% of that relationship ($F =$

10.85 p $< .00$, $R^2 = .07$). The regression analysis indicated that magazine use played a

small part in a weak relationship. In fact, it was not the relationship between magazine

usage and body satisfaction that was a driver in the regression analysis for Magazine

Page 1 as expected, but rather the relationship between magazine use and perceived

reality of magazines (Time Spent Reading: $B = .25$, $p < .00$, Number of Magazines Read:

$B = .27$, $p < .00$). In the regression analysis for Magazine Page 2, the control variables

produced no significant relationship. Analysis related to research question two will be

further discussed in the next chapter.

　　　While not within the scope of research question two, the relationship between

magazine use and perceived reality of magazine images of women discovered in the

regression analysis was of interest due to the exploratory nature of the present study. To

investigate this relationship further, correlations between the magazine use variables and

perceived reality of magazine images of women scale were calculated. Results are

displayed in Table 6. These results will be discussed in the future research section of this

thesis.

Table 6

*Correlations between Magazine Use Variables and Perceived Reality of Magazine
Images of Women Scale*
Pearson Correlation Coefficients

	Magazine Page 1	Magazine Page 2	Magazine Page 3	Magazine Page 4
Number of Beauty and Fashion Magazines Read per Month	.25**	ns	.12*	.17**
Time Spent Reading Beauty and Fashion Magazines per Month	.24**	.12*	ns	.16**

**p < .01
*p < .05

Research Question Three

The third research question posed was, "What is the relationship between awareness of digital alteration of images and *perceived reality* of magazine images of women?" First, a test of internal consistency was conducted for the three items used to measure awareness of digital alteration. The three items created a highly internally-consistent scale (Cronbach's alpha = .92), so a summated scale of awareness of digital alteration was created for use in further analysis. On a scale from 1 to 5, the mean for the summated scale for awareness of digital alteration was 4.74 with a mode of 5.0 and a standard deviation of .53. 71% of respondents scored 5.0 on the summated scale meaning that they responded that digital alteration is very widespread in magazines, used very frequently in magazines, and very commonly used in ads. Thus most participants were aware of digital alteration.

Several tests were then conducted to explore the relationship between awareness of digital alteration and perceived reality of magazine images of women. First, relationships between awareness of digital alteration and the three factuality items of the perceived reality of magazine images of women scale were examined. The factuality items were chosen for analysis because awareness of digital alteration could plausibly impact factuality judgments, especially the item which directly referred to digital alteration. Statistically significant relationships, mostly moderate in strength, were found in each case except one (See Table 7).

Table 7

Correlations between the Awareness of Digital Alteration Scale and Perceived Reality of
Magazine Images of Women Scale Factuality Items
Pearson Correlation Coefficients

	Magazine Page 1	Magazine Page 2	Magazine Page 3	Magazine Page 4
If I met the model in this image on the street, I would expect her to look the same as shown here.	-.21**	-.19**	ns	-.18**
A photo of the model shown here was taken for the magazine and used exactly as it was taken.	-.40**	-.35**	-.23**	-.28**
The photo of the model in this image was airbrushed or altered on a computer.	-.36**	-.40**	-.24**	-.26**

**p < .01
*p < .05

Negative correlation coefficients indicated that as awareness of digital alteration increased, perceived factuality of the magazine images decreased. Next, to explore the relationship more generally, correlations were computed between the summated scale for awareness of digital alteration and the summated scale for perceived reality of each magazine page. Statistically significant relationships were found with each of the four pages (Magazine Page 1: $r = -.27$, $p < .01$, Magazine Page 2: $r = -.26$, $p < .01$, Magazine Page 3: $r = -.12$, $p < .05$, Magazine Page 4: $r = -.16$, $p < .01$).

To examine the relationship further, correlations were measured between the awareness of digital alteration summated scale and the general reality judgment question for each magazine page. Very similar statistically significant relationships to those with the perceived reality summated scales were found in each case (Magazine Page 1: $r = -.22$, $p < .01$, Magazine Page 2: $r = -.24$, $p < .01$, Magazine Page 3: $r = -.15$, $p < .01$, Magazine Page 4: $r = -.19$, $p < .01$). Based on the correlations between awareness of digital alteration and both the perceived reality of magazine images of women summated scales and the general perceived reality questions, participants who were more aware of digital alteration perceived the magazine images of women to be less real. The implications of the relationship found are discussed in the next chapter.

Chapter Five: Conclusion

There were many interesting findings in the present study.

Discussion

Hall (2003) indicated that audiences use six elements to make judgments regarding media realism: *plausibility*, *typicality*, *factuality*, *emotional involvement*, *narrative consistency*, and *perceptual persuasiveness*. These were the elements used to create the perceived reality of magazine images of women scale. The validity and reliability analyses of the scale indicated that consumers used four of the six elements to make reality judgments regarding the magazine images. *Plausibility*, *typicality*, *factuality*, and *emotional involvement* were generally related to readers' overall impressions of the realism of the magazine pages. The items making up those four elements were also those included in the version of the scale with the highest internal consistency. Furthermore, they were all represented in the confirmatory factor analyses with goodness of fit. Narrative consistency on the other hand was not related to perceived realism.

In Hall's research, narrative consistency was discussed less often by participants than the other items. It referred to how participants would suspend disbelief because the particular program or genre is internally consistent. Narrative consistency was represented in the perceived reality of magazine images of women scale through two measures, "The model in this magazine page looks like most women shown in media like TV, the internet, and advertisements," and "The model here looks like most models in beauty and fashion magazines." The purpose of these statements was to gauge whether

participants thought the images shown were consistent with other media portrayals. The mean scores for these items ranged from 3.56 to 4.17 on a scale from 1 to 5. This indicated that participants did find the images to be relatively consistent with other media portrayals, though the lack of correlation between these items and the general reality judgment indicated they did not use that information in their reality judgments.

One explanation for why narrative consistency did not relate to perceived reality is that even though magazine images are consistent they do not have a narrative that explains unrealistic portrayals. In the descriptions of narrative consistency that the participants in Hall's study gave, they described how consistent explanations can overcome unrealistic elements of a program. For example, in science fiction television the same fictional technological advances are described and shown from episode to episode. The story of why these technologies work is what makes them seem more real. While magazine images may depict a scene or story, generally that story would not explain why the model looks unusually thin and attractive. Perhaps the type of narrative in other types of programming is what makes consistency more relevant in those areas of research while it does not appear to play a large role in this research regarding magazines.

Whether or not perceptual persuasiveness played a part in readers' perceived reality of the magazine pages could not be determined from the analysis. The items related to perceptual persuasiveness of the magazine pages did not function within the scale as expected. One of the items, "The model shown in this magazine page is attractive," factored with emotional involvement. As described previously, social comparison theory may provide one explanation for why this occurred. If participants engaged in comparison to the attractive models, they may have responded emotionally.

The other perceptual persuasiveness item, "This magazine page looks like it was created by a professional designer," had a negative correlation with the general reality question. While Hall's research indicated that the visual quality of an image may lead participants to view an image as more realistic, in the present study the more professional looking an ad was the less realistic it appeared. This difference may be attributed to the perception of the medium itself. Movies and television, which were the primary media discussed in Hall's research, are presumably considered less professionally enhanced than magazines. When magazine readers recognized magazine images to be of professional quality they may have related that to digital manipulation which in turn resulted in them perceiving the images as less real.

The present study also shed light on Hall's dimensions of perceived reality through confirmatory factor analyses. Three factors of the perceived reality of magazines images of women scale were confirmed: real world, factuality, and emotional involvement. While Hall split perceived reality of media dimensions into six, in the present study at least two of the dimensions were found to be closely related. Plausibility and typicality had similar meaning within reality judgments based on the real world factor. Furthermore, the correlation of error terms in the confirmatory factor analysis may indicate that the dimensions were related or even that some of the dimensions measured a common underlying factor. The fact that more error term correlations were found in Magazine Pages 3 and 4 than Pages 1 and 2 was also noteworthy. This may signify that the scale worked differently for less realistic images (Pages 1 and 2) than more realistic images (Pages 3 and 4). Overall, the present study supported several elements of Hall's

research regarding perceived reality of media, though it pointed to variations in how reality judgments are applied to different media.

The reliability and validity analyses of the perceived reality of magazine images of women scale also offered some interesting findings that may prove useful for future research. In the present study, the scale was used to determine if a relationship existed between perceived reality of magazine images of women and body satisfaction. In two of four uses of the scale, with Magazine Pages 3 and 4, no relationship was found. In the other two uses, with Magazine Pages 1 and 2, weak but statistically significant relationships were found. The correlations indicated that individuals who perceived the images to be more real had higher levels of body satisfaction. A regression analysis also identified that one reason for the relationship between perceived reality of magazine images of women and body satisfaction was partly owing to the relationship between magazine use and perceived reality. Since the correlation between perceived reality of magazine images of women and body satisfaction occurred in only two of four cases and was weak, the relationship was not well established in the present study. Furthermore, where the relationship between perceived reality of magazine images of women and body satisfaction did occur, it was not in the direction as expected based on sociocultural theory.

Sociocultural theory predicts that women become dissatisfied with their bodies in part because of exposure to and internalization of social standards of beauty communicated through media. Previous researchers, such as Han (2003), have hypothesized, though not confirmed, that if women perceive magazine images as less than real, that the negative impact of magazine exposure on body satisfaction may be

mitigated. Put differently, researchers have expected that as perception of reality scores go up, body dissatisfaction scores should go down. In the present study, the opposite was found. Furthermore, the basic argument of sociocultural theory related to the present study is that magazine exposure leads to body dissatisfaction. In this thesis, no relationship was found between magazine use and body satisfaction. In these ways, the results of the present study do not support sociocultural theory. On the other hand, while not tested directly, social comparison theory may have been supported in the present study.

Social comparison theory predicts that women become dissatisfied with their bodies through upward comparisons to media images. Previous research by Bissell (2004) indicated that women were less likely to want to look like the images in magazines, to make a comparison, if they knew the photos were digitally altered. In the present study, the participants were aware, if not very aware, of digital alteration, a finding that will be discussed in depth in the next section. This awareness of digital alteration may have meant that women in the study do not make comparisons to magazine images which could explain why only inconsistent and weak relationships were found between perceived reality of magazine images and body satisfaction. Awareness of digital alteration may have been a mediating factor as Bissell's research suggested. Although it should be noted that social comparison theory was used as background for the present study, and the theory was not tested directly in this thesis. The present study indicates that further research regarding perceived reality of magazine images should include more specific variables regarding social comparison.

As previously stated, on the whole, participants in the present study were aware, if not very aware, of digital alteration. In retrospect, an artificially high result may have occurred because of the placement of the digital alteration questions. Magazine image examples paired with scale items regarding their factuality were presented before the digital alteration questions, so evaluating the images may have increased awareness. However, another explanation for this result is that digital alteration has become so ubiquitous that most women are aware of it. Either explanation fits the result that there was very little variance in the participants' responses.

While acknowledging that issue, the relationship between awareness of digital alteration and perceived reality of magazine images of women was investigated. Very little previous research on digital alteration was found, so this line of inquiry in the present study was entirely exploratory. The relationships between awareness of digital alteration and two measures of perceived reality were evaluated. Based on these two lines of analysis, the primary finding was that participants who were more aware of digital alteration perceived the magazine images of women to be less real. This finding is significant because it points to the strength of factuality as a factor in magazine users' reality judgments. Through this analysis and the elucidation of Hall's perceived reality elements, helping to understand what factors women use to judge the reality of magazine images is one of the main contributions this thesis has made to an infrequently researched area.

Limitations

There are certain limitations to the present study. The first limitation is generalizability. Because a snowball-like convenience sample was used for the study, the sample was not necessarily representative of the general population of women ages 18 to 34. Demographics for the general population of women ages 18 to 34 were gathered from the U.S. Census Bureau using their DataFerrett application with the 2006 – 2008 American Community Survey dataset and compared to the sample. In terms of education, the sample was better educated than the general population. See Table 8 for details. The sample also had a higher percentage of whites than the general population. See Table 9 for details.

Table 8
Educational Attainment Comparison of Study Sample to General Population of Women Ages 18 - 34
Percent of Total

	Study Sample	General Population
Less than high school	< 1%	13%
High school graduate	5%	26%
Some college	26%	30%
2-year degree	8%	8%
Bachelor's degree	40%	18%
Master's degree	17%	5%
Doctorate degree	2%	< 1%

Table 9

Ethnicity Comparison of Study Sample to General Population of Women Ages 18 - 34
Percent of Total

	Study Sample	General Population
White or European-American	89%	70%
Black or African-American	< 1%	14%
Hispanic or Latino	3%	Not asked
Asian	2%	5%
American Indian or Alaskan Native	0%	1%
Native Hawaiian or other Pacific Islander	0%	< 1%
A combination of ethnicities	4%	2%
None of these ethnicities	1%	7%

Therefore, on the whole, the sample was somewhat dissimilar to the general population hence limiting the generalizability of the study.

The other limitations to the present study are limitations inherent to survey research in particular. One such limitation that survey research is known to suffer from is that the order of survey questions might have impacted the nature of the results. As discussed, the results regarding awareness of digital alteration may have been affected by their placement within the survey. This issue should be addressed by future research. Another limitation common to surveys is the problem of self reporting which brings into question the honesty of the survey respondents. However, this study was anonymous which decreases the likelihood that participants were not honest. Self reporting could have particularly been an area of concern with the measurement of body satisfaction. When dealing with private questions of this nature, the candor of the participants becomes questionable, but nothing was found in the BESAA data in the present study that would indicate that participants were not answering the questions honestly. Nonetheless, self-reporting is a limitation of this survey research.

Future Research

Since the present study was exploratory in nature, there are many potential directions for future research regarding perceived reality of magazine images of women, body dissatisfaction, and digital alteration. Several of those will be outlined in this section. First, in the present study, a limited demographic group was included in the sample, women ages 18 to 34. The ethnicity of those women was somewhat homogenous. Future research may explore the impacts of age, ethnicity, and other demographic

variables on perceived reality of magazine images of women. Furthermore, within the

present study the factors that make up reality judgments were explored. There may be

other factors however that impact perceived reality. As shown in Table 6, magazine use

had a relatively consistent relationship with perceived reality in this case. Future research

may examine this relationship further.

Also, the present study employed the perceived reality of magazines images of

women scale with four specific magazine images. Future research could use different

images to investigate re-test reliability. Those images could also include models of

diverse ethnicities which were not included in the present study. Also related to the

magazine pages in the survey, they may have had a priming effect regarding awareness of

digital alteration. Future research could change the placement of the digital alteration

questions within the survey to investigate whether that has an impact. The scale could

also be improved by testing different items for perceptual persuasiveness because those

created did not function as expected.

As acknowledged in the literature review, body dissatisfaction is a complicated

issue. In this study just one component of the relationship between media and body

dissatisfaction was examined, perceived reality of magazines images of women. It would

be useful for future researchers to incorporate this variable into a model for magazines

and body dissatisfaction and also to include magazine use, internalization, tendency

toward social comparison, knowledge of digital alteration, and other variables. While it

was outside the scope of this thesis, the factors of the perceived reality of magazine

images of women scale confirmed in this study could also be used individually to

examine those relationships further in future research. This thesis has however set ground

work for future investigation into perceived reality as it relates to magazines.

While no relationship was found between perceived reality of magazine of

women and body satisfaction, this thesis points to ways in which sociocultural theory was

not supported while social comparison theory may be supported. Further research

regarding these theories is warranted. The present study also demonstrated how

awareness of digital alteration, which is an underdeveloped research area, is related to

perceived reality of magazine images of women. Finally, this thesis established the

validity and reliability of the perceived reality of magazine images of women scale for its

use in future research.

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Appendix A

Online Informed Consent

Informed Consent

MARQUETTE UNIVERSITY
AGREEMENT OF CONSENT FOR RESEARCH PARTICIPANTS
New Scale for Perceived Reality of Magazine Images of Women
Valerie Kretz
Diederich College of Communication

You have been invited to participate in this research study if you are **a woman between the ages of 18 and 34**. Before you agree to participate, it is important that you read and understand the following information. Participation is completely voluntary. Please ask questions about anything you do not understand before deciding whether or not to participate.

PURPOSE: The purpose of this research study is to examine the relationship between women's magazine use and body satisfaction. You will be one of approximately 300 or more participants in this research study.

PROCEDURES: You will be asked a number of questions about your media use, your opinions on four specific magazines images, the prevalence of digital alteration to magazine images, your attitudes regarding images of women in the media, and how satisfied you are with your appearance.

DURATION: Completing the survey should take about 20 minutes.

RISKS: The risks associated with participation in this study are minimal. If you are uncomfortable with any of the questions, you may skip those questions or stop taking the survey.

BENEFITS: This survey will help the researchers and other social scientists better understand the relationship between magazine images and body satisfaction. Insights may be helpful to psychology and media professionals.

CONFIDENTIALITY: All information you reveal in this study will be kept confidential. All your data will be assigned an arbitrary code number rather than using your name or other information that could identify you as an individual. When the results of the study are published, you will not be identified by name. The data will not be destroyed after the completion of the study, but paper files will be kept in a locked cabinet and digital files will be stored password protected. It is possible that the data collected in this survey will be used by researchers in the future. Your research records may be inspected by the Marquette University Institutional Review Board or its designees and (as allowable by law) state and federal agencies.

COMPENSATION: Participants in the survey will be entered into a drawing for $50.00. You are asked for an e-mail address below to be entered into the drawing. Your e-mail address will not be connected to your survey. If you are completing this survey as a part of a class, your professor may give you extra credit for participating. If you choose not to participate, your professor will provide you with another assignment with the potential to get the same amount of extra credit.

VOLUNTARY NATURE OF PARTICIPATION: Participating in this study is completely voluntary and you may withdraw from the study and stop participating at any time without penalty or loss of benefits to which you are otherwise entitled. Because your answers to the survey will be anonymous, it will be impossible to separate them from other participants' responses. If you discontinue the survey without completing key questions your answers will not be included in the final study.

CONTACT INFORMATION: If you have any questions about this research project, you can contact Valerie Kretz at 414-510-5837 or Valerie.Kretz@marquette.edu. If you have questions or concerns about your rights as a research participant, you can contact Marquette University's Office of Research Compliance at (414) 288-7570.

✱ I HAVE HAD THE OPPORTUNITY TO READ THIS CONSENT FORM, ASK QUESTIONS ABOUT THE RESEARCH PROJECT AND AM PREPARED TO PARTICIPATE IN THIS PROJECT.

Name

Date

If you would like to be entered into the $50 drawing for participating, please provide your e-mail address.

Email Address:

Continue to the survey

Click here to continue to the survey!

Appendix B

Online Survey

Political Information

Different people use different sources to get information on politics. Listed below are several such sources from which people may gather their information.

1. Please indicate just how much attention you pay to each of these sources when seeking information on POLITICS.

	None	A little	Some	A lot
Magazines	○	○	○	○
Movies	○	○	○	○
Television shows	○	○	○	○
Websites	○	○	○	○

Beauty and Fashion Information

Different people use different sources to get information on beauty and fashion. Listed below are several such sources from which people may gather their information.

1. Please indicate just how much attention you pay to each of these sources when seeking information on BEAUTY AND FASHION.

	None	A little	Some	A lot
Magazines	○	○	○	○
Movies	○	○	○	○
Television shows	○	○	○	○
Websites	○	○	○	○

Technology Information

Different people use different sources to get information on technology. Listed below are several such sources from which people may gather their information.

1. Please indicate just how much attention you pay to each of these sources when seeking information on TECHNOLOGY.

	None	A little	Some	A lot
Magazines	○	○	○	○
Movies	○	○	○	○
Television shows	○	○	○	○
Websites	○	○	○	○

Magazine Page #1

1. About the magazine page above, indicate how much you agree with the following statements ranging from strongly disagree to strongly agree.

	Strongly disagree	Disagree	Neutral / Don't know	Agree	Strongly agree
The model shown in this magazine page is a typical American woman.	◯	◯	◯	◯	◯
I could look as good as the model shown in this magazine page.	◯	◯	◯	◯	◯
I don't like looking at this magazine page.	◯	◯	◯	◯	◯
The model shown in this magazine page is attractive.	◯	◯	◯	◯	◯
I never see women who look like the model in this magazine page.	◯	◯	◯	◯	◯
The photo in this magazine page looks real.	◯	◯	◯	◯	◯
It's not possible for a real woman to look like the model shown in this magazine page.	◯	◯	◯	◯	◯
A photo of the model shown here was taken for the magazine and used exactly as it was taken.	◯	◯	◯	◯	◯
Looking at this image makes me feel happy.	◯	◯	◯	◯	◯
This magazine page looks like it was created by a professional designer.	◯	◯	◯	◯	◯
If I met the model in this image on the street, I would expect her to look the same as shown here.	◯	◯	◯	◯	◯
The model here looks like most models in beauty and fashion magazines.	◯	◯	◯	◯	◯
The model in this magazine page looks like most women shown in media like TV, the internet, and advertisements.	◯	◯	◯	◯	◯
The photo of the model in this image was airbrushed or altered on a computer.	◯	◯	◯	◯	◯

Magazine Page #2

1. About the magazine page above, indicate how much you agree with the following statements ranging from strongly disagree to strongly agree.

	Strongly disagree	Disagree	Neutral / Don't know	Agree	Strongly agree
The model shown in this magazine page is a typical American woman.	◯	◯	◯	◯	◯
I could look as good as the model shown in this magazine page.	◯	◯	◯	◯	◯
I don't like looking at this magazine page.	◯	◯	◯	◯	◯
The model shown in this magazine page is attractive.	◯	◯	◯	◯	◯
I never see women who look like the model in this magazine page.	◯	◯	◯	◯	◯
The photo in this magazine page looks real.	◯	◯	◯	◯	◯
It's not possible for a real woman to look like the model shown in this magazine page.	◯	◯	◯	◯	◯
A photo of the model shown here was taken for the magazine and used exactly as it was taken.	◯	◯	◯	◯	◯
Looking at this image makes me feel happy.	◯	◯	◯	◯	◯
This magazine page looks like it was created by a professional designer.	◯	◯	◯	◯	◯
If I met the model in this image on the street, I would expect her to look the same as shown here.	◯	◯	◯	◯	◯
The model here looks like most models in beauty and fashion magazines.	◯	◯	◯	◯	◯
The model in this magazine page looks like most women shown in media like TV, the internet, and advertisements.	◯	◯	◯	◯	◯
The photo of the model in this image was airbrushed or altered on a computer.	◯	◯	◯	◯	◯

Magazine Page #3

1. About the magazine page above, indicate how much you agree with the following statements ranging from strongly disagree to strongly agree.

	Strongly disagree	Disagree	Neutral / Don't know	Agree	Strongly agree
The model shown in this magazine page is a typical American woman.	◯	◯	◯	◯	◯
I could look as good as the model shown in this magazine page.	◯	◯	◯	◯	◯
I don't like looking at this magazine page.	◯	◯	◯	◯	◯
The model shown in this magazine page is attractive.	◯	◯	◯	◯	◯
I never see women who look like the model in this magazine page.	◯	◯	◯	◯	◯
The photo in this magazine page looks real.	◯	◯	◯	◯	◯
It's not possible for a real woman to look like the model shown in this magazine page.	◯	◯	◯	◯	◯
A photo of the model shown here was taken for the magazine and used exactly as it was taken.	◯	◯	◯	◯	◯
Looking at this image makes me feel happy.	◯	◯	◯	◯	◯
This magazine page looks like it was created by a professional designer.	◯	◯	◯	◯	◯
If I met the model in this image on the street, I would expect her to look the same as shown here.	◯	◯	◯	◯	◯
The model here looks like most models in beauty and fashion magazines.	◯	◯	◯	◯	◯
The model in this magazine page looks like most women shown in media like TV, the internet, and advertisements.	◯	◯	◯	◯	◯
The photo of the model in this image was airbrushed or altered on a computer.	◯	◯	◯	◯	◯

Magazine Page #4

1. About the magazine page above, indicate how much you agree with the following statements ranging from strongly disagree to strongly agree.

	Strongly disagree	Disagree	Neutral / Don't know	Agree	Strongly agree
The model shown in this magazine page is a typical American woman.	○	○	○	○	○
I could look as good as the model shown in this magazine page.	○	○	○	○	○
I don't like looking at this magazine page.	○	○	○	○	○
The model shown in this magazine page is attractive.	○	○	○	○	○
I never see women who look like the model in this magazine page.	○	○	○	○	○
The photo in this magazine page looks real.	○	○	○	○	○
It's not possible for a real woman to look like the model shown in this magazine page.	○	○	○	○	○
A photo of the model shown here was taken for the magazine and used exactly as it was taken.	○	○	○	○	○
Looking at this image makes me feel happy.	○	○	○	○	○
This magazine page looks like it was created by a professional designer.	○	○	○	○	○
If I met the model in this image on the street, I would expect her to look the same as shown here.	○	○	○	○	○
The model here looks like most models in beauty and fashion magazines.	○	○	○	○	○
The model in this magazine page looks like most women shown in media like TV, the internet, and advertisements.	○	○	○	○	○
The photo of the model in this image was airbrushed or altered on a computer.	○	○	○	○	○

Media Use

Please answer the following questions about your media use in general.

1. In a typical MONTH, how many movies do you watch (at the theatre and at home)?

[   ]

2. In a typical WEEK, how much time do you think you spend watching television?

Hours [   ]

Minutes [   ]

3. In a typical WEEK, how much time do you think you spend online?

Hours [   ]

Minutes [   ]

Beauty and Fashion Magazine Use

The next two questions are about beauty and fashion magazines. Some examples of beauty and fashion magazines are Allure, Cosmopolitan, Elle, Glamour, InStyle, Lucky, Marie Claire, Vanity Fair, Vogue, and W.

1. In a typical MONTH, how many issues of beauty and fashion magazines do you read?

[   ]

2. In a typical MONTH, how much time do you think you spend reading beauty and fashion magazines?

Hours [   ]

Minutes [   ]

About You

1. Indicate how often you agree with the following statements ranging from never (1) to always (5).

	Never	Seldom	Sometimes	Often	Always
I like what I look like in pictures.	○	○	○	○	○
Other people consider me good looking.	○	○	○	○	○
I'm proud of my body.	○	○	○	○	○
I am preoccupied with trying to change my body weight.	○	○	○	○	○
I think my appearance would help me get a job.	○	○	○	○	○
I like what I see when I look in the mirror.	○	○	○	○	○
There are lots of things I'd change about my looks if I could.	○	○	○	○	○
I am satisfied with my weight.	○	○	○	○	○
I wish I looked better.	○	○	○	○	○
I really like what I weigh.	○	○	○	○	○
I wish I looked like someone else.	○	○	○	○	○
People my own age like my looks.	○	○	○	○	○
My looks upset me.	○	○	○	○	○
I'm as nice looking as most people.	○	○	○	○	○
I'm pretty happy about the way I look.	○	○	○	○	○
I feel I weigh the right amount for my height.	○	○	○	○	○
I feel ashamed of how I look.	○	○	○	○	○
Weighing myself depresses me.	○	○	○	○	○
My weight makes me unhappy.	○	○	○	○	○
My looks help me to get dates.	○	○	○	○	○
I worry about the way I look.	○	○	○	○	○
I think I have a good body.	○	○	○	○	○
I'm looking as nice as I'd like to.	○	○	○	○	○

Digital Photo Alteration

1. Please respond to the following question by selecting a point on the scale shown.

	Not at all widespread				Very widespread
How widespread is the use of computer software to alter the images of women in magazines?	○	○	○	○	○

2. Please respond to the following question by selecting a point on the scale shown.

	Used very infrequently				Used very frequently
How frequently is computer software used to alter the images of women in magazines?	○	○	○	○	○

3. Please respond to the following question by selecting a point on the scale shown.

	Not at all common in ads				Very common in ads
How common is the use of computer software to alter the images of women in advertisements?	○	○	○	○	○

Demographics

1. What is your age?

[_____]

2. What is your ethnicity?

- ◯ White or European-American
- ◯ Black or African-American
- ◯ Hispanic or Latino
- ◯ Asian
- ◯ American Indian or Alaskan Native
- ◯ Native Hawaiian or other Pacific Islander
- ◯ A combination of one or more of these
- ◯ None of these

3. What is the highest level of education you have completed?

- ◯ Less than high school
- ◯ High school or GED
- ◯ Some college
- ◯ 2-year college degree (Associate's)
- ◯ 4-year college degree (Bachelor's)
- ◯ Master's degree
- ◯ Doctoral degree (PhD, JD, MD)

Appendix C

Means and Standard Deviations

Scale	Mean	Standard Deviation
Perceived Reality of Magazine Images of Women Summated with Magazine Page 1	2.45	.44
Perceived Reality of Magazine Images of Women Summated with Magazine Page 2	2.50	.48
Perceived Reality of Magazine Images of Women Summated with Magazine Page 3	2.91	.51
Perceived Reality of Magazine Images of Women Summated with Magazine Page 4	2.88	.51
Awareness of Digital Alteration Summated	4.74	.53
Body Satisfaction for Adolescents and Adults	3.01	.69