YOUNG JAPANESE WOMEN’S SOCIAL COMPARISON OF BODY SIZE AND ADORNMENTS WITH TELEVISION CELEBRITIES

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Abstract

This study aimed to examine Japanese female college students’ dissatisfaction with physical appearance, including body size and adornments (e.g., hairstyle, clothes and bags), from the perspective of social comparison. Previous research showed young females compared their bodies with media figures, which can be detrimental to their body image. In addition to body size, young females may compare their adornments with those of media figures, which may have negative consequences. This study, therefore, was designed to explore young females’ adornment dissatisfaction through the lens of social comparison. Moreover, extant research has examined how perceived attainability (i.e., how confident one is in attaining the compared dimension) influences comparison outcomes. Because a sense of attainability of thinness/adornment may play an important role in psychological and behavioral outcomes following the comparisons, this study aimed to investigate this aspect. Three hundred and sixty nine Japanese female college students participated in the self-report survey, which assessed the amount of television exposure, perception of thinness/adornment attainability, body/adornment dissatisfaction, self-esteem, weight/adornment control practices, and appearance-related comparison tendencies. The findings were mostly consistent with the hypotheses: (a) television viewing were not related to body/adornment dissatisfaction; (b) perceived attainability of thinness was positively related to self-esteem, body dissatisfaction and weight control behaviors; (c) a perception of adornment attainability was positively related to adornment dissatisfaction, self-esteem, and adornment control behaviors; and (d) appearance-based comparison orientation was positively related with body/adornment dissatisfaction.
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CHAPTER 1
INTRODUCTION

The media has been criticized as transmitting harmful messages that emphasize idealized body images: an ultra-thin body for females (e.g., Tiggemann, Gardiner, & Slater, 2000) and a muscular body for males (e.g., Field, Austin, Camargo, Taylor, Striegel-Moore, Loud, & Colditz, 2005). Exposure to such idealized body images has been linked to body dissatisfaction (e.g., Tiggemann, 2003), which can lead to low self-esteem, stress, increased depressive symptoms, and psychopathology such as eating disorders (Johnson & Wardle, 2005; Stice & Bearman, 2001). Body dissatisfaction and subsequent eating disorders, once considered as peculiar to the West (e.g., Raich, Rosen, Deuz, Perez, Requena, & Gross, 1992), are now known to exist among non-Western countries, including Japan (e.g., Mukai, Kambara, Sasaki, 1998).

There is no doubt that socio-cultural influences play a central role in developing body dissatisfaction and subsequent eating disorders (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Studies found females are more negatively affected by such socio-cultural messages promoting idealized body images than males (Suka, et al., 2006). However, while virtually every individual receives such socio-cultural messages through friends, family and media, not every woman develops body dissatisfaction and eating disorders. One mechanism that accounts for the individual difference might be social comparison processes. In fact, mounting evidence supports the utility of social comparison theory in explaining why some women develop body dissatisfaction while some do not (e.g., Stormer & Thompson, 1996; Tiggemann & McGill, 2004).
Social comparison theory, originally developed by Festinger (1954), posits that individuals have an innate drive to evaluate themselves. Festinger stated that even though individuals prefer to evaluate themselves using objective and nonsocial standards, they compare themselves with others when such objective information is not available. Among many sources of comparisons, the media, especially people seen in television provides a source of information that serves as standards of comparison, which are often unrealistically elevated and unattainable for most individuals (e.g., Kilbourne, 2000; Tiggemann & Pickering, 1996).

The research suggests that the consequences of social comparison differ between individuals based on whom, what, and why these individuals seek comparison (for a review, see Dijiksta, Gibbons & Buunk, 2010), as well as how these individuals process the comparison information (e.g., Buunk, Collins, Taylor, Vanperen, & Dakof, 1990). Looking at social comparison processes can provide insight into why some women in Japan are negatively affected by socio-cultural pressures to be thin.

Besides body size, other aspects of physical appearance, such as clothes, accessories, hairstyles and make-up can be targets of social comparisons. Most celebrities in the media are seen as physically attractive and, due to the halo effect (Thorndike, 1920), individuals may perceive all aspects of celebrity’s physical appearance as desirable. Moreover, celebrities often appear on television wearing trendy clothes and brand-name shoes, with high-end accessories that are attractive to many young women. As individuals engage in comparisons related to body size with models in the media, individuals may also engage in adornment-related comparisons with celebrities including models and actresses in the media.
Thus, the present study attempts to examine social comparisons in two aspects of physical appearance, namely body size and adornments (e.g., clothes, hair styles, make-ups, accessories, bags) with celebrities in the media that are comparison sources for young Japanese women. This paper will first discuss body dissatisfaction among Japanese girls and women. Second, social comparison theory and its expansion will be reviewed. Finally, appearance-related comparisons will be discussed in terms of how television viewing, perceived attainability, and social comparison orientation is related to consequences of appearance-related social comparisons with media figures.

**Body Dissatisfaction Among Japanese**

Body dissatisfaction is defined as the subjective, negative evaluation of one's body, weight, or body parts (Stice & Shaw, 2002). Thompson et al. (1999) stated that most individuals experience mild to moderate levels of body-related “concern, distress, and dissatisfaction” (p. 7). In fact, body dissatisfaction is so prevalent in current Western society that the term “normative discontent” was coined to refer to how most women feel about their bodies (Rodin, Silberstein & Striegel-Moore, 1985). Body dissatisfaction has been found to be prevalent among non-eating disorder populations, especially among females (e.g., Wertheim, Paxton & Blaney, 2009) and found to be associated with higher rates of depression and lower self-esteem (Kostanski & Gullone, 1998), unnecessary cosmetic surgery, and eating disorders (Thompson et al., 1999).

Across cultures, females reported more body dissatisfaction than males (e.g., Kayano, et al, 2008; Mellor, McCabe, Ricciardelli, & Merino, 2008; van den Berg, Mond, Eisenberg, Ackard, & Neumark-Sztainer, 2010). The reason females express more body dissatisfaction than males seems to stem from societal emphasis on a thin
physique for females. First, women’s bodies have been socially constructed as objects to be watched and evaluated, whereas this is less the case for males’ bodies (Wykes & Gunter, 2005; Bordo 2003; Fredrickson & Roberts, 1997). Media often present women in ways that make body image central to their identity (Wykes & Gunter, 2005). Though media now make the muscular bodies of men increasingly visible (Labre, 2005; Leit, Pope, & Gray, 2001), women’s bodies, especially slim ones, have been traditionally overrepresented in the media (Christine, Iijima, & Crum, 1994).

Further, gender differences in mate selection may be related to a higher prevalence of body dissatisfaction among females than among males. Research has accumulated evidence that males place more importance on physical attractiveness than women (Fletcher, Tither, O’Loughlin, Freisen, & Overall, 2004). When describing ideal men, females attached more importance to good character (e.g., kindness and honesty) than looks (Fletcher et al., 2004; Li, 2008). This importance placed on physical attractiveness may be the reason why women have universally felt more pressure to pursue cultural standards of beauty than men (Furnham et al., 2002).

Body dissatisfaction and subsequent eating disorders have been traditionally considered as issues predominantly in the West (e.g., Raich et al., 1992), but Japan is also facing a serious issue of high prevalence of body dissatisfaction and increasing rates of eating disorders. Further, Japanese women reported higher body dissatisfaction compared to American women, whose average Body Mass Index (BMI) is larger than that of the Japanese (e.g., Mukai, Kambara, & Sasaki, 1998; Shih, & Kubo, 2005; Wardle, Haase, & Steptoe, 2006).
Moreover, while not as prevalent as in the United States, both clinical and subclinical eating disorders among young Japanese women have dramatically increased since 1975 (e.g., Smith & Joiner, 2008; for a review, see Chisuwa. & O’Dea, 2010). Between 1980-2000, the number of identified case of eating disorders (i.e., anorexia, bulimia, and EDNOS or eating disorder not otherwise specified) increased ten-fold in Japan (Ministry of Health, Labor and Welfare, 2010).

Besides the increasing number of actual eating disorder cases, unhealthy eating behaviors among non-clinical populations is prevalent in contemporary Japan. For instance, Mukai, Crago, and Shisslak (1994) conducted a survey among nearly 200 female high school students from a middle to upper class urban area in Japan and found that 60% of the female adolescent participants reported that they have engaged in binge eating and 15% of them reported that they occasionally vomited. Moreover, Nakamura et al. (1999) concluded a survey among about 400 adult females, aged 20-39 years, working in a computer factory in Japan. They found that 6% of the participants reported that they had fasting experiences, and over 10% of participants reported that they had misused weight loss drugs (i.e., laxatives, diet pills, and diuretics). Makino, Hashizume, Yasushi, Tsuboi, and Dennerstein (2006) conducted a survey study among over 7,800 female college students in Tokyo and found that about 5% of the participants reported abnormal eating attitudes.

Another issue is that young Japanese women are getting slimmer over time, in contrast to Japanese men and older Japanese women whose BMI is increasing (e.g., Kaneko, Kiriike, Ikenaga, Miyawaki & Yamagami, 1999; Takimoto, Yoshiike, Kaneda, & Yoshita, 2004; Yoshiike et al, 2002). The reason that Japanese women are getting
slimmer over the years might be related to their preoccupation with thinness and the prevalence of dieting by women with average weight (Nishizawa et al., 2003). Nishizawa et al. (2003), in their survey of over 1000 high school students, found that underweight and average weight Japanese girls tended to perceive their body as rather broad and Nishizawa et al. (2003) interpreted this result as demonstrating that many girls are excessively preoccupied with thinness. Numerous studies found that many young individuals within the average weight range reported attempting to lose weight. For example, the National Nutrition Survey in 2002 (as cited in Chisuwa & O’Dea, 2010) reported that nearly 70% of female participants within the average weight range reported they are currently trying to lose weight. Similarly, Nakamura et al. (1999) found that 42% of the over 400 female computer factory workers they surveyed reported significant dieting efforts to lose weight. The Ministry of Health, Labor and Welfare (2010) reported in 2008 that 25% of women in their 20s are considered as underweight and the rate of underweight females in the 20-39 year age group in Japan has increased dramatically in the past 20 years. Such an increase in low BMI seems a serious issue for Japanese society. Being underweight is associated with negative health consequences, such as osteoporosis (Blum et al., 2001), nutritional deficiency (McClain, et al., 1992), increased mortality risk (Flegal, Graubard, Williamson, & Gail, 2005), and unfavorable pregnancy outcomes (Doherty, Magann, Francis, Morrison, & Newnham, 2006). In fact, according to the Japanese Ministry of Health, Labour and Welfare, underweight women tend to give birth to low birth weight infants, and such underweight infants are at risk for diabetes and hypertension after maturity.
Why Japanese girls and women are more vulnerable to body dissatisfaction is still unclear. Some researchers argued that it is partly due to Western influences (Mukai et al., 1998). Yazaki (as cited in Shih & Kubo, 2005) stated that the standards of beauty for Japanese women have undergone a period of intense change since World War II. The percentages of Caucasian models appearing in magazines and television commercials have increased in Japan since World War II (Kitahara, 1989). As a consequence, emphasis was placed on “hatto shin beauty”. “Hatto shin” literally means that the length of the head equals one eighth of the height (i.e., a well-proportioned body with a smaller head and longer legs) and such a well-proportioned Caucasian inspired body had started to be seen by the Japanese as beautiful. Yazaki (as cited in Shia & Kubo, 2005) argued that since the end of World War II, the number of magazines and advertisement featuring weight loss and thin bodies dramatically increased. Further, the 1990s saw the emergence of “a Westernized body with a Japanese face” (Ishiguro, 2009, p. 98), a new trend in which an ideal Western body, previously represented by using Caucasian women, was “indigenized” by using Japanese models who possessed a Western-like body (Ishigurao, 2009).

Other researchers argued, however, that Westernization cannot explain such a high prevalence of body dissatisfaction (e.g., Pike & Borovoy, 2004). Pike and Borovoy (2004) believed that it is the struggle in managing dialectics between autonomy and traditional gender roles that makes Japanese women vulnerable to negative views toward the body and eating problems. Even with the gradual change toward gender equality in some aspects, gender role strain and inequality is still prevalent in Japan (e.g., North, 2009; Pike & Borovoy, 2004; for a review, see Ma, 2010). Japanese women in
contemporary society are still expected to conform to traditional Japanese gender role expectations, such as being passive, prioritizing men over women, and being committed in the home and family over a career (Homma-True, 1997). Women face conflicts between the desire to achieve equality in the workplace and the pressure to fulfill the traditional female roles of nurturance and domesticity (Pike & Borovoy, 2004). Yates, Edman and Arguete (2004) speculated that the high risk of eating disorders among Japanese women might be related to role strains from societal norms. Littlewood (1995) argued that dieting by Asian women might be a manifestation of an attempt for self-determination when confronted with ambivalent cultural demands and norms. He reasoned that Asian women try to take control of one thing in which they have some power-- their bodies and their appetite (Littlewood, 1995). Littlewood (1995) argued that it is through bodily denial for some Asian women that they can achieve autonomy.

Regardless of whether the high prevalence of body dissatisfaction came from Japan’s Westernization or Japanese women’s struggle in managing a tension between autonomy and fulfilling traditional female roles, it is important to look at the mechanism beneath the development of body dissatisfaction. One well-established explanation for the development of body-related concern is the process of social comparison (social comparison theory, Festinger, 1954). Mounting evidence shows a positive relationship between comparison with models representing ideal body images and body dissatisfaction (e.g., Botta, 2003).

Social comparison theory may be particularly salient in collectivistic societies, such as Japan. For example, Chung and Mallery (2000) found that higher collectivism scores were associated with an increased desire to compare in general, an increased desire
to make comparisons with those who are better than oneself (i.e., upward comparisons), and a decreased desire to make comparisons with those who are worse off than oneself (i.e., downward comparisons). Similarly, White and Lehman (2005) found a relationship between collectivistic cultural orientation and a higher level of social comparison seeking, indicating that relative to European Canadians, Asian Canadians sought more social comparisons, especially with those who performed better than themselves. Based on these studies, one possible reason for the high prevalence of body dissatisfaction among Japanese females might be related to their higher social comparison tendency, relative to their counterparts in individualistic countries. In other words, the degree of body dissatisfaction among Japanese youth might be intensified due to the increased level of social comparison. This line of reasoning is consistent with research indicating higher prevalence of body dissatisfaction among Japanese compared to Americans (e.g., Mukai et al., 1998).

**Social Comparison Theory**

Social comparison is widely acknowledged to be a central feature of human social life (Buunk & Gibbons, 2006). As Gilbert, Price and Allan (1995) stated, comparison with others is “phylogenetically very old, biologically powerful, and is recognizable in many species” (p. 149). However, it was not until Festinger’s seminal paper (1954) when the word “social comparison” appeared.

**Original Theory**

In his paper “A Theory of Social Comparison Process”, Festinger (1954) attempted to explain why and how human compare themselves with others, as well as the consequences of such comparisons. He first hypothesized that individuals have a drive to
evaluate their opinion and abilities and articulated that people engage in social comparison activities on a daily basis. Assuming that obtaining accurate knowledge about one’s own opinion and ability had adaptive value, Festinger (1954) stated that having “incorrect opinions and/or inaccurate appraisals of one’s abilities can be punishing or even fatal in many situations” (p.117). Thus, the original theory emphasized the importance of the accuracy of the evaluation.

Festinger (1954) believed that individuals prefer to use objective standards to gauge where they stand in terms of a given attribute. However, according to Festinger, there are not many, if any, situations where there are objective standards for measuring abilities as well as the accuracy of opinion in everyday life. His second hypothesis is that in such a case where objective, non-social means are not available, individuals evaluate their own opinions and abilities by comparing them with the opinions and abilities of others.

Such comparisons with others do not happen in a random way. As the third hypothesis, later called “similarly hypothesis”, holds, individuals compare themselves with others who they perceive to be similar. Festinger (1954) assumed that comparison with similar others will increase the evaluation accuracy. Festinger used an example of a chess game learner to illustrate this idea, stating that the beginning player would not compare himself or herself to a recognized chess master. Festinger argued that if a dissimilar other is the only comparison available, “the person will not be able to make a subjectively precise evaluation” of this/her own ability and opinion (p. 121).

The fourth hypothesis, called unidirectional drive upward hypothesis, holds that individuals would seek comparison targets who are thought to be slightly better off in
order to obtain information on how to improve. Festinger (1954) pointed out that a unidirectional drive upward is mainly observable in abilities, but largely absent in opinions. Festinger (1954) argued that, at least in the West, there is a cultural value set on improving one’s performance, thus, “the higher the score on performance, the more desirable it is” (p.125).

Expansion and Revision of the Theory

Some researchers have claimed that the original theory is too narrow in its scope (e.g., Kruglanski & Mayseless, 1990; Wood & Taylor, 1991). Buunk and Gibbons (2007) even stated that Festinger underestimated the importance of social comparison in our everyday life. The theory has been elaborated and expanded mainly in terms of (a) dimension of comparison, (b) subconscious aspect of comparison, (c) motivations for comparison, (d) distinction between upward and downward comparison and (e) distinction between assimilation and contrast with comparison targets.

Dimension of comparison. Whereas Festinger’s (1954) original social comparison is somewhat narrow in its focus on abilities and opinion, a broader notion of social comparison theory includes “any process in which individuals related their own characteristics to those of others” (Buunk & Gibbons, 2000, pp. 491) and encompasses wider varieties of dimensions such as value, worth, accomplishments, possessions, personal traits or feelings, academics, physical appearance, and even eating habits (Gibbons & Buunk, 1999; Wheeler & Miyake, 1992).

Conscious versus subconscious comparisons. The original idea behind social comparison theory was the conscious seeking of comparisons. However, unsought comparisons may occur (Goethals, 1986; Wood, 1989). In other words, comparisons can
be automatic and they can happen even when we do not want them to. Researchers have also demonstrated that social comparison may occur spontaneously and subliminally (e.g., Mussweiler, Ruter, & Epstude, 2004; Stapel & Blanton, 2004). Stapel and Blanton (2004) found that participants primed with a very young individual (i.e., a picture of a baby girl) perceived themselves as older than participants primed with a much older woman. This finding emphasizes that social comparisons can be a ubiquitous and spontaneous processes.

Motivations for comparison. The original theory emphasized accurate self-evaluation as a goal of social comparison. Successive researchers started to find that individuals are not merely objective, un-biased self-evaluators who strived for accurate evaluation of selves. Rather, individuals engage in comparison in self-serving ways. In fact, since the 1970s, researchers started to identify other motives for social comparison, motives that are accepted by most social comparison scholars today (Taylor, Wayment & Carillo, 1995): self-improvement and self-enhancement. Although Festinger’s original theory did not term it, self-improvement can be found in his hypothesis regarding unidirectional drive upward. Self-improvement as a motivation is an attempt to learn how to improve or be inspired to improve certain attributes. Evidence suggests that the goal of self-improvement promotes “upward comparison” with others (Smith & Sachs, 1997; Ybema & Buunk, 1993) because observing others who do better than oneself provides valuable information on how to improve one’s own performance (Dijkstra et al., 2011). Upward comparison is defined as comparing oneself to someone who is slightly better on the dimension of interest. A number of studies have found upward comparison can be functional and useful (e.g., Aspinwall, 1997; Buunk, Kuyper, & Van der Zee,
2005). For example, Collins (1996) provided an extensive review on studies testing the effect of upward comparison on self-evaluation, self-esteem and affect. He concluded that upward comparisons can lead to pleasant and optimistic feelings (Collins, 1996), especially when the target person shares similarities on comparison-related aspects other than the comparison dimension itself (Brickman & Bulman, 1977). Upward comparisons can also provide a feeling of inspiration because the superior actions of the target person can provide a model for achieving this outcome (Smith, 2000), as well as an opportunity to bask in the glory of the other’s good performance, which indirectly enhances one’s self-esteem (Tesser, 1988).

Concerning the motivation of self-enhancement, it is defined as the people’s attempt to protect or enhance self-esteem (Wood & Taylor, 1991). Inconsistent with Festinger’s emphasis on accurate self-evaluation, there is more evidence that people often bias information in a self-serving way, rather than seeking unbiased information (Taylor & Brown, 1988). Self-enhancement is most likely when downward comparisons (i.e., comparing with a person who is worse off than the self) are made (Suls & Wheeler, 2000; Wills, 1981). Downward comparisons are found to improve one’s mood or enhance one’s self-esteem (Affleck & Tennen, 1991) or generate positive affect, especially in people under stress (e.g. Buunk & Ybema, 1995; Tennen, McKee, & Affleck, 2000; Wills, 1981; Wood, Taylor, & Lichtman, 1985).

**Upward versus downward comparison.** As already mentioned, individuals may choose different types of comparison targets depending on the motivation: Upward and downward comparisons. Upward comparisons tend to be associated with self-improvement motivations (Ybema, & Buunk, 1993). Consistent with Festinger’s
“unidirectional upward”, a number of studies have shown the utility and adaptive function of upward comparisons (e.g., Collins 1996). For example, Blanton, Buunk, Gibbons, and Kuyper (1999) found that high school students who compared themselves with those who were academically performing better actually performed the best at the end of the semester. Other studies regarding academic performance replicated and expanded this adaptive function of upward comparisons (Huguet, Dumas & Monteil, 2001; Gibbons, Blanton, Gerrard, Buunk & Eggleston, 2000). Research on smoking cessation contexts also indicated this adaptive function of upward comparisons (Gerrard, Gibbons, Lane, & Stock, 2005).

However, other studies have found negative consequences associated with upward comparisons. Upward comparisons can decrease well-being (Wheeler & Miyake, 1992), or can be threatening to one’s well-being (Brickman & Bulman, 1977) because individuals are “forced to face one’s own inferiority” (Wood 1989, p. 239). In fact, researchers have found that upward comparisons tend to evoke negative affect (e.g., Diener, 1984; Salovey & Rodin, 1984; Tesser, Millar, & Moore, 1988).

As for downward comparison, researchers found that it is often used for self-enhancement motivations (e.g., Wills, 1981). There is considerable evidence that downward comparisons make individuals, especially those in distress, feel better about themselves (see Gibbons & Gerrard, 1991 for an overview) because perceiving oneself better off than others boosts self-esteem and reduces anxiety (e.g., Wills, 1981). Downward comparisons were typically found to be prominent among populations with serious medical issues such as cancer (e.g., Wills, 1981; Tenne, McKee, & Affleck, 2000) and arthritis (Devellis et al., 1990). For example, Taylor, Wood, and Lichtman (1983)
conducted an interview study on how women with breast cancer cope with their experience. They found evidence that participants often engaged in downward comparisons with other cancer patients, or even imaginary comparison targets, as strategies in coping with the disease. Based on such studies on individuals with medical conditions, some researchers described downward comparisons as a coping strategy, thus associated with positive adjustment (e.g., Gibbons & Gerrard, 1991).

It should be conceptually possible that downward comparisons can teach individuals about what not to do, thus serving self-improving purpose. The literature indicating the evidence of such a possibility, however, is almost non-existent (e.g., Wood & Taylor, 1991; Wood & VanderZee, 1997; with an exception of Aspinwall, 1997).

Even though early research has focused on self-enhancing effects of downward comparisons, it has been increasing clear that downward comparisons can be self-deflating and devastating (e.g., Lookwood, 2002). Whether downward comparisons result in positive or negative affect seems to depend on how individuals process the comparison information.

**Contrast or assimilation.** Studies have shown that both upward and downward comparison can lead to both negative and positive affect (e.g., Buunk, Collins, Taylor, VanYperen & Dakof, 1990; Hemphill & Lehman, 1991). The consequence of the comparison depends not only on the comparison direction (i.e., upward or downward) but also on how individuals process the comparison information: through assimilation or contrast (e.g., Buunk, Collins, Taylor, Vanperen, & Dakof, 1990; Collins, 1996). Assimilation occurs when individuals perceive themselves as similar to the comparison target, or identify with the comparison target whereas contrast occurs when individuals
perceive themselves as different from the comparison target (Seaton, Wheeler & Marsh, 2004). The research evidence suggests that contrast with an upward target and assimilation with a downward target resulted in negative affect and negative self-evaluation. On the other hand, assimilation with an upward target and contrast with a downward target leads to positive affect and positive self-evaluation (Buunk et al., 1990; Brown, Novick, & Kelly, 1992). In general, when individual assimilate themselves with the comparison target, upward comparisons (upward assimilation) produce positive and optimistic feelings such as hope and admiration whereas downward comparisons (downward assimilation) triggers negative feelings such as fear and worries (Smith, 2000; Dijkstra et al., 2011). On the other hand, when individuals contrast themselves with the comparison target, upward comparisons (upward contrast) produce negative feelings such as frustration, shame and resentment, whereas downward comparisons (downward contrast) bring feeling of relief and pride (Dijkstra et al., 2011; Smith, 2000).

**Moderators of contrast or assimilation.** Researchers have aimed to identify the conditions under which comparisons lead to contrast or assimilation with the comparison targets. There are many conditions that serve as moderators of contrast and assimilation, such as self-esteem (e.g., Buunk et al., 1990), a sense of control and attainability (Lockwood & Kunda, 1997; Major, Testa & Blysmo, 1991), type of self-construal (e.g., Kemmelmeier & Oyserman, 2001; Neighbors & Knee, 2003; Stapel & Koomen, 2001), type of the self being activated (Stapel & Koomen, 2001), perceived similarity with the comparison target (Collins, 2000), and the focus of the comparison (Major et al., 1991).

Among them, one of the most well documented concepts that was found to be a moderator of contrast or assimilation is a sense of attainability and control. A sense of
attainability and control is very similar to the concept of self-efficacy (Bandura, 1997), which is defined as “the belief that one has the capacity to mobilize the motivation, cognitive resources, and courses of action necessary to exercise control over one’s environment (Koesten, Miller & Hummert, 2002, p.10). Major et al. (1991) mentioned how perceived control “… alters the meanings and significance of these discrepancies and the comparer’s response to them” (Major et al., 1991, p.126). Assimilation with an upward comparison target and contrast with a downward comparison target is likely when perceived control is high (e.g., when individuals think there is something they can do in order to improve or avoid failure). Specifically, upward comparison with high perceived control “… increase self-efficacy and inspire and motivate performance rather than induce helplessness or anger” (Major et al., 1991, p247).

In their series of three studies, Lockwood and Kunda (1997) found that models’ or television and movie stars’ success was seen as inspiring and self-enhancing when participants had enough time to achieve the success or they believed that their ability can be improved over time. On the other hand, success of models and stars was perceived as deflating and threatening when participants had already missed the chance to achieve a success or perceived their abilities as unlikely to improve.

Similarly, Testa and Major (1990)’s study found that the affect resulting from comparisons was moderated by perceived control. In their study, all subjects were told that they failed an initial task (i.e., writing a persuasive essay). They were exposed to either those who had performed better or worse, and led to believed that it was either possible or impossible to improve the performance on the second task. Those who were in the high perceived control condition were told that the second task is only moderately
correlated with the initial task and thus it is possible to improve their score from one test to the next through practice and studying. Those who were in the low perceived control condition were told that the second task is highly correlated with the previous test, and it is impossible to improve their scores from one test to the next through practice and studying. They found that those who were led to believe that they have little control over improving the performance on the second test, and exposed to the target who had performed better showed depressive and hostile affects. Such subjects also persisted less long in the second task relative to other subjects.

Bauer and Wrosch (2011)’s longitudinal study among over 100 young and older adults also supported similar results. They focused on the perception of opportunity to undo a regret, which is not identical but related to the sense of control and attainability. Participants were asked to report their most severe life regret and to indicate how likely it is that the negative consequences of that regret can and will be undone. Participants were also asked to report on their comparison direction, and their experience of positive and negative affect. The results indicated that participants who made upward comparisons and perceived low opportunities to overcome their regrets reported a decline in positive (but not negative) affect. When participants who perceived poor opportunity to undo their regrets engaged in downward social comparisons, they reported better emotional well-being and physical health, relative to those who perceived high opportunities to undo their regrets. This result suggests that upward comparisons provoke negative affect when people perceive a lack of controllability or attainability.

**Individual differences.** Several social comparison researchers have suggested that a tendency to make (or not make) social comparisons may be a personality
characteristic (Gibbons & Buunk, 1999; Buunk & Gibbons, 2006). Some researchers have theorized that individuals have different overall social comparison tendencies (e.g., Diener & Fujita, 1997; Hemphill & Lehman, 1991). Diener and Fujita (1997) mentioned “making any comparisons at all, may often be a function of one’s personality” (p. 349). Similarly, Hemphill and Lehman (1991) suggested “the need for researchers to include measures of social comparison that acknowledge the fact that people may not wish to compare with others to an equal extent” (p.390). Gibbons and Buunk (1999) also speculated that individuals differ in the amount and the frequency of the social comparison process. Studies have demonstrated that those with high social comparison orientation (SCO) do indeed compare themselves more often with others (e.g., Van der Zee, Oldersma, Buunk, & Bos, 1998).

SCO has been found to correlated with many personality characteristics. Three main features have been identified. First, individuals with high SCO have been reported to show high chronic activation of the self. For instance, SCO was found to be positively correlated with both private and public self-consciousness (Gibbons &Buunk, 1999). Similarly, Stapel and Tesser (2001) found that those with high SCO showed more tendencies to refer to themselves. In their study, participants were asked to guess the correct translation of 20 pronouns from unknown (and nonexistent) language. The result showed that those with high SCO had a tendency to mention more first-person pronouns (I, me, myself). Based on a previous research suggesting that individuals with heightened activated self list more first-person nouns (Dijiksterhuis & Van Knippenberg, 2000), Stapel and Tesser (2001) concluded that highly activated self is associated with high SCO.
Second, those with high SCO seem to show a strong interest in what other think and feel. High SCO has been found to be positively related to an interpersonal orientation (e.g., interest in what makes people tick, a tendency to be affected by others’ mood and criticism, and an interest in mutual self-disclosure), a strong empathy for others and general sensitivity to the need of others (Buunk & Gibbons, 2006; 2007). Similarly, SOC was positively related with sensitivity to other’s need as well as a willingness to help others in need of help (Buunk & Gibbons, 2006).

Third, negative affectivity and self-uncertainty were found to be related to SCO. Research on chronic social comparison tendencies indicated that those who expressed a general tendency to compare with others tended to have more negative self evaluations (Butzer & Kuiper, 2006; Gibbons & Buunk, 1999; Swallow & Kuiper, 1990). High social comparison tendencies were positively associated with depression, perceived stress and negatively with self-esteem (Gibbons & Buunk, 1999; Wayment & Taylor, 1995; Wood & Lockwood, 1999). Neuroticism (e.g., worrying, depression, and anxiety), which is highly related to high level of intolerance of uncertainty (Sexton, Norton, Walke & Norton, 2010), was also consistently found to be positively related to SOC (Van der Zee, Buunk & Sanderman 1998). Importantly, an increasing number of studies have shown that those with high SCO are affected more negatively by social comparisons. Buunk, Ybema, Gibbons and Ipenburg (2001) conducted a study in which sociotherapists were presented with a bogus interview with a target in the same profession who was either very successful (upward comparison) or very unsuccessful (downward comparison). SCO did not influence the positive affect as a result of the upward comparison. However, the higher the level of burnout, the more negative affect was evoked as a result.
of the downward comparison, but only among those with high SCO. The result that participants with high SCO responded more negatively to downward comparisons might be due to the assimilation effect with the target (Buunk et al., 2001). In other words, participants with high SCO identified with the downward comparison target, and were concerned that they may become like such a target.

Studies on body images also suggested that individuals with high SCO are negatively affected by social comparisons. Correlational studies found the positive association between a higher level of appearance-related comparisons and one’s body dissatisfaction (e.g., Stormer & Thompson, 1996). Martin and Kennedy (1993), for instance, found that a tendency to compare one’s physical attractiveness with models in the magazine advertisement was correlated with participants’ report of self-perception of less attractiveness. One can argue that the reason why participants who frequently engaged in appearance-related comparisons had negative responses was due to upward comparisons with a contrast effect. This suggests that high social comparison tendencies can negatively affect individuals through not only downward assimilation but also upward contrast.

**Social comparison and its behavioral outcomes.** According to the original social comparison theory, individuals who find a gap between themselves and comparison targets will behave in a manner that they can narrow the gap. Specifically, Festinger (1954) stated that “when a discrepancy with respect to opinion and abilities there will be tendencies to change one’s opinion so as to move closer to others in the group” (p126).
Festinger (1954) argued that there are at least three factors that increase a pressure to reduce a gap between oneself and the comparison target. First, the more important the compared dimension is to individuals, the more pressure they will feel to reduce the gap between themselves and the comparison target. Second, the greater the relevance of the comparison dimension to individuals, the stronger they will try to narrow a gap between themselves and the comparison target. Last, the more attractive a comparison target is to individuals, the more motivation they will have to reduce the gap between themselves and the comparison target.

Festinger (1954) provided some empirical data regarding how these three factors increase individuals’ motivation to reduce a perceived gap between themselves and the comparison target. However, he mentioned that in the case of abilities, the evidence is less direct because the process in which individuals narrow the discrepancy in abilities is not clearly shown in a social process, thus harder to identify. Until to this point, whether and how individuals take action to narrow the perceived gap is understudied, compared to numerous studies on emotional consequences as a reaction to comparisons (e.g., Major et al., 1991).

Social Comparisons and Physical Appearance

Social comparison theory has been applied to the media effect on body image (e.g., Dittmar & Howard, 2004). The media has been criticized as setting an unrealistic standard of thinness (e.g., Tiggmann et al., 2000). Studies showed that idealized body images in the media are often the source of appearance-related comparisons for many girls and young females adults (Heinberg & Thompson, 1992). Social comparisons related to body size with celebrities in the media have been found to be almost always
upward because the media depicts models and celebrities as representing attractive features and thin bodies that are unrealistic to most individuals (e.g., Dijkstra et al., 2011).

One can argue that models and celebrities can be a source comparison not only in terms of body size but also other aspects of physical appearance that are used to enhance the physical attractiveness, namely, adornments. As was the case with body size-related comparisons with media images, adornment-related social comparisons with media figures are most likely to be upward. This is because most television shows exhibit celebrities wearing high-end clothes and shoes, for example, and as being in highly desirable circumstances that are well beyond most individuals.

Theoretically, an information source that serves as a standard of comparison is needed for social comparisons to occur. Among numerous sources, researchers paid a great amount of attention to the media as one of the most powerful agents that provide audiences with what they ought to look like. According to social comparison theory, upward comparisons with celebrities in the media can result in either contrast with the models, evoking negative self-feelings, or assimilation with models, thereby creating positive self-feelings. According to social comparison theorists, perceived attainability or control is a key determinant for whether upward comparisons lead to assimilative or contrastive reactions.

Social Comparisons and television viewing

A number of studies suggest that the media often offers comparison targets in wide varieties of dimensions such as consumer behavior (Gui & Stanca, 2009), materialism (Bruni & Stance, 2005; Chan & Prendergast, 2007), material possession
(Rahtz et al., 1988), and physical appearance (e.g., Tiggemann & Pickering, 1996). As Speck and Roy (2008) pointed out, the media provides audiences with “what ought to be with respect to their possessions, lifestyle, and status, and serve as a standard of comparison” (p.1201). Media images provide a source of information that serves as standards of comparison that are unrealistically elevated and thus, almost unattainable to most individuals (Richins, 1992; Tiggemann & Pickering, 1996).

Among different kinds of media, many researchers paid a great deal of attention to television, which is especially recognized as one of the most powerful socialization agents in contemporary society (Gui & Stanca, 2009). As Gui and Stanca (2009) argued, television is the primary source through which individuals acquire social information and are driven to engage in social comparisons. O'Guinn and Faber (1987) argued that social comparisons with television figures result in feeling of dissatisfaction or malaise. They stated that when individuals compare their own lives with those of television, such comparisons are bound to make individuals feel deprived, and arouse a desire to have what they believe other people have (O'Guinn & Faber, 1987). In fact, most studies examining the relationship among television viewing, social comparisons and its consequences generally indicated negative effects of heavy television viewership on individuals’ well-being (e.g, Rahtz et al., 1988).

For example, Bruni and Stance (2005) analyzed data from about 56,000 individuals from the World Value Surveys to investigate how television viewing affects individuals’ life satisfaction. Although past research found that income is, in general, positively related to life satisfaction (Oishi, Diener, Lucas & Suh, 1999), Bruni and Stance (2005) found that income did not have as strong of a relationship with life
satisfaction for heavy television viewers, compared to occasional television viewers. Bruni and Stance (2005) concluded that higher television viewing elevates material aspirations and increases upward social comparisons, thereby dampening the relationship between income and life satisfaction.

Similarly, Rahtz et al. (1988) in their study among nearly 800 elderly participants found that the greater the television viewership, the lower the participants’ life satisfaction. Rahtz et al. (1988) found that the elderly who are heavy television users compare themselves to an unrealistic belief of the average person who has more material possessions, which resulted in dissatisfaction. Thus, studies on the effect of television viewing on life satisfaction suggest that television provides standards of comparisons that are unrealistically elevated. Studies also suggested that such social comparisons resulting from television viewing lead to upward contrasts, evoking dissatisfaction with one’s own standard of living.

Studies on body image also found similar results indicating a positive relationship between television viewing and body dissatisfaction through a social comparison process. Some studies found that a higher level of overall television viewing was negatively associated with body satisfaction (e.g., Harrison, 2001; Harrison & Cantor, 1997). For example, Van den Berg et al. (2007) in their studies of over 2500 males and female in their late adolescence found that overall television exposure was significantly associated with body dissatisfaction in both male and female participants.

Other studies indicated that the overall amount of television watching among girls was not related with their body image disturbance, but exposure to particular television programs (e.g., soap operas, movies, music videos) was (e.g., Tiggemann & Pickering,
1996). In their study among over 800 high school girls, Borzekowski, Robinson, and Killen (2000) found that exposure to music videos was significantly related to an elevation in perceived importance of physical appearance and body concern whereas exposure to the media in general was not. Such results make sense because a television program featuring environmental issues, for example, carries different messages than a music program that might glorify thin celebrities, thus emphasizing the societal value on thinness, possible evoking body dissatisfaction among the viewers. Further, Van den Bulck (2000) conducted a similar study among over 1000 male and female adolescents and concluded that only certain television programs promoting idealized beauty images, but not (or not to the same extent) the amount of television viewing in general, were associated with body dissatisfaction. Consistent with the results found in studies on the effect of television viewing on viewers’ life dissatisfaction, research on body image suggests that television programs, especially those emphasizing the societal value on thinness, serve as a source of upward comparisons.

According to social comparison theory, comparing oneself with somebody who is better than oneself result in upward comparisons. When individuals perceive a sense of attainability, upward comparisons result in assimilation with the comparison target, evoking positive feelings. On the other hand, when individuals perceive a low sense of attainability, upward comparisons result in contrast with the comparison target, evoking negative affect. Television programs containing female celebrities can be a source of social comparisons that result in upward contrast due to an unrealistic standard of thinness. Even when television programs do not explicitly emphasize the value on thinness, they can still offer a source of upward comparisons to viewers as long as the
screen shows bodies of female celebrities who represent this thin ideal. Therefore, many prime time television programs that feature female models and celebrities, such as music television shows, variety shows, entertainment shows, and talk shows can be a source of upward comparisons. The amount of exposure to these television programs that contain female celebrities should be associated with body dissatisfaction in female viewers.

Thus, the following hypothesis is proposed:

H1: The amount of exposure to television programs containing female celebrities will be positively related to females’ body dissatisfaction.

Besides body size, adornments (e.g., clothes, bags, accessories, shoes, hairstyles, make-ups) possessed by celebrities in television programs can also be a dimension compared upon by the viewers. Television depicts celebrities wearing expensive and trendy adornments, which are available to an extremely small segment of population. Comparisons of adornments with those of media figures, therefore, are most likely to result in upward contrast. Thus, the following hypothesis is formed:

H2: The amount of exposure to television programs containing female celebrities will be positively related to females’ adornment dissatisfaction.

**Physical Appearance, Attainability, Affective and Behavioral Outcomes**

Before discussing how a sense of attainability influences affective and behavioral outcomes of upward comparisons, it is important to examine the condition necessary for upward comparisons to occur and the cause of some reactions. As discussed earlier, Festinger (1954) argued there are at least three factors that increase individuals’ motivation to reduce a discrepancy between themselves and the comparison target: the importance of the comparison dimension, the relevance of the comparison dimension,
and the attractiveness of the comparison target. In the context of physical appearance, we can assume that these three factors are at work, as most social comparison studies on body image assumed. This assumption is perhaps accurate because the literature suggests that physical appearance does serve an important role for females (Borzekowski et al., 2000; McCabe & Ricciardelli, 2004). This also means that most females perceive physical appearance as relevant to their life. Moreover, it seems common that many girls desire to look like actresses and models in the media. For example, Hofschire and Greenberg (2002) found that about 180 female respondents reported high desire to look like media celebrities.

It is important to clarify that we assume at least one of these three factors are operative in appearance-related comparisons because a perceived sense of attainability does not even matter if none of three factors are involved. If the comparison dimension is not important for individuals, they may not even engage in social comparisons on the dimension in the first place (Festinger, 1954).

The vast majority of the research did not measure participants’ perception of attainability (e.g., Stormer & Thompson, 1996; Tiggemann & McGill, 2004), perhaps because they assumed that participants’ perceived attainability is low. Such an assumption is perhaps accurate considering the evidence that upward comparisons with actresses and models in the media almost always result in contrast with the comparison target, evoking negative affect and body dissatisfaction (Engeln-Maddox, 2005; Krones, Stice, Batres, & Orjada, 2005). Moreover, assimilation with models in the media is very rare (Grabe, Ward & Hyde, 2008).
However, a sense of attainability is still important to better understand why and how some individuals experience negative self-feelings as a result of upward comparisons while others do not. Perception of attainability may differ among individuals greater than former researchers have assumed. In fact, studies on self-efficacy indicated individual differences in self-efficacy in a wide variety of contexts such as adjustments to new environments (Jones, 1986), exercise (Resnick, Palmer, Jenkins & Spellbring, 2000), and academic performance (Zimmerman & Martinez-Pons, 1990). There is a good reason to argue, therefore, that there are individual differences in self-efficacy regarding body size. Certain people may perceive attaining a thin body as fairly easy if they have strong confidence in their will to manage their weight or if their bodies are naturally thin. Other individuals may perceive attaining a thin body as difficult, but not impossible. These individuals may think attaining a thin body is difficult because they cannot afford the time, money, or effort required to lose weight and maintain a thin body. At the same time, they may think that there is something they can do at least to get closer to the idealized body, by skipping a meal or exercising, for example. Yet some other individuals may perceive attaining a thin body as nearly impossible, especially when they have a naturally large body frame, for instance. Therefore, the thin body depicted in the media should not be seen as completely unattainable, but at least somewhat attainable for some individuals.

Similarly, one can argue that there may be some individual differences in the perceived attainability of adornments typically possessed by celebrities. Some individuals may have a high sense of attainability especially when they are from affluent families. Other individuals may feel that it is difficult to obtain most of the adornments
typically possessed by celebrities, but still possible to obtain some of them by working and saving money. For example, individuals who cannot afford high-end bags and brand-name clothes may still try to approximate their bags and clothes to those of celebrities by purchasing designer knock offs. They can also purchase cosmetics from drugstores to imitate the make-up of celebrities. For yet some other individuals, even purchasing some of the adornments that celebrities wear is almost impossible, especially when they have financial difficulties. Therefore, a perceived sense of attainability of both thin body and adornments as depicted in the media may differ from people to people, ranging from low to high.

**Physical appearance, attainability and affective outcomes.** Given that at least one of three factors (i.e., the importance of the comparison dimension, the relevance of the comparison dimension, and the attractiveness of the comparison target) are involved, one can argue that appearance-related social comparisons with media images will be almost always upward due to the unrealistic standard of beauty (e.g., Dijkstra, 2011). According to social comparison theory, when individuals perceive a low level of attainability of a thin body or/and adornments, such upward comparisons result in contrastive response, evoking negative feeling about themselves in terms of the dimension compared upon (i.e., body dissatisfaction or/and adornment dissatisfaction) as well as in general (low self-esteem). On the other hand, when individuals perceive a high level of attainability, upward comparisons result in assimilation with comparison target, thus creating positive feelings about oneself (body satisfaction or/and adornment satisfaction) as well as general self-evaluation (higher self-esteem). Thus, the following hypothesis is generated:
H3: In a situation where females perceive physical appearance as important and relevant and the comparison target as attractive, the degree of females’ perception of attainability of a thin body will be negatively associated with their body dissatisfaction.

H4: In a situation where females perceive physical appearance as important and relevant and the comparison target as attractive, the degree of females’ perception of attainability of a thin body will be positively associated with their self-esteem.

H5: In a situation where females perceive physical appearance as important and relevant and the comparison target as attractive, the degree of females’ perception of attainability of adornments possessed by celebrities will be negatively associated with their adornments dissatisfaction.

H6: In a situation where females perceive physical appearance as important and relevant and the comparison target as attractive, the degree of females’ perception of attainability of adornments possessed by celebrities will be positively associated with their self-esteem.

**Physical appearance, attainability and behavioral outcomes.** Compared to affective outcomes after upward comparisons, much less is known about what individuals would do after perceiving a gap between their own physical appearance themselves and those of celebrities in the media. According to social comparison theory, individuals will try to reduce a perceived gap between themselves and the comparison target when at least one of the aforementioned three factors (i.e., the importance of the comparison dimension, the relevance of the comparison dimension, and the attractiveness of the comparison target) are involved.
Few research studies on social comparison examined the relationship between a sense of attainability and their behavioral outcomes. Of the studies conducted, Testa and Major (1990) found that individuals who perceived a sense of attainability persisted longer in the task than those who perceived little control over achieving the goal. Moreover, research evidence showed that self-efficacy is related to behavioral outcomes (e.g., Manstead & van Eekelen, 1998). Thus, it seems reasonable to argue that those have high sense of attainability would actually engage in behaviors to attain one’s goal. In the field of body image, research showed individuals attempt to control weight by dieting, exercising and even undergoing plastic surgery (Thompson et al., 1999). Besides body size, individuals can also control their adornments buy purchasing, for example, bags, clothes, and accessories. Thus, the following hypotheses are generated:

H7: In a situation where females perceive physical appearance as important and relevant and the comparison target as attractive, the degree of females’ perception of attainability of a thin body will be positively associated with their attempt to control their weight.

H8: In a situation where females perceive physical appearance as important and relevant and the comparison target as attractive, the degree of females’ perception of attainability of adornments possessed by celebrities will be positively associated with their attempt to control their adornments.

Physical Appearance and Social Comparison Orientation

According to social comparison theorists, even though everybody engages in social comparisons, certain people are more inclined to make social comparisons (Buunk & Gibbons, 2006; Gibbons & Buunk, 1999). Moreover, studies found that those with
high SCO are more negatively affected by social comparisons (e.g., Buunk, Ybema, Gibbons & Ipenburg, 2001), possibly through down assimilation and upward contrast. In the context of physical appearance, social comparisons with celebrities in the media are most likely to result in upward contrast. This is because the standard of beauty is unrealistically high: celebrities possess unrealistically thin bodies (e.g., Thompson et al., 1999), as well as high-end adornments that are often difficult to attain for many individuals (e.g., Richins, 1992). Frequently experiencing upward contrast, people who have a high tendency to make appearance-based comparisons will have higher degree of body dissatisfaction. In fact, studies on body images indicated a positive correlation between a tendency to make appearance-related comparisons and body dissatisfaction (e.g., Botta, 2003; Heinberg & Thompson, 1992; Jones, 2001; Martin & Kennedy, 1993; Stomer & Thompson, 1996; Thompson, Heinberg, & Tantleff, 1991; Thompson et al., 1999). Based on social comparison theory and the research evidence, it can be hypothesized that a tendency to make appearance-based comparisons is positively associated with body dissatisfaction as well as adornment-related dissatisfaction. Therefore, the following hypotheses were formulated:

H9: The tendency to make appearance-based comparisons will be positively associated with body dissatisfaction in females.

H10: The tendency to make appearance-based comparisons will be positively associated with adornment dissatisfaction in females.
CHAPTER 2

METHODS

Procedure

A total of 369 female college students from two large Japanese universities (i.e., 101 from Doshisha University and 267 from Nara Women’s University) were recruited to participate in the study. The survey was announced and conducted using the last 15 to 20 minutes of their lecture classes. All the procedures and surveys were conducted in Japanese. The researcher first informed students of the study with a recruitment speech (see Appendix A). In the recruitment speech, it was made clear that participants’ answers would be anonymous and their professors would not see the information provided by participants. The researcher announced that participants would receive a small bag of nuts from Hawaii as a thank you. Those who agreed to participate in the study were asked to remain in the classroom to complete the questionnaire whereas those who chose not to participate were instructed to feel free to leave the classroom. The researcher conducted an oral consent (see Appendix B) to those who chose to stay in the classroom. The author distributed a survey that included measures assessing (a) amount of television exposure, (b) importance of appearance, (c) attraction to media figures, (d) thin body attainability, (e) adornment attainability, (f) body dissatisfaction, (g) adornment dissatisfaction, (h) self-esteem, (i) weight control practices, (j) adornment control practices, (k) appearance-based comparison orientation, and (l) demographic information. All of the materials were translated in Japanese by a researcher who is fluent in both languages. The Japanese version of the questionnaire was compared with the English
version by a Linguistics professor in Japan, as well as a Japanese PhD student, both of who are fluent in both languages to ensure equivalence in meaning.

Participants submitted the completed questionnaire to the author by placing it on a desk with the questionnaire flipped over so that others could not easily see the responses. After submitting the questionnaire, participants received an information sheet with contact information for the researcher and for the IRB committee that oversees research participants’ rights and a small bag of nuts from Hawaii.

Measures

Amount of television exposure. This measure consisted of three parts (see appendix D). First, the amount of exposure to television watching related to physical appearance was measured by adopting a procedure used by Tangney and Feshbach (1988). Participants were presented with a copy of the previous week’s television programs that were considered to be variety shows, entertainment shows, music shows, and talk shows during Japanese prime/golden time (i.e., 7 p.m. to 11 p.m.). These shows often include physically attractive female celebrities as guests. Television dramas were excluded because celebrities in these shows are portraying scripted characters but not themselves. Four major television stations were chosen because they were the television stations that were most widely viewed in the area where this study was conducted. Participants were asked to identify the programs they had actually watched during the past week via any means (e.g., television, DVD, the Internet, and smart phone). Third, participants were also asked to provide the estimated amount of hours they have spent watching other episodes of the identified television shows through means of other than a television set (videotapes, the Internet, and smart phones) in the past week. Total
television viewing time in the past week was calculated by adding up all of the hours associated with televisions program identified in the questionnaire. Finally, participants were presented with a copy of television programs containing regular variety shows, entertainment shows, music shows, and talk shows in the same format. Participants were asked to identify programs they regularly watch (i.e., more than three times in a month).

Participants reported spending an average of 11.09 hours ($SD = 8.86$, $range = 0$-58) per week watching television in general. They also reported having spent a mean of 5.5 hours ($SD = 6.00$, $range = 0$-28) watching the television programs of interest for the present study in the past week via any means ($M = 4.02$ hours, $SD = 3.90$, $range = 0$-27), and watching other episodes of the identified television shows through other means (i.e., videotapes, the Internet, and smart phones; $M=1.47$ hours, $SD =3.24$, $range = 0$-21). The total mean number of hours participants regularly watched the television programs of the interest during the past week on a television set or other means was 3.11 hours ($SD = 6.11$, $range = 0$-102).

**Importance of physical appearance.** The Body-Domain Importance Scale (Mendelson, Mendelson & Andrews, 2000) was adapted to measure participants’ perception of the importance of appearance (see Appendix E). The original scale in Mendelson et al. (2000) consisted of nine items measuring three domains: (1) importance of weight; (2) importance of appearance; and (3) importance of others’ perception. Because the present study deals with adornments, a fourth domain related to adornments was added by the researcher.

Participants were asked to indicate how important they think each item (e.g., “my weight”) is by using a 9-point scale (-4 to +4) that had three points labeled (-4 = very...
unimportant; 0 = undecided; and 4 = very important). Reliability for all 13 items was .92. The reliabilities were .81, .80, .87, and .88 for the importance of weight, importance of adornments, impotence of appearance, and importance of others’ perception, respectively. Five scores were calculated: Overall (13 items), importance of weight (3 items), importance of adornments (4 items), importance of appearance (3 items), and importance of others’ perception (3 items). To calculate each subsection, items were averaged in each domain. To assess overall importance of physical appearance, all 13 items were averaged.

Participants, in general, reported that physical appearance is somewhat important (M= 1.98, SD = 1.16). Participants reported they perceived weight (M= 1.89, SD =1.51) and adornments (M= 1.74, SD = 1.33) as slightly important, and appearance (M = 2.09, SD = 1.30) and others’ perception (M = 2.28, SD =1.36) as somewhat important.

Perceived attraction to celebrities in the media. In order to measure perceived attraction to celebrities in the media, Hofschire and Greenberg’s (2001) scale measuring desire to look like media celebrities was adapted (see Appendix F). The original scale consisted of four items but one item was excluded in the present study because it focused solely on body, rather than overall physical appearance. The adapted instruction read, “Please think about female celebrities (including actresses and models but excluding comedians) in television programs that appear in variety shows, entertainment shows, talk shows and music shows, typically as a guest”.

The reason why female actresses and models were included whereas female comedians were excluded was because female actresses and models were likely to be a source of appearance-related comparisons whereas female comedians were not. The
television shows of interest often consist of (a) the hosts, who are often popular comedians, (b) the celebrities who are regulars on the show, and (c) the guests, who can be any celebrities including physically attractive female actresses and models who are quite popular among younger adults. The actresses and models invited as guests tend to be highly praised for their beauty, directly and indirectly, by the hosts and regular cast members. Physically attractive female actresses and models are often treated with respect on the shows. On the other hand, female comedians in the television programs, who are often not as physically attractive as actresses and models, are treated quite comically or even disrespectfully (e.g., target of laughter) in the programs. Therefore, because of the lower level of physical attractiveness and comical and insulting treatment of the comedians, it is unlikely that television viewers engage in upward comparisons with the female comedians.

Examples of the included items were "I wish I looked like these women" and “I think these women are attractive.” The original measure used a 5-point scaling. However, in order to be consistent with the other agreement scale in the current study (i.e., the Self Esteem measure) and to reduce participant confusion, this measure was slightly modified to reflect a 4-point scale, ranging from 1 = strongly disagree to 4 = strongly agree. In Hofschire and Greenberg’s (2001) scale, all the items were summed to obtain the total score. However, the current study averaged all the items to produce an assessment of the desire to be like celebrities they found attractive. The higher the score, the more attraction participants had to celebrities. Reliability was .81. In general, participants reported they are attracted to celebrities ($M = 3.07, SD = .62$).
Thin body attainability. Participants’ sense of attainability of a thin body was measured using a 9-item, 11-point scale created by the author based on Bandura’s (2006) “Guide for constructing self-efficacy scales” (see Appendix G). Participants were asked to rate their degree of confidence of attaining a thin body ranging from 0 = cannot do at all to, 5 = moderately can do, 10 = highly certain can do, in increments of 1. Participants were asked to circle a number that describes them the most. Examples of the items included “I can have a body like female celebrities if I want to”, “I can manage my eating habits to have a body like female celebrities”, and “I know how to modify my body to look like female celebrities.” All the scores were averaged to assess thin body attainability. Reliability was .92. In general, participants reported they do not feel confident that they can attain a thin body ($M = 2.97$, $SD = 1.80$).

Four percent of the participants reported that they do not think they can attain a thin body at all. Fifty two percent of participants reported a very low level of attainability (i.e., scoring 0 -3 on a 11-point scale, which meant they reported low confidence in attaining a thin body). Forty percent reported undecided (i.e., scoring over 3 and up to 6, which meant they reported being uncertain whether they were able to attain a thin body) and 5% reported a high level of attainability (scoring over 6, which meant that they reported high confidence in attaining a thin body).

Adornment attainability. Participants’ sense of attainability of adornments were measured using a 10-item, 11-point scale created by the author based on Bandura (2006), which was in the same format as the thin body attainability measure (see Appendix H). Participants were asked to rate their degree of confidence of attaining adornments from 0 = cannot do at all to, 5 = moderately can do, 10 = highly certain can do in increment of
1. Participants were asked to circle a number that describes them the most. Examples of the items include “I can buy clothes similar to the ones female celebrities wear”, “I have enough money to buy accessories similar to celebrities have”, and “I have enough energy to make an effort to keep up with fashion styles similar to celebrities”. All the scores were averaged to assess adornment attainability. Reliability was .91. In general, participants reported they do not think they can attainability adornments owned by celebrities ($M = 2.21, SD = 1.68$).

**Body dissatisfaction.** Participants’ satisfaction with their bodies was assessed using a modified version of the nine-item Body Dissatisfaction subscale of the Eating Disorder Inventory, Second Edition (EDI-2; Garner, 1991; see Appendix I). Body Dissatisfaction subscale measured satisfaction with overall shape and with size of particular parts including buttocks, hips, legs, and stomachs, which are the sources greatest concern for eating disorder populations (Garner, 1991). This scale included 10 statements (e.g., “I think that my thighs are too large”; “I think that my buttocks are too large”). The original measure used a 6-point scaling about how often they experience the feelings identified in the measure, ranging from 1 = never to 6 = always. However, in order to be consistent with the other scales in the current study and to reduce participant confusion, this measure was slightly modified to reflect a 5-point scale, ranging from 1 = never to 5 = always. All the scores were averaged to assess body dissatisfaction. Reliability was .87. In general, participants reported being somewhat dissatisfied with their body ($M = 3.72, SD = .70$).

**Adornment dissatisfaction.** Because there is no existing scale measuring dissatisfaction with adornments to the author’s knowledge, the author developed a scale
to measure adornment dissatisfaction based on the Body Dissatisfaction subscale of EDI-2 (Garner, 1991; see Appendix J). The adornment dissatisfaction scale included (a) make-up, (b) hairstyle, (c) clothes, (d) bags, (e) jewelry and accessories, and (f) shoes/heels because these are the aspects that are typically counted as adornments (Burgoon, Guerrero & Floyd, 2010).

This scale included nine statements (e.g., “I’m unhappy with the number of clothes that I have”; “I wish I had more clothes I like”; “I don't like how my make-up looks”) and participants were asked to answer on 5-point scales about how often they experienced the feelings identified in the measures, ranging from 1 = does not describe me at all to 5 = describes me very well. Adornment dissatisfaction was obtained by averaging all the scores. Reliability was .83. On average, participants reported that they were undecided about whether they were dissatisfied with their adornments ($M = 3.08$, $SD = .67$).

**Self-esteem.** Mimura and Griffiths (2007)’s Japanese translation of Rosenberg self-esteem scale (RSES; Rosenberg, 1965) was used in the present study (see Appendix K). RSES is the most widely used measure of global self-esteem. This scale is a 10-item self-report measure of an individual’s self esteem. The RSES asks general statements regarding how individuals feel about themselves, such as “On the whole, I am satisfied with myself”. Participants were asked to answer how they feel about themselves on 4-point scales from 1 = strongly disagree to 4 = strongly agree. Total self-esteem was calculated by averaging the responses of 10 items (reversing scoring when appropriate). Summed scores ranges from 10 to 40. The higher scores indicate higher self-esteem.
Reliability was .84. On average, participants reported slightly low self-esteem \((M = 2.33, \ SD = .49)\).

**Weight control practices.** A measure created by Neumark-Sztainer, Story, Falkner, Beuhring and Resnick (1999) was adapted to measure weight control practices (see Appendix L). Participants were asked the question: “During the past week (7 days), how often did you do any of the following things to lose weight or keep from gaining weight?” Items in the original scale included three domains: dieting (i.e. “ate less or differently”), exercising (i.e., “to burn calories or fat”), and disordered eating behaviors (e.g., “took laxatives or diuretics”). Because the original items capture only two aspects that are considered to be either low risk (widely considered as healthy/normal) or high risk (generally considered as pathologic) behaviors, one more dimension that can tap into moderately risky (widely considered as unhealthy but not pathologic) weight control behaviors was added (e.g., “skipped meals”).

The original questionnaire by Neumark-Sztainer et al. (1999) asked participants to check all items that apply. The present study asked participants to circle 0 = no or 1 = yes to each item. Four scores were generated: overall weight control behaviors (8 items), low-risk weight control behaviors (3 items), moderate risk weight control behaviors (2 items), and high risk weight control behaviors (3 items). All items were averaged to generate a score of overall weight control behaviors. Items were added within each domain to calculate the score of each domain.

In general, participants reported that they engage in some form of weight control behaviors \((M = .22, \ SD = .20)\). Participants also reported that they engaged in some form of low risk weight control behaviors \((M = 1.40, \ SD = 1.14)\), but hardly engaged in
moderate risk weight control behaviors \((M = .27, SD = .48)\) and high risk weight control behaviors \((M = .11, SD = .38)\).

The data revealed that 71% of participants engaged in some form of weight control behaviors. Nearly 70%, 26% and 8% of participants engaged in low risk, moderate risk, and high-risk weight control practices, respectively. Popular ways for weight management were somewhat healthy ones: exercising to burn calories or fat (48% of all participants) and eating less food high in calories (48%), followed by dieting (i.e., eating less or differently, 44%), skipping meals (26%), taking laxatives or diuretics (5%), taking dieting pills (3%), vomiting (3%) and excessive exercises (2%).

**Adornment control practices.** Because there is no existing scale that measures attempt to control adornments to the author’s knowledge, a measure was created by the author (see Appendix M). This scale consisted of 15 statements measuring three domains: low risk behaviors (e.g., “I buy clothes that I like within my budget”), moderate risk (but not pathologic) behaviors (e.g., “I buy clothes that I want even if they are a little expensive to me”) and high risk behaviors (e.g., I am in debt because I bought clothes, bags, shoes or accessories that I could not afford”). Participants were asked to respond on 5-point scales, ranging from 1 = *does not describe me at all* to 5 = *describes me very well*. Four scores were generated: overall (15 items), low-risk behaviors (5 items), moderate risk behaviors (5 items), and high risk behaviors (5 items). All 15 items were averaged to obtain the total adornment control practice. Items were also averaged within each domain. Reliability was .78. On average, participants reported that they sometimes engaged in low risk behaviors \((M = 3.42, SD = .66)\), rarely engaged in moderate risk
behaviors ($M = 2.33, SD = .84$) and almost never engaged in high risk behaviors ($M = 1.67, SD = .70$).

The data showed that 23% of all participants reported that they engaged in low risk adornment control behaviors. Only four percent reported they engaged in unhealthy behaviors, and only less than 1% (3 persons) reported that engaged in high risk adornment control behaviors.

**Appearance-based comparison orientation.** The Physical Appearance Comparison Scale (PACS; Thompson, Heinberg & Tantleff, 1991) was used to assess the tendency to engage in appearance-related comparisons (see Appendix N). This scale includes 5 statements (e.g., “The best way for people to know if they are overweight or underweight is to compare their figure to the figure of others” and “In social situations, I sometimes compare my figure to the figure of other people”) and participants were asked to answer on 5-point scales, ranging from $1 = \text{does not describe me at all}$ to $5 = \text{describes me very well}$. All the scores were averaged to assess appearance-based comparison orientation. Higher scores indicated a greater tendency to make appearance-based comparisons. Reliability was .77. In general, participants reported they sometimes compare their appearance with others ($M = 3.31, SD = .78$). Sixty percent of participants reported that they engaged appearance-based comparisons (i.e., reporting an average score of higher then 3 on the 5-point scale.

**Demographic information.** Six questions were asked for demographic information (see Appendix O). Participants were asked to provide basic information about themselves (i.e., age, sex, nationality, and status of returnee). Participants were also asked to provide their height and weight, which was used to calculate BMI.
Out of the 368 participants, all were Japanese female. One student who identified herself as American was eliminated from data analysis. The majority (92%) of participants have never been lived outside of Japan. Among those who stayed outside of Japan, the mean amount of the years they lived outside of Japan was 3.37 years ($SD = 3.57$, $range = .5-15$). Out of 20, seven people stayed in the U.S. (37%), four people stayed in Europe (21%), three people stayed in Australia (16%), one stayed in Canada (5%) and another one styled in Hong Kong (5%). Three people (16%) stayed in two foreign countries. The mean age of the participants was 19.29 years old ($SD = 2.12$, $range = 18-45$). The participants’ average height was 5’2” or 1.58 meters ($SD = 5.38$) and average weight was 110.58 lbs or 50.16 kg ($SD = 5.81$), with a mean BMI of 19.93 ($SD = 1.88$, $range = 15.81-29.33$). This is consistent with a BMI reported by previous studies among Japanese female college students (e.g., Mukai et al., 1998; Shin & Kubo, 2005). According to the BMI standard for Asians set by World Health Organization (2000), 21% were underweight (BMI < 18.5), 73% were normal (BMI =18.5 - 22.9), 4% were overweight (BMI = 23 - 24.9) and 2% were obese (BMI > 25).

Participants answered several additional questions regarding perception of celebrities, and adornment control practices, which were not included in the analysis in the present study.
CHAPTER 3
RESULTS

Preliminary Analysis

The preliminary analysis was conducted with a subsample of participants who reported perceiving physical appearance as somewhat important and celebrities as somewhat attractive. In order to be included, participants needed to score above 0 on the importance of physical appearance scale (-4 = very unimportant, 4 = very important) and 3 and above on the attraction to media figures scale (1 = strongly disagree, 4 = strongly agree). The subsample was chosen because the majority of hypotheses (H3-8) dealt with the subsample. For the comparisons of means and standard deviations of key variables between all participants and the subsample, please see Table 1.

Similar to all participants, the subsample reported having little confidence in attaining a thin body ($M = 2.97$, $SD = 1.79$), as well as in attaining adornments ($M = 2.44$, $SD = 1.73$). The subsample also reported that they were somewhat dissatisfied with their body ($M = 3.76$, $SD = .72$) and that they were undecided whether they were dissatisfied or satisfied with their adornments ($M = 3.17$, $SD = .72$). The subsample reported low levels of self-esteem $M = 2.33$, $SD = .51$).

The subsample reported having engaged in some forms of weight-control behaviors, scoring an average of 1.91 out of 8 ($SD = 1.59$) in the past month. More specifically, they reported that they engaged in low-risk weight control behaviors, with a mean of 1.49 out of 3 ($SD = 1.14$). However, they reported that they rarely engaged in any moderate risk behaviors or high risk behaviors in the past month, scoring an average of .31 out of 2 ($SD = .49$) and .12 out of 3 ($SD = .38$), respectively.
For adornment control behaviors, the subsample reported engaging in some form of adornment control practices, scoring an average of 2.26 out of 5 ($SD = .53$). More specifically, they reported engaging in some low-risk behaviors, with an average of 3.53 out of 5 ($SD = .61$). However, they did not report engaging in much moderate-risk behaviors and high risk behaviors, scoring an average of 2.37 ($SD = .85$) and 1.73 ($SD = .73$) out of 5, respectively.

As for social comparison orientations, the subgroup reported sometimes engaging in appearance-based comparisons somewhat ($M = 3.47, SD = .74$).

**Test of Hypotheses**

Pearson’s product-moment correlations were used to test all hypotheses. In all cases, two-tailed tests were conducted with the $p$-value of .05. For correlations of all key variables, please see Table 2.

**Television Exposure Hypotheses**

H1 predicted that the amount of television viewing of variety shows, entertainment shows, music shows, and talk shows during Japanese prime/golden time (i.e., 7 p.m. to 11 p.m.) would be positively related to body dissatisfaction. The result indicated a non-significant correlation between body dissatisfaction and the time spent watching television shows the week prior to taking the survey, $r(364) = .05, p = .37$, as well as between body dissatisfaction and the amount of regularly watching these television programs, $r(364) = .06, p = .23$. H1 was not supported.

Similarly, H2 posited that the amount of television watching would be positively related to adornment dissatisfaction. The result indicated a non-significant correlation, $r(364) = -.00, p = .98$; $r(364) = -.00, p = .99$ for the amount of watching variety shows,
entertainment shows, music shows, and talk shows in a past week, and for the amount of regularly watching these television shows, respectively. H2 was not supported.

In addition to specific television shows, the current study also assessed exposure to television programs in general to examine if there is a relationship between body/adornment dissatisfaction and television viewing in general. The result indicated that general television viewing per week was not related to body dissatisfaction, $r(362) = .08, p = 1.24$, nor to adornment dissatisfaction, $r(361) = -.00, p = .98$.

**Attainability and Affective Outcomes Hypotheses**

H3 to H6 predicted the relationships between attainability and affective outcomes in a situation where participants consider physical appearance to be important and the comparison target as attractive.

H3 predicted that, among the subsample of those who reported perceiving appearance as at least somewhat important and celebrities as attractive, the more females perceive that they can attain a thin body, the less they would experience body dissatisfaction. Consistent with expectations, the degree of females’ perception of attainability of a thin body was negatively associated with their body dissatisfaction, $r(254) = -.13, p = .03$.

H4 predicted that the perception of attainability of a thin body would be positively associated with self-esteem. The result indicated a significant positive correlation, $r(254) = .38, p = .00$. This means that the more participants reported having higher self-esteem, the more they reported that they felt confident that they could attain a thin body. H4 was supported.
H5 predicted that the degree of the perception of adornment attainability would be negatively associated with adornment dissatisfaction. The data showed a significant negative correlation, \( r(252) = -0.28, p = .00 \). The more participants reported feeling they can attain adornments, the less they reported feeling dissatisfied with their own adornments. H5 was supported.

H6 predicted that the more females perceive they can attain adornments owned by celebrities, the higher their self-esteem would be. The data showed a significant positive correlation, \( r(253) = 0.26, p = .00 \). The more participants reported having higher self-esteem, the more participants reported more confidence in attaining adornments. H6 was supported.

**Attainability and Behavioral Outcomes Hypotheses**

H7 and H8 predicted the relationships between attainability and behavioral outcomes in a situation where participants consider physical appearance important and the comparison target as attractive. Participants had to meet the same criteria set for H3 to H6 to be included in the analysis. Therefore, only those who scored both over 0 on the importance of appearance sale and 3 or higher on the attraction to media figures scale were included in the analysis to test H7 and H8.

Consistent with H4a, the result showed a positive correlation, \( r(254) = 0.23, p = .00 \), between the perceived attainability of a thin body and overall control practices. (i.e., low, moderate, and high risk behaviors). The data also revealed that the perceived attainability of a thin body was positively related to low risk behaviors, \( r(254) = 0.23, p = .00 \), as well as to moderate risk behaviors, \( r(254) = 0.13, p = .04 \). However, the perceived attainability was not related to high risk behaviors, \( r(254) = 0.11, p = .09 \).
H7 predicted that the more females perceive they can attain a thin body, the more they would engage in weight control practices. The data revealed that the perceived attainability of a thin body was positively related to low risk behaviors, \( r(254) = .23, p = .00 \), as well as to moderate risk behaviors, \( r(254) = .13, p = .04 \). The data also indicated significant positive correlations between the perceived attainability of a thin body and low risk behaviors, \( r(254) = .23, p = .00 \), as well as with moderate risk behaviors, \( r(254) = .13, p = .04 \). However, the perceived attainability was not related to high risk behaviors, \( r(254) = .11, p = .09 \). This means that the more participants report feeling that they can attain a thin body, the more control behaviors (mostly those with low risks) they reported engaging in. H7 was partially supported.

H8 predicted that the more females perceive they can attain adornments owned by celebrities, the more they would engage in adornment control practices. The result showed a significant positive relationship, \( r(251) = .33, p = .00 \), between perceived adornment attainability and overall adornment control behaviors (i.e., low-risk, moderate risk and high risk behaviors). The data also indicated that the perceived adornment attainability was associated with low risk behaviors, \( r(251) = .33, p = .00 \), with moderate risk behaviors, \( r(251) = .32, p = .00 \), as well as with high risk behaviors, \( r(251) = .12, p = .05 \). H8 was supported.

**Social Comparison Orientation Hypotheses**

H9 predicted the tendency to make appearance-based comparisons would be positively associated with body dissatisfaction. The result indicated a significant positive correlation \( r(365) = .31, p = .00 \). This means that the more participants reported having a
tendency to compare their appearance with others, the more they reported feeling
dissatisfied with their bodies. H9 was supported.

H10 predicted that the tendency to make appearance-based comparisons would be
positively associated with adornment dissatisfaction. The result indicated a significant
positive correlation \( r(365) = .25, p = .00 \). This means that the more participants reported
having a tendency to compare their appearance with others, the more participants
reported feeling dissatisfied with their adornments. H10 was supported.

Supplemental Analysis

Predictors of body dissatisfaction. In order to investigate the best predictor of
body dissatisfaction for all participants, a stepwise multiple regression analysis was
conducted (see Table 3). Self-esteem and BMI were entered as the first model and
explained 37% of variance in body dissatisfaction, \( F \) change \( (2, 289) = 86.07, R = .61, R^2 = .37, p = .00 \).

In the second model, self-esteem, BMI, importance of appearance, and perceived
attraction to media figures were entered. Perceived attraction to media figures was not a
significant predictor of body dissatisfaction and was thus excluded from the model.
Model 2 explained 43% of variance in body dissatisfaction, \( F \) change \( (9, 287) = 15.33, R = .66, R^2 = .43, p = .00 \).

In the third model, all related variables (i.e., self-esteem, BMI, importance of
appearance, perceived attraction to media figures, social comparison orientation,
perceived attainability of a thin body, the amount of television viewing in the past one
week, the amount of regular television viewing, and low, moderate and high risk weight
control behaviors) were entered. The perceived attraction to media figures, perceived
attainability of a thin body, and the amount of television viewing were not significant predictors and were excluded from the model. Model 3 explained 48% of variance in body dissatisfaction, $F$ change $(7, 280) = 3.86, R = .70, R^2 = .48, p = .00$. BMI explained 18% of variance, $\beta = .42, p = .00$. Self-esteem accounted for 13% of variance, $\beta = -.36, p = .00$. Low risk weight control behaviors also contributed an additional 4% of variance, $\beta = .20, p = .00$. Importance of appearance also explained an additional 2% of variance, $\beta = .14, p = .00$. Appearance-based social comparison orientation contributed an additional 1% of variance, $\beta = .10, p = .05$. Therefore, the strongest predictors of body dissatisfaction among general participants were BMI, self-esteem, low-risk weight control behaviors, importance of appearance and appearance-based social comparison orientation.

Predictors of adornment dissatisfactions. Similarly, in order to explore the best predictor of adornment dissatisfaction, a stepwise multiple regression analysis was run (see Table 4). Self-esteem was entered as the first model, explaining 13% of variance in adornment dissatisfaction, $F (1, 353) = 51.8, R = .36, R^2 = .13, p = .00$. In the second model, self-esteem, perceived importance of appearance, and attraction to media figures were entered. This model explained 14% of variance in adornment dissatisfaction, $F (2, 351) = 3.17 R = .38, R^2 = .14, p = .04$. Attraction to celebrities was not a significant predictor of adornment dissatisfaction and was therefore eliminated from the model. Self-esteem accounted for 13% of variance, $\beta = -.37, p = .00$. A perceived importance of appearance explained additional 1% of variance, $\beta = .12, p = .02$.

In the third model, all key variables, that is, self-esteem, importance of appearance, perceived attraction to media figures, social comparison orientation,
perceived attainability of adornments, the amount of television viewing in the past week, the weekly amount of television viewing on regular bases and adornment control practices (low, moderate, and high risk behaviors) were entered. The model excluded the perceived attraction to media figures, and the amount of television viewing. Model 3 explained 21% of variance in body dissatisfaction, $F(7, 344) = 4.26, R = .44, R^2 = .07, p = .00$. Self-esteem accounted for 7% of variance, $\beta = -.26, p = .00$. Social comparison orientation explained an additional 5% of variance, $\beta = .22, p = .00$. Importance of appearance explained additional 2% of variance, $\beta = .14, p = .01$. Low risk adornment control behaviors also contributed an additional 1% of variance, $\beta = -.12, p = .05$, as well as a perceived attainability of adornments, accounting for 1% of variance, $\beta = -.12, p = .03$. Therefore, the strongest predictors of adornment dissatisfaction were self-esteem, appearance-based social comparison orientation, low risk adornment control practices and a perceived attainability of adornments.
CHAPTER 4

DISCUSSION

The main objective of the current study was to investigate Japanese female college students’ dissatisfaction with their appearance, specifically body size and adornments. This examination was accomplished through the theoretical lens of social comparison. This study aimed to examine the relationship between television viewing and body/adornment dissatisfaction. This study also addressed the moderating role a sense of attainability plays between social comparisons and psychological and behavioral outcomes. Further, this study aimed to test if one’s tendency to make appearance-related comparisons is related to body/adornment dissatisfaction.

Appearance Dissatisfaction and Appearance Control Behaviors

The current study contributes to the growing body of evidence demonstrating the prevalence of body dissatisfaction and weight control behaviors among young Japanese females, despite their average weight being within the average range (e.g., Nakamura et al., 1999). Results from the current study also support the finding that there is an increasing number of young females in Japan who are underweight, reported by the Ministry of Health, Labor and Welfare (as cited in Chisuwa & O’Dea, 2010). This is worrisome because body dissatisfaction is related to psychological distress (e.g., stress, depressive symptoms) and is also one of the most significant predictor of eating disorders (Johnson & Wardle, 2005; Stice & Bearman, 2001). Being underweight can lead to various health risks such as nutritional deficiency, higher mortality risk, and adverse pregnancy outcomes (e.g., Doherty et al.; Flegal et al., 2005; 2006McClain, et al., 1992).
In the case of adornments, on the other hand, the results are somewhat reassuring. Most females reported being satisfied with their own adornments, and reported engaging in low-risk adornment control practices. Such results suggest sound mental states and behaviors among young female college students when it came to adornments. Such reassuring results may be related to the socioeconomic statuses of the current participants. Two colleges in this study are considered prestigious universities in Japan. Being able to attend such universities implies that they are from families with more-than-average socio-economic statuses. Thus, participants were able to afford what they would like to wear, at least to a certain degree.

**Television Viewing and Dissatisfaction with Physical Appearance (H1 and H2)**

Media, especially television, often provide a powerful source of social comparisons (Gui & Stanca, 2009). Extant research documented a positive association between exposure to television programs emphasizing the importance of thinness (e.g., soap operas, movies, music videos) and body dissatisfaction (e.g., Van den Bulk, 2000). The present study aimed to replicate these studies, but by using different types of television programs (e.g., i.e., variety shows, entertainment shows, music shows, and talk shows). This study also expanded previous research by investigating the relationship between television watching and adornment dissatisfaction.

Inconsistent with predictions, the results did not show any associations between television watching and body dissatisfaction (H1), and between television watching and adornment dissatisfaction (H2). Further, additional analysis also indicated that exposure to television programs in general was neither related to body dissatisfaction nor adornment dissatisfaction. This means that the relationship between watching these
television programs and body/adornment dissatisfaction did not exist in the current sample.

Such results did not provide evidence to support the argument that television programs chosen in the present study, as well as television programs in general, serve as a source of appearance-related comparisons. If these television programs had served at least a minor role in social comparison, then the results would have shown at least a weak correlation between exposure to these television programs and body dissatisfaction. That there was not even a weak correlation suggests that these television shows, as well as television programs in general, may not have been a source of appearance-related comparisons, not even to a small degree.

Another possible interpretation regarding the non-correlation between exposure to television programs and appearance dissatisfaction would be that television shows in the current study potentially served as a source of appearance-based comparisons among a different population (such as junior high school students); participants in this study, who were female college students, however, may have not made such appearance-based comparisons with celebrities for reasons such as the cultivation of media literacy, for example. Social comparison theory predicts that individuals do not make social comparisons with those who they perceive to be too divergent from themselves (Festinger, 1954). Festinger (1954) also predicted that when individuals perceive a discrepancy between themselves and the comparison target, they tend to cease comparison. Therefore, one may argue that it is possible that participants in the current study dismissed comparisons with celebrities as dissimilar others.
After all, it may be that female college students in the current study were educated and thus savvy enough to be critical about the standard of beauty in the media. They may be aware of the negative consequences of buying into unrealistically elevated standards of beauty, as well as comparing oneself with media images. It might be that intervention/prevention programs or media literacy programs, if they have undergone such programs, have been effective.

**Sense of Attainability and Dissatisfaction with Physical Appearance (H3 and H5)**

According to social comparison theorists, consequences of social comparisons depend on both the direction of comparisons (upward or downward) and how one processes the comparison information (assimilation or contrast). One of the key moderators of contrast or assimilation effects is a sense of attainability (Lockwood & Kunda, 1997; Major, Testa, & Blysma, 1991). A greater sense of attainability results in upward assimilation or downward contrast, evoking positive affects. On the other hand, a lower sense of attainability results in upward contrast or downward assimilation, generating negative affects.

Though some social comparison studies examined the role of a sense of attainability (e.g., Bauer & Wrosch, 2011), extant research on body image from the perspective of social comparison has not, to the best of the author’s knowledge, measured a sense of attainability of a thin body. Research evidence showed that appearance-related comparisons almost always result in upward contrasts, thus evoking body dissatisfaction and negative affects (Englen-Maddox, 2005; Krones, Stice, & Orjada, 2005). Thus, it appears reasonable to assume that perceived attainability of thinness is low.
The present study measured the role of the perceived attainability of thinness/adornments among participants and was conducted under the assumption that such perception may differ among individuals, and this may affect the comparison outcomes differently. In fact, results of the current study found that there existed a wide variety of individual differences in the perceived attainability of a thin body. Further, consistent with the prediction, the results showed a negative relationship between the perception of attainability and body dissatisfaction (H3). This was true for the domain of adornments: the perceived attainability of adornments was negative associated with adornment dissatisfaction (H5). This means that the more participants reported feeling confident that they can attain a thin body/adornments, the more they reported being satisfied with their bodies/the adornments they already had in their possession.

**Perceived Sense of Attainability and Self-Esteem (H4 and H6)**

The current study also examined the relationship between a perceived attainability and self-esteem. The result demonstrated a positive association between a sense of attainability of a thin body and self-esteem (H4). Similarly, the results showed a positive correlation between a sense of attainability of adornments and self-esteem (H6).

This is consistent with previous studies showing that upward comparisons contributed to improvement of positive affect when individuals think they can attain their goals (Bauer & Wrosch, 2011), whereas upward comparisons result in negative affects (e.g., depression symptoms and hostility) when individuals think they had little control over subsequent outcomes (Testa & Major, 1990).

However, it seems more conceptually accurate to assume that one’s sense of attainability is more a reflection of self-esteem rather than the other way around. Based
on the data, it appears that when one evaluates herself positively (negatively), she is confident (unconfident) in her ability to achieve something she desires.

**Perceived Sense of Attainability and Behavioral Outcomes (H7-8)**

Festinger (1954) argued that when individuals perceive a gap between themselves and the comparison target, they are motivated to try to narrow the gap. He argued that three factors increase a pressure to reduce the perceived gap (i.e., importance of the comparison dimension, the relevance of the comparison dimension, and the attractiveness of the comparison target).

Compared to affective outcomes, much less is known about the behavioral consequences of social comparisons in the dimension of appearance as well as in other dimensions. The present study, therefore, aimed to examine behavioral outcomes following social comparisons, and to test if the perceived attainability is related to behavioral outcomes. As expected, the results indicated a positive relationship between a sense of attainability of a thin body and weight control practices (H7), as well as a positive relationship between a perceived attainability of adornments and adornment control behaviors (H8). These results are consistent with previous research indicating a positive relationship between self-efficacy and behaviors and achievements (e.g., Manstead, & van Eekelen, 1998).

**Comparison Orientation and Dissatisfaction with Physical Appearance (H9-10)**

Social comparison theorists argued that a tendency to make social comparisons might be a personality characteristic (e.g., Gibbons & Buunk, 1999; Buunk & Gibbons, 2006). Social comparisons have been found to impact those with higher social comparison orientation (SCO) more negatively than those with lower SCO (e.g., Buunk
et al., 2001). The current study aimed to replicate extant research that suggested a positive association between SCO and body dissatisfactions (e.g., Botta, 2003). Consistent with predictions, the results indicated a positive relationship between appearance-based comparison orientation and body dissatisfaction (H9). The results, therefore, add to a growing body of evidence that females’ body dissatisfaction is associated with or predicted by how much they engage in social comparison (e.g., Botta, 2003; Tiggemann & McGill, 2004). It is important to note that 60% of participants in the present study reported that they engage in appearance-based comparisons to some extent. This is consistent with findings from previous studies that females reported they often compare their bodies with models in magazines (Richins, 1991; Schutz, Paxton, & Wertheim, 2002).

The present study also investigated whether such a relationship exists in the dimension of adornments. As expected, the results showed a positive association between a tendency to make appearance-related comparisons and adornment dissatisfaction (H10). Taken together, results from the current study reinforce the evidence that appearance-based comparisons are often associated with negative affective outcomes (e.g., Thompson, Heinberg, & Tantleff, 1991).

**Implications**

**Implications for the social comparison theory.** There are some theoretical implications based on the current research. First, the present study provides strong support for social comparison theory in understanding dissatisfaction with physical appearance, including not only body size but also adornments. In addition to providing evidence for the association between social comparison orientation and body
dissatisfaction, the current study also provided initial evidence that appearance-based orientations are related to adornment dissatisfaction.

Another implication to social comparison theory concerns the role of perception of attainability. Results revealed that a sense of attainability varied among individuals, and it was related to affective and behavioral outcomes (except for body dissatisfaction). This suggests the importance of examining the level of perceived attainability in social comparison research. Further, results from the current study imply a mediating role of a sense of attainability between social comparisons and affective/behavioral outcomes. Even though the present study did not measure appearance-based comparisons with celebrities, and thus cannot provide a complete picture, the findings seem to suggest that there is a mediating role of a sense of attainability.

Last, researchers need to measure the degree to which participants perceive the comparison dimension of interest as relevant and important, and the degree to which participants perceive the comparison target as attractive. Festinger (1954) addressed three factors that increase individuals’ motivation to reduce the perceived discrepancy between the self and the comparison target. This implies that social comparison theory is not applicable in a situation where none of these three factors are involved. When playing a piano, for example, is not an important dimension in one’s life, she would not engage in social comparisons in terms of the ability to play piano in the first place. Even if comparisons took place, there may be little affective and behavioral consequences. In fact, additional analysis with all participants suggested that the importance of appearance is a significant predictor of body dissatisfaction.
Practical implications. The results of the present study found that self-esteem is the most significant predictor of body dissatisfaction. Such results confirm the utility of prevention and intervention programs focusing on developing self-esteem. For instance, O’Dea (1995) reported the success of the self-esteem approach in the prevention programs, which aimed to expand self-identity and improve self-worth by encompassing various aspect of the self and thus reducing the emphasis and importance of physical appearance.

The results of the current study also found that the importance of physical appearance was a significant contributor to body dissatisfaction. Such results also support the usefulness of intervention programs that incorporate training that criticizes or challenges the importance of thinness (e.g., Dalle Grave, De Luca, & Campello, 2001).

Third, the results of the present study reinforced evidence that one’s tendency to make appearance-related comparisons is related to appearance dissatisfaction. Some advocate blocking social comparison processes by teaching females not to compare, or at least to reduce the frequency of comparing their appearance with others in order to improve body dissatisfaction. However, this seems unrealistic considering the evidence that social comparison orientation is a personal disposition (Gibbons & Buunk, 1999; Buunk & Gibbons, 2006) and that social comparisons can occur automatically regardless of one’s will (e.g., Mussweiler et al., 2004; Stapel & Blanton, 2004). Thus, it may be more realistic and practical, granted that appearance-based comparisons occur to some individuals anyway, to teach young females how to deal with the negative consequences of comparisons on body image when such comparisons occur. Possible strategies include teaching them to come up with immediate counter thoughts that minimize the negative
effects of social comparisons, as suggested by Varga (2009). Moreover, females can learn to shift the comparison dimension from body size to non appearance-based dimensions they feel confident about (e.g., intelligence, personality).

The last implication relates to a sense of attainability. Results from the current study suggest that a sense of attainability is like a double-edge sword. Having a higher sense of attainability implies having higher self-esteem. A higher sense of attainability is reassuring. At the same time, the results suggest that those with a high sense of attainability will actually translate perceived attainability into action through weight/adornment control practices. This can be harmful to individuals’ psychological and physical well-being, especially when such control practices involve moderate/high risk behaviors. In this sense, having a higher sense of attainability is problematic. As a result, practitioners may face the dilemma of either helping females develop a sense of attainability or not. One way to solve such a dilemma may be to provide young females with information on means to engage in low-risk weight/management control behaviors, while helping them to develop self-esteem. Those with higher self-esteem inevitably have a higher sense of attainability and thus engage in some form of control behaviors. If they engage in such control practices anyway, then it is better to provide them with knowledge regarding low-risk forms of control behaviors (e.g., how much and what kind of exercise is conducive to maintain weight), rather than running the risk that they engage in high-risk control behaviors.

**Limitations and Future Directions**

The present study involved Japanese female college students. Compared to Western females, Japanese females have been vastly understudied. Japanese females are
considered a vulnerable population considering the high prevalence of body dissatisfaction and weight control management among them (e.g., Nakamura et al., 1999; Nishizawa et al., 2003). Though the present research contributes to understanding dissatisfaction with appearance among young Japanese females, it is limited to female colleges students, and therefore the results cannot be generalized to females (or men) in different age groups and with different socioeconomic and educational backgrounds.

Regarding the study of males, future studies may examine body dissatisfaction among young Japanese males from social comparison perspectives. Though body image among males has been understudied, increasing studies show that body dissatisfaction is common among Western males (e.g., McCabe and Ricciardelli 2004; O’Dea & Yager 2006). At the same time, there are a handful of studies which have examined body image among Asian males. Among them, it was found that East Asian males may have higher degrees of body dissatisfaction compared to Western counterparts (e.g., Davis & Katzman, 1998; Jung et al., 2009; Kowner, 2002). This is very important to investigate for the purpose of understanding why body dissatisfaction is prevalent in Japan. If Japanese males do have higher levels of body dissatisfaction compared to Western males, as do Japanese females, there may exist some culture-bound reasons for the high prevalence of body dissatisfaction among Japanese males and females (e.g., high public self-consciousness). If Japanese males exhibit no greater degree of body dissatisfaction than their Western counterparts, then the prevalence of body dissatisfaction among Japanese females may be related to gender-related reasons specific to Japan (and other East Asian countries with a prevalence of body dissatisfaction among females), such as gender role strain and gender inequality.
The second limitation is that the current study did not measure how long each television program shows physically attractive female celebrities. Knowing how long each television program shows female celebrities will help determine whether or not these television programs actually provide enough opportunities for appearance-related comparisons. Future research is needed to conduct content analyses of these television shows.

The third limitation of the current study is that it did not measure the relevance of physical appearance. Fesinger (1954) states that (a) the more important the comparison dimension, (b) the more relevant of the comparison dimension and (c) the stronger the attraction to the comparison target, the more motivated individuals will be to reduce the gap between themselves and the comparison target. The present study only measured participants’ perceived importance of appearance and their attraction to celebrities, but not the relevance of the appearance. This is because it would be reasonable to assume that when individuals perceive physical appearance to be important, it is also relevant to them personally. However, to test if such an argument is accurate, it may be important to measure the relevance of physical appearance in future research.

The last limitation is that the current study did not measure appearance-based comparisons with celebrities when examining the relationship between a sense of attainability of thinness/adornments and affective/behavioral outcomes. Festinger (1954) stated that when one perceives a gap between the self and the comparison target, one is motivated to reduce the perceived gap. The present study intended to examine if a sense of attainability plays a moderating role in a relationship between social comparisons and affective/behavioral outcomes. However, since the current study did not measure
appearance-comparisons with celebrities, it is only speculation that participants compared their appearances with celebrities. Ultimately, the possibility cannot be denied that participants did NOT engage in such comparisons. It is indeed possible that, without engaging in social comparisons, participants thought they may (may not) attain a thin body/adornments, and thus experienced positive (negative) affects and engaged (did not engage) in weight/adornment control behaviors. In this sense, the present study may resemble self-efficacy research examining the relationship between self-efficacy and affective/behavioral outcomes.

Future research, therefore, needs to measure appearance-based comparisons with celebrities in examining the role of a sense of attainability between comparisons and affective/behavioral outcomes. For instance, researchers can conduct an experiment in which participants are exposed to females representing the beauty ideal. Researchers can even instruct them to compare their appearances with celebrities’ appearances in order to ensure that participants engage in comparisons (or at least to provide a chance to do so). Then researchers can provide a set of surveys regarding a sense of attainability, affective outcomes, and intent to engage in control practices.

**Additional Future Directions**

Many intervention and prevention programs focus on interrupting social comparisons with idealized thin images in the media (e.g., Posavac, Posavac, & Weigel, 2001). However, as the current study suggested, females engage in social comparisons with others, which can include friends and siblings. In fact, past studies showed that females compare their bodies with these others (Jones, 2001; Schutz et al., 2002). Thus, it may be important to develop or perfect intervention/prevention programs that focus on
social comparisons with these people, rather than solely on models and celebrities in the media.

Future research may also benefit from examining what contents and what types of media are harmful to body/adornment satisfaction. Results from the past research are somewhat inconclusive. In the case of body dissatisfaction, in addition to extant research (e.g., Van den Bulck, 2000), the present study found some television programs are not related to body dissatisfaction. It should be mentioned, however, that other studies reported television viewing in general was related to body dissatisfaction (e.g., Harrison, 2001; Van den Berg et al., 2007). In the case of adornments, future research may include other types of television shows or other media such as fashion magazines and make-up television commercials that clearly focus on the importance of adornments. For instance, television commercials selling clothes and accessories using celebrities may provide easy opportunities for adornment-based comparisons, which may negatively influence one’s adornment satisfaction.

Finally, longitudinal data are necessary to provide causal explanations between social comparisons and body/adornment dissatisfaction. In doing so, future researchers may conduct a study using diaries. For instance, participants can make entries noting when they compare themselves with others—how they felt immediately afterwards, what they intended to do, and what they actually did in terms of weight control management.

Conclusion

The current study aimed to investigate dissatisfaction with physical appearance, including both body size and adornments, among Japanese female college students. The present study used social comparison theory as a guide in examining how social
comparisons and a sense of attainability are related to psychological and behavioral outcomes. The present study found that neither certain types of television programs (e.g., entertainment shows) nor television programs in general were related to dissatisfaction with appearance. It was also found that participants’ perception of attainability of thinness was positively related to body dissatisfaction, self-esteem and weight control practices. The present study also found that a sense of adornment attainability was positively related to adornment satisfaction, self-esteem, and adornment control practices. Finally, one’s tendency to make appearance-based comparisons was positively related to body/adornment dissatisfaction.
References


Clinical Psychology, 14, 325-338.


research (pp. 1–36). Hauppauge: Nova Science.


Tiggemann, M., Gardiner, M., & Slater, A. (2000). "I would rather be a size 10 than have straight A's": A focus group study of adolescent girls' wish to be thinner. *Journal of Adolescence, 23*, 645-659.


Footnote

1 We probed the possibility of curvilinear relationships between television viewing and body/adornment dissatisfaction using scatter plot. Scatter plot did not indicate a curvilinear relation, however.
Appendix A

Recruitment Speech

_Purpose_

My name is Emiko and I am a current graduate student in the Speech Department at University of Hawaii at Manoa. I would like to inform you about a study I am conducting for my thesis project. This study looks at how women feel about their physical appearance and how women manage their physical appearance. In order to participate you must be a women and mainly raised in Japan.

_Content_

The questionnaire will take about 15-20 minutes to complete. Your participation is completely voluntary and you may decide to stop your participation at any time. The survey will ask you to answer questions about how you view yourself and your behaviors and you will be asked to provide basic demographics information about yourself. You will not write your names on the survey, so your answers will be anonymous. Your professor will not see what you wrote on the survey. For your participation, you will receive a small packet of macadamia nuts from Hawaii as a thank you. If you would like to participate, please remain in the classroom so that I can distribute the surveys to you.
Appendix B

Oral Consent

Introduction: Again, I am a master student in the Department of Speech at University of Hawaii at Manoa. I am conducting a study for my thesis project examining how women feel about their physical appearance and how women manage their physical appearance.

Procedure: I am asking you to complete a 15-20 minute questionnaire. It will ask about your perceptions of yourself and behaviors.

Risks: There are no known risks associated with this type of study.

Benefits: There are no direct benefits to participants.

Confidentiality: All of the information we collect will be anonymous. I will not record your name, student number, or any information that could be used to identify you.

Compensation: Students will receive a small packet of macadamia nuts from Hawaii for completing a questionnaire as a small token of my appreciation.

Participation: Participation in this study is voluntary. You have a right to withdraw from the study anytime, skip any questions, or refuse to participate entirely without any penalties.

Voluntary consent: By participating in this study, you are giving your voluntary consent. I will give you a sheet of paper when you turn in your questionnaire that reviews what I just told you and gives you my contact information and information if you have any concerns about your rights as a research participant in this study.
Appendix C

Information Sheet

Overview: This research is being conducted by Emiko Taniguchi, who is a graduate student at the University of Hawaii at Manoa, working on her final thesis project. The research consists of responding to 15-20 minute questionnaire that asks question about how you feel about their physical appearance and how you manage their physical appearance.

Risks: There are no known risks associated with this type of study.

Benefits: There are no direct benefits to participants.

Confidentiality: All of the information we collect will be anonymous. We will not record your name, student number, or any information that could be used to identify you.

Compensation: Students will receive a small bag of macadamia nuts from Hawaii for completing a questionnaire as a small token of my appreciation.

Participation: Participation in this study is voluntary. You have a right to withdraw from the study anytime, skip any questions, or refuse to participate entirely without any penalties.

Voluntary consent: By participating in this study, you are giving your voluntary consent.

Contact information: If you have any questions about this study, please contact Emiko Taniguchi at emikotan@hawaii.edu, 0742-22-3122, or my advisor, Dr. Amy Hubbard at aebesu@hawaii.edu, +1-808-956-3321. If you have any questions about your rights as a research participant, please contact the Human Subjects Protection Program at +1-808-956-5007.
Appendix D
TV Exposure

Please estimate the number of hours you normally spend watching TV per week.

_____ hours/week

INSTRUCTIONS: The following is a listing of the previous week’s variety TV programs. Please circle the programs that you actually watched during the past week. Do NOT include the programs that was on but you did not pay attention to.

<table>
<thead>
<tr>
<th></th>
<th>毎日テレビ</th>
<th>ABC</th>
<th>関西テレビ</th>
<th>読売テレビ</th>
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</thead>
<tbody>
<tr>
<td>7/4 (Mon)</td>
<td>7 p.m.</td>
<td>世界のワイドショー</td>
<td>お試しから！</td>
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<td></td>
<td>8 p.m.</td>
<td>お試しから！</td>
<td>Hey! Hey! Hey</td>
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<td></td>
<td>9 p.m.</td>
<td>たけしのTVタックル</td>
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<td></td>
<td>10 p.m.</td>
<td>Smap x Smap</td>
<td>シャべくり007</td>
<td></td>
</tr>
<tr>
<td>7/5 (Tue)</td>
<td>7 p.m.</td>
<td>羽肌クスープ映像</td>
<td>カスペ！</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8 p.m.</td>
<td>たけしの健康エンターテイメント</td>
<td>踊る！さんま御殿</td>
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<td></td>
<td>9 p.m.</td>
<td>ロンドンハーツ</td>
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<td></td>
<td>10 p.m.</td>
<td>Smap x Smap</td>
<td>1億3千万のバラエティ</td>
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<td>7/6 (Wed)</td>
<td>7 p.m.</td>
<td>魔法のレストラン</td>
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<td></td>
<td>8 p.m.</td>
<td>爆笑バザール</td>
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<td>7/7 (Thur)</td>
<td>7 p.m.</td>
<td>いきなり黄金伝説</td>
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<td></td>
<td>8 p.m.</td>
<td>VA風</td>
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<td>9 p.m.</td>
<td>奇跡体験</td>
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<td></td>
<td>10 p.m.</td>
<td>トンネルの皆さんのおかげでした</td>
<td>ダウンタウンDX</td>
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<td>7/8 (Fri)</td>
<td>7 p.m.</td>
<td>ピタッコカンカン</td>
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<td></td>
<td>8 p.m.</td>
<td>ミュージックステーション</td>
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<td></td>
<td>9 p.m.</td>
<td>中居正広の金曜日のスマたちへ</td>
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<tr>
<td>7/9 (Sat)</td>
<td>7 p.m.</td>
<td>お願い！ランキングGold</td>
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<td>8 p.m.</td>
<td>お願い！ランキングGold</td>
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<td>7/10 (Sun)</td>
<td>7 p.m.</td>
<td>さんまのスーパーカラクトリレビ</td>
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<td></td>
<td>8 p.m.</td>
<td>シルシルミシルサンダー</td>
<td>世界的な果てまでってQ</td>
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<td>9 p.m.</td>
<td>クイズ・タレント名鑑</td>
<td>世界的な果てまでってQ</td>
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</table>
INSTRUCTIONS: The following is the same list of variety television programs you just saw. Please **circle** television programs that you **REGULARLY** watch.

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<tr>
<th>Mon</th>
<th>毎日テレビ</th>
<th>ABC</th>
<th>関西テレビ</th>
<th>朝日テレビ</th>
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<tbody>
<tr>
<td>7 p.m.</td>
<td>世界のワイドショー</td>
<td>お試しか！</td>
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<td>8 p.m.</td>
<td>お試しか！</td>
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<td>10 p.m.</td>
<td>たけしのTVタックル</td>
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<td>突破！さんま御殿</td>
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<td>魔法のレストラン</td>
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<td>7 p.m.</td>
<td>いきなり黄金伝説</td>
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<td>7 p.m.</td>
<td>ピッツカンシルバーショー</td>
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<tr>
<td>7 p.m.</td>
<td>お願い！ランキングGold</td>
<td>めちゃ2イケてる！</td>
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</table>

INSTRUCTIONS: The television variety shows listed above are the shows we are particularly interested in. However, you might have seen other episodes of these television variety shows that are NOT listed above during the past week because you recoded (or watched via internet or smart phone) a previous episode that aired more than a week ago. If so, please provide the amount of time you **spent** watching these additional episodes beyond those you’ve already indicated in the television chart.

Additional hours of episodes of the television shows identified in the television chart
that you watched during the past week.

Appendix E

Importance of Appearance (Mendelson et al., 2000)

INSTRUCTIONS: These questions ask about your attitudes regarding your physical appearance or looks. Using the scale below, please circle the number that indicates how IMPORTANT YOU think each aspect of your looks is.

<table>
<thead>
<tr>
<th>Importance of weight</th>
<th>Importance of adornments</th>
<th>Importance of appearance</th>
<th>Importance of other’s perception</th>
</tr>
</thead>
<tbody>
<tr>
<td>My weight</td>
<td>Clothes</td>
<td>To be good looking</td>
<td>For other people to think I look good</td>
</tr>
<tr>
<td>To weigh an ideal amount</td>
<td>Accessories, bags and shoes</td>
<td>The way I look</td>
<td>For other people to be attracted by my appearance</td>
</tr>
<tr>
<td>To weigh the right amount for my height</td>
<td>Hairstyle and make-up</td>
<td>My appearance</td>
<td>For my looks to impress other</td>
</tr>
<tr>
<td>My weight</td>
<td>Clothes</td>
<td>To be good looking</td>
<td>For other people to think I look good</td>
</tr>
<tr>
<td>To weigh an ideal amount</td>
<td>Accessories, bags and shoes</td>
<td>The way I look</td>
<td>For other people to be attracted by my appearance</td>
</tr>
<tr>
<td>To weigh the right amount for my height</td>
<td>Hairstyle and make-up</td>
<td>My appearance</td>
<td>For my looks to impress other</td>
</tr>
</tbody>
</table>

\[
\begin{array}{ccccccccccc}
& -4 & -3 & -2 & -1 & 0 & 1 & 2 & 3 & 4 \\
\text{Very Unimportant} & & & & & & & & & \\
\text{Undecided} & & & & & & & & & \\
\text{Very Important} & & & & & & & & & \\
\end{array}
\]
Appendix F

Attraction to Media Figures

INSTRUCTIONS: Please think about female celebrities (including actresses and models but excluding comedians) in television such as variety shows, entertainment shows, talk shows and music shows. These female celebrities often appear as guests. “Women” in the following sentences refer to these female celebrities. Indicate the degree to which you disagree or agree with the following statements. Use the following scale and circle one number that indicates your feelings.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Again, please think about female celebrities (including actresses and models but excluding comedians) in television programs such as variety shows, entertainment shows, talk shows and music shows when responding to the statements.

1. I wish I looked like these women. 1 2 3 4
2. I admire women like these. 1 2 3 4
3. I think that these women are attractive. 1 2 3 4
### Appendix G

**Thin Body Attainability**

**INSTRUCTIONS:** Using the scale below, please circle your degree of confidence of attaining a thin body. “Celebrities” in the statements below refer to models and actresses but not comedians that appear on the television shows identifies earlier in this survey. They are often the guests on these television shows.

<table>
<thead>
<tr>
<th></th>
<th>Cannot do at all</th>
<th>Moderately can do</th>
<th>Highly certain can do</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2</td>
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<td></td>
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<tr>
<td>3</td>
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<td>4</td>
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<td></td>
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<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. I can have a body like these female celebrities if I want to.  

2. I can attain a body like these female celebrities and maintain the body.  

3. I can manage my eating habits to have a body like these female celebrities.  

4. I can stick to a diet that is low in fat.  

5. I can regularly exercise to have a body like these female celebrities.  

6. I can make time to change and maintain my body to look like these female celebrities.  

7. I have enough energy to make an effort to attain and maintain a thin body like these female celebrities.  

8. I know how to modify my body to look like these female celebrities.  

9. I have resources to attain a body like these female celebrities.
Appendix H
Adornment Attainability

INSTRUCTIONS: Using the scale below, please circle your degree of confidence of attaining adornments such as clothes, bags, hairstyles and so on. “Celebrities” in the statements below refer to models and actresses but not comedians that appear on the television shows identifies earlier in this survey. They are often the guests on these television shows.

<table>
<thead>
<tr>
<th></th>
<th>Cannot do at all</th>
<th>Moderately can do</th>
<th>Highly certain can do</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. I can buy bags similar to the ones these female celebrities have.</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I can purchase shoes similar to the ones these female celebrities have.</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I can buy clothes similar to the ones these female celebrities wear.</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I have enough money to buy accessories similar to these female celebrities have.</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I can have my hairstyles done in a way similar to these female celebrities.</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I can wear make-up similar to these female celebrities.</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I can make my fashion style more trendy like these female celebrities.</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I can have my parents, boyfriend, etc. buy me clothes similar to the ones these female celebrities have.</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. I have enough energy to make an effort to keep up with the fashion styles similar to these female celebrities.</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. I have enough time to make an effort to keep up with the fashion styles similar to these female celebrities.</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix I

Body Dissatisfaction

(EDI- 3; Garner, 2004).

INSTRUCTIONS: Using the following scale, please circle the number that describes your feeling the most.

<table>
<thead>
<tr>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. I think that my stomach is too big. 1 2 3 4 5
2. I think that my thighs are too large. 1 2 3 4 5
*3. I think that my stomach is just the right size. 1 2 3 4 5
*4. I feel satisfied with the shape of my body. 1 2 3 4 5
*5. I like the shape of my buttocks. 1 2 3 4 5
6. I think my hips are too big. 1 2 3 4 5
7. I feel bloated after eating a normal meal. 1 2 3 4 5
*8. I think that my thighs are just the right size. 1 2 3 4 5
9. I think that my buttocks are too large. 1 2 3 4 5
*10. I think that my hips are just the right size. 1 2 3 4 5
Appendix J

Adornment Dissatisfaction

INSTRUCTIONS: Using the following scale, please circle number that describes your feeling the most.

<table>
<thead>
<tr>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

*1. I like the clothes I wear.  1 2 3 4 5
2. I’m unhappy about the amount of clothes that I have.  1 2 3 4 5
*3. I like the bags I have.  1 2 3 4 5
4. I feel dissatisfied with the number of bags that I have.  1 2 3 4 5
*5. I think my hairstyle is just right.  1 2 3 4 5
6. I don’t have enough jewelry and accessories.  1 2 3 4 5
7. I’m happy with the qualities of jewelry and accessories that I have.  1 2 3 4 5
8. I don’t like how my make-up looks.  1 2 3 4 5
9. I don’t have enough shoes/heels that I like.  1 2 3 4 5
Appendix K

Self-Esteem (Rosenberg, 1965)

**INSTRUCTIONS:** Below is a list of statements dealing with your general feelings about yourself. Please indicate your level of agreement with the statements below.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

1. On the whole, I am satisfied with myself.
2. At times, I think I am no good at all.
3. I feel that I have a number of good qualities.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I certainly feel useless at times.
7. I feel that I’m a person of worth, at least on an equal plane with others.
8. I wish I could have more respect for myself.
9. All in all, I am inclined to feel that I am a failure.
10. I take a positive attitude toward myself.
Appendix L
Weight Control Practices

INSTRUCTIONS: During the past week (7 days), how often did you do any of the following things to lose weight or keep from gaining weight?

<table>
<thead>
<tr>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Low-risk weight control practices (Dieting and exercising)

(1) Dieted (ate less or differently) 1 2 3 4 5
(2) Ate less foods high in calories 1 2 3 4 5
(3) Exercised (to burn calories or fat) 1 2 3 4 5

Moderate risk weight control practices

(5) Skipped meals 1 2 3 4 5
(6) Exercised a lot even when I shouldn't' (e.g., I’m injured, I have a cold, It is raining). 1 2 3 4 5

High risk eating behaviors

(7) Made myself vomit (throw up) 1 2 3 4 5
(8) Took diet pills 1 2 3 4 5
(9) Took laxatives or diuretics 1 2 3 4 5
Appendix M

Adornments Control Practices

INSTRUCTIONS: Below is a list of statements dealing with your general consumption behaviors regarding adornments (e.g., clothes, bags, shoes). Using the scale given below, please indicate the number that describes you the most.

<table>
<thead>
<tr>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**Low-risk behaviors**

1. I buy clothes that I want as long as it is within my budget.  
   | 1 | 2 | 3 | 4 | 5 |

2. When I buy bags, I make sure that it is within my budget.  
   | 1 | 2 | 3 | 4 | 5 |

3. I take good care of my hairstyles.  
   | 1 | 2 | 3 | 4 | 5 |

4. I make sure to dress to present myself in a way that I want.  
   | 1 | 2 | 3 | 4 | 5 |

5. I make sure to wear make-up that makes me look good.  
   | 1 | 2 | 3 | 4 | 5 |

**Moderate behaviors**

6. I buy clothes that I want even if they are a little expensive to me.  
   | 1 | 2 | 3 | 4 | 5 |

7. I don’t buy bags if they are a little expensive to me.  
   | 1 | 2 | 3 | 4 | 5 |

8. I buy accessories that I want even when they are a little pricey to me.  
   | 1 | 2 | 3 | 4 | 5 |

9. I go to a hair salon that I want even when it is a little pricey to me.  
   | 1 | 2 | 3 | 4 | 5 |

10. I buy shoes that I want even if they are a little expensive to me.  
    | 1 | 2 | 3 | 4 | 5 |
High-risk behaviors

11. I have a debt because I bought clothes, bags, shoes or accessories that I could not afford.

12. I cannot help but buying clothes that I want even when I know I should not.

13. I live beyond my means to buy clothes, bags, shoes or accessories I want.

14. I have a tendency to buy bags more than I can afford.

15. My parents and friends told me that I am buying too many shoes.
Appendix N

Appearance-Based Comparison Orientation

(Thompson, Heinberg & Tantleff, 1991)

INSTRUCTIONS: Using the following scale, please rate the statement below.

<table>
<thead>
<tr>
<th>Never</th>
<th>Seldom</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. At parties or other social events, I compare my physical appearance to the physical appearance of others. 1 2 3 4 5

2. The best way for people to know if they are overweight or underweight is to compare their figure to the figure of others. 1 2 3 4 5

3. At parties or other social events, I compare how I am dressed to how other people are dressed. 1 2 3 4 5

*4. Comparing your “looks” to the “looks” of others is a bad way to determine if you are attractive or unattractive. 1 2 3 4 5

5. In social situations, I sometimes compare my figure to the figure of other people. 1 2 3 4 5
Appendix O

Demographic information

INSTRUCTIONS: This section asks for background information about yourself. This survey is for FEMALE only.

1. Age: ______ years old

2. Sex: _____ Male  ⇒  Please do NOT participate in the study
   _____ Female

3. Are you Japanese?  ___ Yes
   ___ No  ⇒  Please specify your nationality ___________________

4. Are you a returnee to Japan?
   _____ No
   _____ Yes  ⇒  Where were you?  __________
   How long were you outside of Japan? _____ months

5. Height  __________________ cm

6. Weight  __________________ kg
Table 1
Mean and Standard Deviations of Key Variables of All Participants and a Subsample

<table>
<thead>
<tr>
<th>Key Variables</th>
<th>All Participants (n = 368)</th>
<th>The subsample (n = 255)</th>
<th>Possible ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td></td>
</tr>
<tr>
<td>TV viewing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>11.09 (8.86)</td>
<td>11.97 (9.10)</td>
<td>0 - 24/7</td>
</tr>
<tr>
<td>Varieties in the past week</td>
<td>5.50 (5.98)</td>
<td>5.86 (6.16)</td>
<td>0 - 24/7</td>
</tr>
<tr>
<td>Regular Varieties</td>
<td>3.11 (6.11)</td>
<td>3.42 (7.06)</td>
<td>0 - 71</td>
</tr>
<tr>
<td>Importance of appearance</td>
<td>1.98 (1.16)</td>
<td>3.36 (.95)</td>
<td>-4 - 4</td>
</tr>
<tr>
<td>Attraction to celebrities</td>
<td>3.07 (.62)</td>
<td>3.70 (.40)</td>
<td>1 - 4</td>
</tr>
<tr>
<td>Thin attainability</td>
<td>2.97 (1.80)</td>
<td>2.97 (1.79)</td>
<td>0 - 10</td>
</tr>
<tr>
<td>Adornment attainability</td>
<td>2.21 (1.67)</td>
<td>2.44 (1.73)</td>
<td>0 - 10</td>
</tr>
<tr>
<td>Body dissatisfaction</td>
<td>3.72 (.70)</td>
<td>3.76 (.72)</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Adornment dissatisfaction</td>
<td>3.08 (.67)</td>
<td>3.08 (.66)</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>2.33 (.49)</td>
<td>2.33 (.51)</td>
<td>1 - 4</td>
</tr>
<tr>
<td>Weight control practices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>2.2 (.20)</td>
<td>1.91 (1.59)</td>
<td>0 - 8</td>
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<tr>
<td>Low risk</td>
<td>1.40 (1.14)</td>
<td>1.49 (1.14)</td>
<td>0 - 3</td>
</tr>
<tr>
<td>Moderate risk</td>
<td>.27 (.48)</td>
<td>.31 (.49)</td>
<td>0 - 2</td>
</tr>
<tr>
<td>High risk</td>
<td>.11 (.38)</td>
<td>.12 (.38)</td>
<td>0 - 3</td>
</tr>
<tr>
<td>Adornment control practices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>2.21 (.53)</td>
<td>2.26 (.53)</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Low risk</td>
<td>3.42 (.66)</td>
<td>3.53 (.61)</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Moderate risk</td>
<td>2.33 (.84)</td>
<td>2.37 (.85)</td>
<td>1 - 5</td>
</tr>
<tr>
<td>High risk</td>
<td>1.67 (.70)</td>
<td>1.73 (.73)</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Comparison Orientation</td>
<td>3.31 (.78)</td>
<td>3.47 (.74)</td>
<td>1 - 5</td>
</tr>
<tr>
<td>BMI</td>
<td>19.93 (1.88)</td>
<td>19.82 (1.70)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Note: The subsample means participants who reported perceiving appearance as important and celebrities as attractive.
Table 2
Correlations for all key variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<th>17</th>
<th>18</th>
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</thead>
<tbody>
<tr>
<td>1. TVG</td>
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<td>.48**</td>
<td>.21**</td>
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</tr>
<tr>
<td>2. TVV</td>
<td>.53**</td>
<td></td>
<td>.42**</td>
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<td>-.04</td>
<td>-.01</td>
<td>.12</td>
<td>.05</td>
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</tr>
<tr>
<td>3. TVVR</td>
<td>.27**</td>
<td>.45**</td>
<td></td>
<td>.07</td>
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<td>.08</td>
<td>.02</td>
<td>-.04</td>
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<td>-.07</td>
<td>-.02</td>
<td>-.03</td>
<td>-.02</td>
<td>.01</td>
<td>.06</td>
<td></td>
</tr>
<tr>
<td>4. Imp</td>
<td>.15**</td>
<td>.14*</td>
<td>.11*</td>
<td></td>
<td>.30**</td>
<td>.16*</td>
<td>.25**</td>
<td>.24**</td>
<td>.05</td>
<td>-.02</td>
<td>.24**</td>
<td>.13*</td>
<td>.05</td>
<td>.34**</td>
<td>.23**</td>
<td>.20**</td>
<td>.33**</td>
<td>.08</td>
</tr>
<tr>
<td>5. Celeb</td>
<td>.12*</td>
<td>.10</td>
<td>.07</td>
<td>.26**</td>
<td></td>
<td>.14*</td>
<td>.06</td>
<td>.17**</td>
<td>.12</td>
<td>-.09</td>
<td>.15*</td>
<td>.14*</td>
<td>.08</td>
<td>.14*</td>
<td>.07</td>
<td>.14*</td>
<td>.12*</td>
<td>-.06</td>
</tr>
<tr>
<td>6. Thin Att</td>
<td>-.00</td>
<td>-.04</td>
<td>-.05</td>
<td>.17**</td>
<td>.09</td>
<td></td>
<td>.54**</td>
<td>-.13*</td>
<td>-.15*</td>
<td>.38**</td>
<td>.23*</td>
<td>.13*</td>
<td>.11</td>
<td>.16*</td>
<td>.22**</td>
<td>.08</td>
<td>-.06</td>
<td>-.09</td>
</tr>
<tr>
<td>7. Adorn Att</td>
<td>.04</td>
<td>.02</td>
<td>.03</td>
<td>.30**</td>
<td>.18**</td>
<td>.51**</td>
<td></td>
<td>-.03</td>
<td>-.28**</td>
<td>.25**</td>
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<td>.33**</td>
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<td>.08</td>
</tr>
<tr>
<td>8. Body Dis</td>
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<td>.05</td>
<td>.06</td>
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Note: Correlations for all participants (n = 368) are presented below the diagonal, and correlations for subsample of those who perceived appearance as somewhat important, and celebrities as attractive (n = 255) are presented above the diagonal. TVG = TV watching in general; TV = Variety TV programs in the past week; TVVR = Variety TV programs regularly watched in one week; Imp = Importance and relevance of appearance; Celeb = perceived attraction to celebrities; Thin Att = Thin body attainability; Adorn Att = Adornment attainability; Body Dis = Body dissatisfaction; Adorn Dis = Adornment dissatisfaction; SE = Self esteem; L Weight = Low-risk weight control practices; M Weight = moderate-risk weight control practices; H Weight = High-risk weight control practices; L Adorn = Low-risk adornment control practices; M Adorn = moderate-risk adornment control practices; H Adorn = High-risk adornment control practices; Comp = Appearance-based social comparison orientation. *p < .05 **p < .001
Table 3

Multiple Regression Analyses Predicting Body Dissatisfaction

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* p < .05 **p < .001
Table 4

Multiple Regression Analyses Predicting Adornment Dissatisfaction

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* $p < .05$ ** $p < .001$