Body Image: Impacts of Media Channels on Men’s and Women’s Social Comparison Process, and Testing of Involvement Measurement

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This study examines the impacts of social comparison processes on men and women to investigate any potential gender differences by utilizing survey research (N = 134). This study also investigates the different impacts of magazine and television social comparison processes on men’s and women’s body perceptual gap and body satisfaction. Last, this study tests the validity of a new scale based on the Affect, Reason, and Involvement (ARI) model, measuring “involvement” in the context of body image. The result found significant gender differences in several key areas in the body image processes. Social comparison to television actually decreased the body perceptual gap among men but increased the gap among women. Magazine social comparison yielded the same results for both men and women. Other gender differences were also found. Even though men were watching more hours of television per week, the female participants had higher levels of overall social comparison to television and magazines. Female participants in general also had a larger body perceptual gap than men, and female participants perceived their current body to be larger than did male participants. Last, the new scale from the ARI model measuring involvement was found to be valid after conducting a convergent validity test.

INTRODUCTION: MEDIA CONTENTS AND BODY IMAGE

There is currently an overwhelming concern regarding the media’s influence on body image because the mass media are promoting certain body types as being socially ideal and desirable. Myers and Biocca (1992) stated that the media “focus or center around the ideal, thin female
body; use the thin female body as a primary form of the visual message; and concentrate on the explicit representation of the ideal image of thinness” (p. 119). Although the female body has been traditionally emphasized in the mass media, the media are putting increasing emphasis on an ideal male body as well in terms of its muscularity (Pope, Olivardia, Gruber, & Borowiecki, 1999; Sohn & Jonason, 2002). Still, as reported by Reichert, Lambiase, Morgan, Carstarphen, and Zavoina (1999), women’s bodies were focused on three times more so than men’s in magazine advertisements.

The problem is that many people regard the images portrayed in the media as if they were real, even though such body types are not easily attainable in reality. Richins (1996) stated, “The level of beauty and physical attractiveness possessed by nearly all actors and models is characteristic of an extremely small segment of the population” (p. 111) and argued that such media images represent an undemocratic sample of Americans.

Thus, the mass media produces unrealistic images of the ideal body shape while sending out a false impression of how real and attainable these body shapes are. As a result, the media affects our own body perception and satisfaction through constant depictions of extremely attractive individuals. In other words, media depictions of such ideal body shapes increase the distance between our actual self-perception and our ideal self. Most existing research on this issue focuses on the media effects on women and teenage girls. Such research generally reports that these images impact female body perception and satisfaction and result in negative consequences such as eating disorders, depression, low self-esteem, and low self-worth (Botta, 1999; Newman & Dodd, 1995; Nezlek, 1999).

There are several studies (e.g., Agliata & Tantleff-Dunn, 2004; Leit, Gray, & Pope, 2002) that investigate the negative consequences of body image on male body perception and satisfaction, which all suggest a similar conclusion: The media has a negative influence on body perception and satisfaction. Of interest, Sohn and Jonason (2002) reported that media exposure influences male body perception and satisfaction in different ways than it influences female body perception and satisfaction. Media exposure on female body image leads to endorsement of the thin ideal portrayed in the media, which causes social comparison, which is defined as a process in which people compare themselves and significant others to other people who they perceive to represent ideal and realistic goals (Festinger, 1954). Yet when it come to male participants, it is the endorsement of the muscular ideal itself that serves as a precursor to the selective exposure to specific media contents focusing on body image and body improvements, such as Men’s Health (Sohn & Jonason, 2002). Once they believe in the idea that certain body shapes are socially desirable, they expose themselves to a particular type of media content. Consequently, such selective exposure leads to the social comparison process, and such social comparison processes creates negative body perception and satisfaction. In other words, although it is an exposure to media content that starts up the body image process for women, it is the endorsement of the muscular ideal that causes men to be selectively exposed to specific media content. A study by Morrison, Morrison, and Hopkins (2003) also shares a similar perspective by stating that male participants’ exposure to media containing idealistic images of the male body are positively associated with the intensity of their drive for muscularity.

Such findings indicate that there is a gender difference in the way that media images influence an individual’s body perception and satisfaction. Regardless of such gender differences, social comparison is the most common yet important variable found in the influence of mass media on body image.
In the late 1990s, an increasing number of men were portrayed similarly in magazine advertisements. Despite the recent trends of men becoming more interested in body image (i.e., emergence of “metro-sexual”), the body image process among men is not as well investigated. Conversely, the body image process among women has been well studied and documented. As a result of such trends, relatively few studies examine the effects of the media on body image in both men and women to investigate the gender differences. Thus, one might raise questions: Is the body image processed the same for men and women? If the processes are different, then what are the differences and what are the contributing causes of such differences? Such questions are crucial in dealing with the prevalent problems associated with body image. If there are gender differences, then a universal approach cannot be taken in solving the problems among men and women. Instead, identifying the gender differences will be a first step in understanding how to deal with such problems in both men and women.

Therefore, the first major goal of this study is to investigate the media’s effect on both men and women to examine the similarities or differences of the body image processes on men and women. By examining the impact of social comparison on men’s and women’s body images, and by examining the impacts of different media channels on men’s and women’s social comparison, this study attempts to answer such questions and ultimately serve as a stepping-stone for future studies.

In addition, this study’s second major goal is to investigate the validity of measuring involvement in regards to body image issues. The results of the media studies suggest a two-step link between exposure to the media and body satisfaction. First, the studies have identified endorsement of the media’s ideal body images (Botta, 2000; Harrison, 2000) and social comparison (Botta, 1999; Goethals, 1986; Kruglanski & Mayseless, 1990; Sohn & Jonason, 2002; Wood, 1989; Wood & Taylor, 1991) as antecedents to body perception and satisfaction. Body satisfaction then increases the level of involvement with the issue of body improvement. Yet theories on body image hold that people are not motivated to attain correct or accurate attitudes toward body improvement, which is the basic assumption underlining the notion of “involvement” as defined by Petty and Cacioppo (1986). Therefore, the involvement used in this study is being defined as depth and quality of cognitive processing (Batra & Ray, 1983), and a newly created measurement scale based on that definition measuring the involvement is to be tested for its validity.
reported by many, viewers who deem themselves as coming up short in their comparisons are motivated to close the perceptual gap (Kruglanski & Mayseless, 1990; Wood, 1989; Wood & Taylor, 1991). Bessenoff (2006) also confirmed the impact of social comparison as a mediating variable between exposure to thin models in advertising and negative body perceptions, and a similar result was also found by Tiggemann (2004).

Richins (1991) suggested that these images affect one’s satisfaction with his or her own self-concept through social comparison. This comparison process can result in healthy behaviors such as exercise or proper dieting, but can also result in unhealthy behaviors such as bulimia, nervosa, and obsessive exercising (Brodie & Slade, 1988; Brown, Cash, & Lewis, 1989).

However, Festinger (1954) suggested that social comparison can be avoided. In certain situations, images in the mass media are simply ignored instead of being used as the basis for social comparison. For example, Botta (2000) reported that when it comes to African American women, they are less affected by media images on their body perception and satisfaction because (a) the majority of female body images in the media are different from themselves and (b) their standards of an ideal body shape are different than those suggested by the media. With general male audiences, Harrison (2000) reported the same finding. Compare to female audiences, male audiences in general are less affected media images of thin women when it comes to their own body perception and satisfaction because men do not endorse the ideal shape of female bodies to their own bodies. Both authors argue that social comparison can be avoided as long as individuals do not actually endorse the ideal body image presented by the mass media.

Still, social comparison is a major factor in an individual’s negative body perception and satisfaction for both men and women as reported in aforementioned studies that examined both genders separately. However, because of the lack of empirical evidence investigating both genders at the same time, it is unclear whether such social comparison processes occur in an identical way in men and women. Thus, it is necessary to investigate how similar or different the dynamics of the social comparison processes are by examining male and female participants together. Therefore

RQ1: Is the social comparison process the same for both men and women so that it will result in an increased body perceptual gap among men and women?

RQ2: Is the social comparison process the same for both men and women so that it will result in a negative body satisfaction among men and women?

Media Exposure and Gender Differences

As seen previously, the concept of social comparison and the endorsement of the ideal presented by the media are extremely important and essential elements when one is discussing the media’s influence on people’s body perception and satisfaction. Still, the media exposure must be present to form the basis of such social comparison processes in order for one to be influenced by the media images. Then, does a specific media channel as a source of social comparison have the same or a different impact on men and women?

According to Richins (1991), the most common source of social comparison in Western culture is through television images. In addition, many studies (e.g., Botta, 1999; Myers & Biocca, 1992; Richins, 1991, etc.) identify television as a major source of media’s body image, and they all agree that the body images in the media serve as the basis for social comparison.
As with television, magazines also serve as a source of social comparison in body image processes. However, unlike the general content of television, magazine content is much more tailored to specific target audiences with certain lifestyle/interests/activities. For example, Men’s Health serves male audiences who are interested in health and fitness, whereas Muscle and Fitness serves both male and female audiences with such interests. Fashion and women’s magazines such as Cosmopolitan or Vogue are geared toward a female audience with certain characteristics.

Yet it is rather unclear whether the dissimilar nature of television and magazine content creates an identical or similar impact on individuals’ social comparison process. Moreover, several studies report that the simple exposure to the media’s presentation of body image impacts a female body image (Botta, 2000; Harrison, 2000; Harrison & Cantor, 1997). However, a study by Sohn and Jonason (2002) reports that the mere exposure to magazine images has no direct, significant effect on male body perception and satisfaction. Their study examined the exposure to specific types of magazines only, rather than overall magazine exposure. Thus

**RQ3:** Do television and magazines, as sources of social comparison, create different impacts on men’s and women’s body perceptions and satisfactions?

**Affect, Reason, and Involvement**

Studies on the media’s influence on body perception and satisfaction have identified several mediating variables such as endorsement of the media’s ideal body images (Botta, 2000; Harrison, 2000), social comparison (Botta, 1999; Goethals, 1986; Kruglanski & Mayseless, 1990; Wood, 1989; Wood & Taylor, 1991), as well as the outcomes of such influences such as eating disorders, depression, low self-esteem, and low self-worth (Botta, 1999; Newman & Dodd, 1995; Nezlek, 1999). In other words, the detailed processes and dynamics of body image can vary because individuals may use different approaches to process the information they obtain from the media.

Krugman (1965) argued that television is a low-involvement medium that induces learning through repetition, whereas magazines are a high-involvement medium that can generate enduring changes in beliefs. Similarly, Petty and Cacioppo (1986) used the terms “central route” and “peripheral route” to explain the different persuasion process channels individuals use based on high- and low-involvement situations, whereas Chaiken (1980) used terms such as “systematic” and “heuristic” processing to describe the same process. Thus, the concept of “involvement” seems to be the determining factor in an individual’s information processing.

However, as stated earlier, previous literature in body image processes indicate that people are not motivated to attain correct or accurate attitudes toward the issues of body image. As Kilbourne (1994) noted, the ideal female body in the media is unattainable by most women “even if they starve themselves. Only the thinnest 5% of women in a normal weight distribution approximate this ideal” (p. 396). Nonetheless, the vast majority of men and women believe that they are more overweight when they compare themselves to images in the media (Brodie et al., 1991). As a result, more than 50% of adult women in the United States are currently on a diet, and more than three fourths of normal American women think they are “too fat” (Gordon, 1990; Kilbourne, 1994). Thus, “involvement” with physique is likely driven by motives other than an attempt to attain correct or accurate attitudes toward the said issues.
Thus, the definition of “involvement” in this study is from that of Batra and Ray (1983), who defined involvement as depth and quality of cognitive processing. Furthermore, a distinction can be made between direct acquaintance (knowledge by acquaintance or syncretic cognition) and information processing (knowledge by description or analytic cognition) that considers both affect and reason as different types of “cognition.” In other words, both the reason and the affect are considered as a cognitive process, but each being processed in different parts of the brain. Reason involves analytic cognition which is associated with the left cerebral hemisphere of the human brain, whereas the affect is holistic and syncretic cognition that is associated with the right cerebral hemisphere (Buck, 1990; Chaudhuri & Buck, 1995; Tucker, 1981). Buck (1988) suggested that all communication processes involve a mix of syncretic and analytic cognition in different ratios. He and his colleagues thus conceptualized and operationalized an Affect-Reason-Involvement (ARI) model that represented a mix of affect (syncretic cognition) and reason (analytic cognition) in different ratios from which the involvement was calculated by mean score of affect plus reason scores (Buck, Chaudhuri, Georgson, & Kowta, 1995). In other words, the ARI is a different way of measuring involvement by examining both affects and cognitions simultaneously, unlike Petty and Cacioppo (1986)’s dichotomized, nonsimultaneous dual processing approach.

However, the validity of an involvement scale based on the ARI approach in body image context has yet to be tested and determined. Therefore

RQ4: Is the involvement scale from the ARI model valid in measuring involvement in the context of body image?

METHOD

Participants and Procedures

Survey research technique was utilized. The participants (N = 134) were asked to fill out an anonymous survey during their communications classes at a large public university in the northeast United States. Of the 134 participants, the mean age was 20.7 (SD = .97), the mean height was 5’ 5” (SD = 4.1”), and the mean weight was 148.5 lb (SD = 33.3 lb). From the height and weight data of individual participants, the body mass index (BMI) was computed and was used as a controlling variable on subsequent analyses. Of the 134 participants, 33.6% were male (n = 45), and the remaining 66.4% were female (n = 89). For male participants, the mean age was 21.1 (SD = 1.17), the mean height was 5’ 10” (SD = 2.5”), and the mean weight was 177.8 lb (SD = 28.4 lb). For female participants, the mean age was 20.5 (SD = .78), the mean height was 5’ 4” (SD = 3.3”), and the mean weight was 133.6 lb (SD = 24.6 lb).

Measures

*Body self-perception and ideal body size measure.* “Current body perception” and “ideal body perception” were measured with a scale developed by Thompson and Gray (1995). The 9-point pictorial scale, known as the Contour Drawing Rating Scale, consists of nine
schematic drawings of male and female bodies ranging from very slim to very large in terms of body mass. The scale has been proven to be both reliable and valid (see Thompson & Gray, 1995, pp. 265–266). The participants were asked to answer the question, “Please indicate a number that best represents how you perceive your current body size from the scale above using a whole number and one decimal point” (i.e. “3.2”). The mean score of current body size was 3.02 ($SD = 1.11$) among male participants ($n = 45$) and the mean score of current body size was 3.85 ($SD = 1.69$) among female participants ($n = 89$). The mean score of ideal body size among male participants was 2.84 ($SD = .98$, $n = 45$), whereas it was 2.64 ($SD = .89$, $n = 89$) among female participants.

**Body perceptual gap.** The body perceptual gap was computed by subtracting current body size score from ideal body size score. Then in subsequent analysis, all scores were converted into absolute values so that the score would indicate the discrepancy (gap) one had between his or her current body perception and ideal body perception. Of course, the proper procedure is to treat positive values and negative values separately because they represent the direction of the desired body shape. The positive value will indicate the participant’s desire to be larger, whereas the negative value will indicate the participant’s desire to be thinner. Such procedures must be followed when the target population is female because they have a strong general desire to be thinner. However, when it comes to male population, not only slimmness of body shape matters but muscle tone and muscle mass also matter. As reported by Morrison (2005) and Morrison et al. (2003), a large portion of men have a desire to “bulk up” to increase their muscle mass, whereas others may desire to merely lose weight. Such inconsistencies found in men may create a unique problem of potentially canceling positive and negative scores among the male participants when linear analyses are to be conducted. To avoid that potential problem, the absolute values were used to indicate the overall size of the gap existing between one’s current view of him- or herself and the ideal self, regardless of the direction of the desire. This gap represents the degree of perceptual distance one has, regardless of the person’s desire to be slimmer or bigger.

In male participants, the mean score for perception discrepancy gap was .75 ($n = 45, SD = .56$). In female participants, the mean score for perception discrepancy gap was 1.35 ($n = 89, SD = 1.24$). Combined, the mean score for perception discrepancy gap was 1.15 ($n = 134, SD = 1.11$).

**Body satisfaction measure.** Body satisfaction was measured by modifying the Body Esteem Scale created by Franzoi and Shields (1984). The original scale contains 35 items including items measuring satisfaction on body scent, biceps, body hair, and weight. For the purpose of this study, only items that were directly related to a person’s body image, which excluded items such as body scent, body hair, were selected from the original scale. This resulted in a 17-item, 5-point scale, ranging 1 (least satisfied) to 5 (most satisfied). Two additional items asking about overall body satisfaction were added to create the final, 19-item scale. The initial data reduction analysis with principle component varimax rotation revealed two-dimensional factors, one with two items regarding the perceived satisfaction on “stamina” and “energy” and the second factor with all 17 remaining items. The subsequent confirmatory factor analysis (CFA) with single-factor containing all 17 items from the second factor resulted
TABLE 1

<table>
<thead>
<tr>
<th>Body Satisfaction Measures</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body look</td>
<td>3.19</td>
<td>0.93</td>
<td>134</td>
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<tr>
<td>Strength</td>
<td>3.06</td>
<td>0.96</td>
<td>134</td>
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<tr>
<td>Waist</td>
<td>2.99</td>
<td>1.11</td>
<td>134</td>
</tr>
<tr>
<td>Thighs</td>
<td>2.96</td>
<td>1.17</td>
<td>134</td>
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<tr>
<td>Bicep</td>
<td>3.16</td>
<td>1.00</td>
<td>134</td>
</tr>
<tr>
<td>Bodybuild</td>
<td>3.10</td>
<td>0.95</td>
<td>134</td>
</tr>
<tr>
<td>Shoulder</td>
<td>3.76</td>
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<td>Arms</td>
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<td>Chest</td>
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<td>1.12</td>
<td>134</td>
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<td>Legs</td>
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<td>Weight</td>
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<td>Back</td>
<td>3.54</td>
<td>0.92</td>
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<tr>
<td>Tricep</td>
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<tr>
<td>Overall body</td>
<td>3.24</td>
<td>0.86</td>
<td>134</td>
</tr>
</tbody>
</table>

in an acceptable reliability ($\alpha = .91$). Because the scale was intended to measure overall body satisfaction, and because Cronbach’s alpha from the modified 17-item scale was more than acceptable, a new variable with the 17 items from the second factor, which excluded stamina and energy from the first factor, was computed and used in subsequent analyses as a variable called body satisfaction (see Table 1).

The mean body satisfaction score for male participants was 3.26 ($n = 45$, $SD = .56$) whereas the mean score for female participants was 3.20 ($n = 89$, $SD = .72$). The overall average for both male and female participants was 3.22 ($n = 134$, $SD = .67$).

Social comparison to media images. Following works by Sohn and Jonason (2002), a 5-point, nine-item scale was used to measure participants’ tendency to compare their own body to those of television models. All items started with a statement: “While watching television, how often do you think —,” and a series of subsequent statements were listed: “I wish I was in his/her (TV character) shape,” “I am out of shape,” and so on. Possible responses ranged from 1 (never) to 5 (always). A CFA with all nine items revealed a good fit ($\alpha = .90$). A new variable called television social comparison was computed by combining all nine television comparison items together. Female participants reported higher levels of television social comparison ($M = 3.28$, $SD = .90$) than male participants ($M = 2.67$, $SD = .81$). The $t$ test of this difference is found in the additional analysis section (see Table 3).

Another 5-point, nine-item scale was also created to measure body comparison with magazine models. All items started with a statement: “While reading magazine, how often do you think —,” and a series of subsequent statements were listed: “I wish I was in his/her (magazine model) shape,” “I need to start exercising,” and so on. Possible responses ranged from 1 (never)
to 5 (always). A CFA with all nine items revealed a good fit ($\alpha = .94$). Thus, a new variable called magazine social comparison was created by combining all nine magazine comparison items together. As with the television social comparison, female participants reported a higher level of magazine social comparison ($M = 3.28$, $SD = 1.01$) than the male participants ($M = 2.53$, $SD = .93$). The $t$ test of this difference is also found in the additional analysis section (see Table 3).

**Affect and reason.** Chaudhuri and Buck (1995) listed a set of key words that were affective involvement oriented and cognitive involvement oriented. Thus, those specific key words were utilized to create a scale that measured affective and cognitive involvements as well as overall involvements.

To obtain the affect score, an eight-item, 5-point scale that contained specific affect-oriented key words from the ARI model (Chaudhuri & Buck, 1995) such as sexy, proud, happy, confident, powerful, desirable, secure, and emotions was created (see the appendix for the full list). For example, one item reads, “I feel that having an improved body shape will make me secure.” The initial data reduction analysis with principal components varimax rotation revealed a single-dimensional factor with all eight items. A subsequent CFA with a single-dimensional factor with all eight items revealed good reliability ($\alpha = .89$). A new variable called affect was computed with all eight items.

A similar eight-item, 5-point scale that contained specific reason-oriented key words from the ARI model (Chaudhuri & Buck, 1995) such as pros and cons, facts, argument, risk, concern, relevant, means a lot, and cognition was created. For example, one item reads, “I think that having an improved body shape is of concern to me.” The data reduction analysis with principal components varimax rotation revealed two-dimensional factors. The first factor contained items such as pros and cons, facts, and argument. The second factor contained items such as concern, relevant, means a lot, and cognition. However, the risk item did not get loaded well with either factor. Because the author was interested in obtaining an overall analytic cognition (reason) score, all seven items except risk were combined into a single factor. After that, a CFA was conducted again to ensure that all seven items could be used together in a single factor. The CFA resulted in an acceptable reliability ($\alpha = .74$) with all seven items. Thus, a new variable called reason was computed with those seven items.

In male participants, the mean affect score was 3.70 ($n = 45$, $SD = .61$); it was 3.75 ($n = 89$, $SD = .67$) in female participants. In both male and female combined, the mean score was 3.73 ($SD = .65$). The mean reason score in male participants was 3.72 ($n = 45$, $SD = .48$), whereas it was 3.84 ($n = 89$, $SD = .48$) in female participants. The mean score for both male and female participants was 3.80 ($SD = .48$).

**Involvement.** The involvement was computed from the ARI model by computing the mean score of the affect score and the reason score combined per individual participant. The mean involvement score from the personal inventory scale among male participants was 3.52 ($n = 45$, $SD = .63$) and 3.70 ($n = 89$, $SD = .71$) among female participants. Combined, the mean score was 3.64 ($SD = .68$). The mean involvement score from the ARI model was 3.71 ($n = 45$, $SD = .49$) among male participants and 3.79 ($n = 89$, $SD = .51$) among female participants. Combined, the mean score was 3.77 ($SD = .50$).
RESULTS

Social Comparison, Body Perceptual Gap, and Body Satisfaction

RQ1 asked if the social comparison process was the same for both men and women so that it would result in an increased body perceptual gap among both men and women. To answer the RQ1, hierarchical multiple regression was conducted with body perception gap as a dependent variable and television and magazine social comparisons as independent variables with just male participants at first. The BMI was entered in the first block as a control variable, and television social comparison and magazine comparison were entered in the second block as independent variables. The first block accounted for 11.5% of total variance and was found to be significant, $F(1, 42) = 5.46, p = .02$. The second block consisted of two independent variables accounted for 14.2% of total variance explained and was also found to be significant, $F(2, 40) = 3.82, p = .03$. Thus, it turned out that the more frequent engagement of social comparison would in fact predict a larger perceptual gap among men.

In addition, a second set of hierarchical multiple regression analysis was conducted with the body perception gap as a dependent variable and television and magazine social comparisons as independent variables, but with just female participants this time. The BMI was entered in the first block as a control variable, and television social comparison and magazine social comparison were entered in the second block as independent variables. The first block accounted for 15.8% of total variance and was found to be significant, $F(1, 85) = 16.00, p = .00$. The second block consisted of two independent variables accounted for 26.6% of total variance explained and was also found to be significant, $F(2, 83) = 19.20, p = .00$. Thus, more frequent level of social comparison predicted a larger perceptual gap among women as well.

From the results of the two hierarchical multiple regression analyses, the process of social comparison seems to be identical for both men and women in that it results in a larger body perceptual gap. However, additional analysis to answer RQ3 reveals a significantly different social comparison process in creating body perceptual gap between men and women based on using different media sources as comparison targets. This is discussed following the result on RQ2.

RQ2 asked if the social comparison process was the same for both men and women so that it would result in negative body satisfaction among both men and women. To answer this question, a hierarchical multiple regression analysis was conducted at first with body satisfaction as a dependent variable and magazine and television social comparisons as independent variables with just male participants. The BMI was entered in the first block as a control variable, and television social comparison and magazine social comparison were entered in the second block as independent variables. Both first and second blocks were found to be nonsignificant; thus this indicated that social comparison was not a significant direct predictor of body satisfaction among men.

The second set of hierarchical multiple regression analysis was conducted with body satisfaction as a dependent variable with just female participants. The BMI was entered in the first block as a control variable, and television social comparison and magazine social comparison were entered in the second block as independent variables. The first block accounted for 7.7% of total variance explained, and was found to be significant, $F(1, 85) = 7.05, p = .01$. The second block consisted of two independent variables accounted for 27.8% of total variance explained.
explained and was also found to be significant, $F(2, 83) = 17.87, p = .00$. Thus, unlike the result from men, social comparison process was found to have a direct, significant impact on perceived body satisfaction among women. Thus, it can be concluded that the social comparison process results in different levels of impacts on men’s and women’s body satisfaction. Only the women’s body satisfaction is being directly influenced by the social comparison process.

RQ3 asked if television and magazines as sources of social comparison would create different impacts on men’s and women’s body perception and satisfaction. To answer this question, the individual impacts of television and magazine social comparisons on body perceptual gap and body satisfaction were examined from previous regression analyses. Upon examining the independent main effects of both independent variables from the previous regression analyses, different directional impacts of media sources as comparison targets were found on social comparison processes among men and women (see Table 2).

The examination of the individual main effects reveals that for men, more frequent level of social comparison to television characters actually predicts the diminishing perception gap ($\beta = -.75, p = .03$), whereas more frequent level of social comparison to magazine models predicts the enlarging perception gap ($\beta = .89, p = .01$). In other words, when a male is actively engaging in social comparison while watching television, his perceptual gap between his current body and his ideal body becomes smaller. Yet when a male is actively engage in social comparison while reading magazines, such gap actually becomes larger.

Contrary to the finding from the male participants, television social comparison among women is a positive predictor of the body perception gap ($\beta = .73, p = .00$). In other words, unlike men, the more frequent level of social comparison women engage in while watching television, the larger their body perceptual gap becomes. This finding possibly suggests that female body types found on television contents may be less diversified than men: Most female characters found on television are very uniform with a trimmer, better overall body shape than the average female in reality.

These findings may very well be linked with the presence of (or lack of) body type diversity found in the television and magazine contents. Although no definitive content analysis has been conducted to analyze the level of body shape diversity commonly found in television in comparison to the magazines, one can still speculate that different levels of body shape diversity

| TABLE 2 | Individual Main Effects on Men and Women |
| --- | --- | --- | --- |
| **DV** | **IV** | $\beta$ | $p$ |
| Male's body perceptual gap | Television social comparison* | 0.75 | 0.03 |
| | Magazine social comparison* | 0.89 | 0.01 |
| Female's body perceptual gap | Television social comparison* | 0.73 | 0.00 |
| | Magazine social comparison | 0.23 | 0.27 |
| Male's body satisfaction | Television social comparison | 0.12 | 0.74 |
| | Magazine social comparison | 0.13 | 0.73 |
| Female's body satisfaction | Television social comparison* | 0.52 | 0.02 |
| | Magazine social comparison | 0.03 | 0.91 |

*Note. DV = dependent variable; IV = independent variable. * $p < .05$. 
exist between the television and magazines. For example, when it comes to the body types of the main male characters in television, one can notice more diverse body types in existence that more closely resemble real male bodies in reality than the level of diversity existing among female main characters. Such trend is especially noticeable when one is considering various main male characters versus main female characters in many popular sit-coms. In this case, it makes fitting theoretical sense that when men are engaging in social comparison while watching television, they witness normal looking characters that more than likely resemble their own body shapes and this in turn creates a decreased perceptual gap between their view of current self and their view of ideal self.

Validity of Involvement Scale From ARI Model

To answer the RQ4 regarding the validity of the scale, all the items were examined for the face validity first. After ensuring that all items seemed to be tapping the relevant elements, the test for construct validity was conducted by administering the convergent validity test. The convergent validity was conducted with zero-order correlation analyses with the scores from the ARI model’s involvement with (a) body perception gap, (b) body satisfaction, (c) television social comparison, and (d) magazine social comparison. These variables were selected because they were assumed to be related to an individual’s involvement with body image. As expected, significant positive correlations were found between ARI involvement and body perception gap (r = .35, p = .00), television social comparison (r = .56, p = .00) and magazine social comparison (r = .54, p = .00). In addition, a significant negative correlation was found between the scores from ARI involvement and body satisfaction (r = −.26, p = .00).

The results suggest that those that score higher on the involvement scale from the ARI model reportedly have a larger body perceptual discrepancy, have a lower level of satisfaction, and tend to engage in more frequent level of social comparison through magazines and television. Overall, higher level of involvement from the ARI model is correlated with negative body images and higher social comparisons tendency, all of which make perfect theoretical sense.

As reported by many (Botta, 1999; Goethals, 1986; Kruglanski & Mayseless, 1990; Richins, 1991; Wood, 1989; Wood & Taylor, 1991), it was social comparison that initiated the body perceptual discrepancy, which resulted in a higher level of involvement and motivation to close the gap between one’s own self-evaluated body and one’s ideal body, which led to either healthy behaviors such as exercise and proper dieting in some individuals, or unhealthy behaviors as bulimia, nervosa, and obsessive exercising (Brodie & Slade, 1988; Brown et al, 1989). From such finding, it can be concluded that those with higher level of involvement in body image generally have a higher tendency to engage in social comparison, a larger body perceptual gap, and a lower level of body satisfaction. Thus, the results of the convergent validity test support such relationships between involvement from the ARI model and body perceptual gap, body satisfaction, and social comparison. Thus, the involvement scale based on the definition of depth and quality of cognitive processing and ARI model seems to be a valid scale for measuring one’s involvement in the context of body image.

Additional Analysis

Additional t tests were conducted to detect significant gender differences in key variables in the body image issues. Significant gender differences were found in five variables out of nine
Women tend to engage in higher levels of social comparison to television ($M = 3.28, SD = .90$) than men ($M = 2.67, SD = .81$), $t(132) = -3.83, p = .00$. At the same time, women tend to engage in higher levels of social comparison to magazines ($M = 3.28, SD = 1.01$) than men ($M = 2.53, SD = .93$), $t(130) = -4.15, p = .00$. Also, female participants have a larger body perceptual gap ($M = 1.35, SD = 1.24$) than male participants ($M = .75, SD = .56$), $t(132) = -3.08, p = .00$. Women have a tendency to regard their current body to be larger ($M = 3.85, SD = 1.69$) than men ($M = 3.02, SD = 1.11$), $t(132) = -2.99, p = .00$. Finally and of interest, men spend more hours per week watching television ($M = 14.02, SD = 9.78$) than women ($M = 8.65, SD = 6.38$), $t(131) = 3.81, p = .00$, despite the finding that men engage in a lower level of social comparison than women.

All other variables such as involvement, magazine exposure, body satisfaction, and ideal body size reported no significant gender differences.

DISCUSSION

Summary of Findings and Theoretical Implication

Among the male participants, social comparison to television characters diminishes their body perceptual gap, whereas social comparison to magazine models actually enlarges the body perceptual gap. Again, such contrasting effect of social comparisons to different comparison targets may be attributed to (a) the different natures of the television and the magazine contents and (b) the different levels of body shapes diversity found in different media. However, social
comparison turned out not to be a significant predictor of men’s body satisfaction. Such a finding is very different from what was reported in Sohn and Jonason’s (2002) study on male body image. They did not find a significant effect of social comparison on men’s body perceptual gap but managed to find its direct influence on men’s body satisfaction. Yet the difference between the findings from the two similar studies can be attributed to the genres of magazine use in the studies.

Sohn and Jonason’s study examined only the influence of a specific magazine genre they defined as “muscle magazines,” such as *Men’s Health*, whereas this study investigated the effect of overall magazine exposures on body perceptual gap and satisfaction. Therefore, it is possible that the social comparisons to magazine models can generate different levels of influence on body perceptual gap and body satisfaction, based on the type of magazine a reader is using as a base of social comparison. When a man is reading muscle and fitness-oriented magazines, which indicates that he is “involved” in the issue of body image, the social comparison process he goes through will lead to a negative body satisfaction, as seen from the negative correlation between involvement from the ARI model and body satisfaction. But engaging in a social comparison to the general magazine contents (i.e. automotive, computers, investment/finance, etc.) may not generate such direct, significant effect on men’s body satisfaction. However, social comparison to the models in overall magazines still does create a significant, direct impact on the body perceptual gap. This indicates that the mechanism of social comparison to magazines may differ based on the types of magazines being used for the comparison target. In the case of social comparison with models in magazines in general, social comparison’s effects on body satisfaction are mediated by the body perception gap and involvement without having a direct effect on body satisfaction.

Among the female participants, social comparisons to the television characters have a direct impact on both body perception gap and body satisfaction. A higher level of social comparison to television resulted in a larger body perception gap and lower body satisfaction.

In terms of measuring the “involvement” within the context of body image, the involvement scale from the ARI model is a valid measurement tool. No significant correlation was found between those two scales.

From the findings in this study, several theoretical implications can be made. First, this study provides more insights on the issue of male body image. Social comparison is an important variable in men’s body image, and this study provides additional information on how social comparison process influences male body image under specific circumstances. The findings from this study suggest that social comparison process does not seem to have a direct influence on body satisfaction. Instead, it seems to be mediated by the body perceptual gap and the level of involvement. Such different processes of social comparison between men and women are interesting findings that provide more insight on the issue of male body image.

The second theoretical implication is regarding the different impacts of media sources as a source of social comparison on different genders. As reported, more frequent level of social comparison to television characters yields a *diminishing* body perceptual gap among men, whereas a higher level of social comparison to the same media channel yields an *enlarging* body perceptual gap among women. Moreover, although social comparison has a direct negative impact on female participant’s body satisfaction, such impact is not found among men. Overall, this study identified several key variables within which significant gender differences in participants’ responses are being detected.
Third, this study examines the validity of a new measurement scale measuring “involvement” in the context of body image. The result of the convergent validity test indicates that the involvement scale generated from the ARI model, which uses a definition of involvement as depth and quality of cognitive processing, is a valid scale. Because involvement is one of the key variables in studying media’s influence on one’s body image, the validity of the involvement scale from the ARI reported in this study provides a valuable tool for future studies in the field.

Limitations and Future Study

There are several key limitations in this study. First, the sample population was heavily skewed toward female participants. Because of decisively fewer numbers of male participants, the data from male participants lost a significant amount of statistical power when the data were divided by the respondents’ genders to investigate the gender differences. Thus, one might raise a question: Do these gender differences found on the impacts of social comparisons on body satisfaction suggest that the impacts of social comparison’s impacts are truly different between men and women? It is difficult to make a concrete conclusion from this study, due to the lack of statistical power among the male respondents. As indicated earlier, just 33.6% of total respondents were male. This may have resulted in a possible Type II error in significance testing. Therefore, a further study with sufficient samples of both male and female participants is recommended to confirm the gender differences on the issues of body image.

The second limitation is that the scale used to measure the body perception gap measured only overall body shape expressed in pictorial body shape, and it lacked a capability to measure the specifics or other dimensions of body image such as muscle tone and muscle mass that were important variables, especially among men.

This study suggests possible directions for future research from the several interesting findings from this study. Especially, the different impacts of media channel as comparison sources in social comparison process that create gender difference are a noteworthy finding. This needs to be confirmed through additional studies in the future with sufficient sample size of both male and female participants. Also, the overall gender differences found in the study should be investigated further to understand how mass media influence men’s and women’s body image differently.

REFERENCES


APPENDIX

ARI Measurement Items

1. I think it is necessary to analyze pros & cons of different ways of body improvement.
2. I think it is important to know all the facts regarding body improvement.
3. I think it is necessary to understand the arguments if it is possible to obtain an improved body shape.
4. I think that there is a health risk to obtaining an improved body shape.
5. I think that having an improved body shape is of concern to me.
6. I think that having an improved body image is a relevant issue to me.
7. I think that having an improved body shape means a lot to me.
8. I think I am using my cognitive skills to assess how my body looks.
9. I feel that having an improved body shape will make me feel sexy.
10. I feel that having an improved body shape will make me proud.
11. I feel that having an improved body shape will make me happy.
12. I feel that having an improved body shape will make me socially desirable.
13. I feel that having an improved body shape will make me powerful.
14. I feel that having an improved body shape will make me confident.
15. I feel that having an improved body shape will make me secure.
16. I feel that I am using my emotions when I assess how my body looks.

Note. Rated on a 5-point scale from 1 (strongly disagree) to 5 (strongly agree).