

## Japanese body Image: Body dissatisfaction, body image-related problems, and effects of magazines exposure on body image

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### Introduction

Body image was defined as a complex, multidimensional phenomenon consisting of one's attitudes, perceptions and experiences pertaining to one's own physical appearance (Cash & Pruzinsky, 2002). For the past few decades, extensive studies have been conducted to explore the issue of body image in females (e.g. Silverstein, Perdue, Peterson, & Kelly, 1986; Stice, Spangler, & Agras, 2001; Yamamiya, Cash, Melnyk, Posavac, & Posavac, 2005). Studies on males' body image were considerably less when compared to the amount devoted to females' body image, but attention to it has increased over the past ten years (e.g., Edwards & Launder, 2000; Leit, Gray, & Pope, 2002; Olivardia, Pope, Borowiecki, & Cohane, 2004). Recent studies on body image found that males might under as much pressure to achieve the ideal body conveyed to them by the society and mass media as females do (Groesz, Levine, & Murnen, 2002; Willinge, Touyz, & Charles, 2006).

Findings from past studies have almost reached a unanimous conclusion that females are dissatisfied with their bodies and desire to for a thinner body (e.g. Quinlivan & Leary, 2005; Stice, Spangler, & Agras 2001). Research on males' body image, on the other hand, reported inconsistent findings. A breakthrough in research of males' body image came when researchers started to question the practicability of the figure rating scale varying in body fat for assessing males' body image. By substituting the body fat varied figure rating scale with a muscularity varied figure rating scale, researchers found that college males are dissatisfied with their bodies and desire for a larger and more muscular body (See Lynch and Zellner, 1999).

Although Lynch and Zellner's (1999) adoption of a figure rating scale varying in the dimension of muscularity demonstrated that figure rating scale varying in body fat is insufficient for assessing males' body image, this new scale which varies in muscularity alone leaves participants with high level of body fat with no accurate figure to indicate their current body shapes. This figure rating scale also leaves no choice for males who desire to gain body fat rather than muscle mass.

To further explore the body image issue, it is necessary to go beyond the mere measurement of body satisfaction and to investigate in the possible risks related to it as well. It has been suggested that individuals with a high level of body image stress could have a higher tendency for engaging in appearance fixing as a body-image coping strategy (Cash, Santos, & Williams, 2005). There is a possibility that people who are dissatisfied with their bodies might engage in obsessive behaviors which they believe could improve their physical appearance or deny themselves from social activities in order to relieve from body image stress.

Past studies claimed that the perception of a ultra slim body as the females ideal comes from the sociocultural pressure to stay or to become thin, and mass media is considered as exerting most of such sociocultural pressure by portraying an extremely thin female body as the ideal body (Engeln-maddox, 2006; Morry & Staska, 2001). For males, the effect appears to work in an opposite

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direction. Heinberg (1996) claimed that the print media encourages females to achieve a thin body through dieting but encourages males to shape up through exercise. Botta (2003) claimed that magazines reinforce the rewards that accompany the attainment of 'perfect' bodies and magazines reading habit is one of the important predictors of body image and eating disturbances.

### Objectives of the current study

There were three objectives with the current study. First, the current study assessed males and females body image with new figure rating scales which vary in body fat and muscularity. Second, the current study investigated the associations between types of body dissatisfaction and different problems related to body image and how these associations vary as a function of gender and types of body dissatisfaction. Third, the current study evaluated the association between types of body dissatisfaction and concern with fashion magazines and fashion models, and how concern with fashion magazines and fashion models predicts different problems related to body image in Japanese males and females.

### Hypotheses:

There were 8 hypotheses in the current study.

- H1: Both males and females are dissatisfied with their current bodies. The ideal bodies chosen by males would be significantly larger than their current bodies, and the ideal bodies chosen by females would be significantly thinner than their current bodies.
- H2: The ideal bodies chosen by males would be significantly larger than the ideal male bodies chosen by females
- H3: The ideal bodies chosen by females would be significantly thinner than the ideal female bodies chosen by males
- H4: Females would score significantly higher on all factors except the drive for muscularity subscale than males in general.
- H5: Females who desire for thinner bodies would score significantly higher on dieting behaviors than males who desire for thinner bodies. Males who desire for larger/more muscular bodies would score significantly higher on drive for muscularity subscale than females who desire for larger/more muscular bodies.
- H6: Concern with fashion magazines and fashion models would significantly predict all problems related to body image except drive for muscularity in females.
- H7: Concern with fashion magazines and fashion models would significantly predict all problems related to body image except dieting behaviors and preoccupation with weight in males.
- H8: For females, those who desire for thinner bodies would score significantly higher on concern with fashion magazines and fashion models than those who are satisfied with their bodies and those who desire for larger/more muscular bodies. For males, those who desire for larger/more muscular bodies should score significantly higher on concern with fashion magazines and fashion models than those who desire for thinner bodies and those who are satisfied with their current bodies.

### Method

#### The preliminary study

A preliminary study was conducted primarily for deleting redundant items in the problems related to body image measure and susceptibility to information from magazine measures.

#### Participants

100 undergraduate students participated in the preliminary study.

#### Materials

Female version and male version of a questionnaire consisted of figure rating scales and self-reported measures were adopted.

#### Measures

*Body dissatisfaction and perceived ideal body of the opposite sex*

Two new figure rating scales, a female version and a male version, illustrated by Asuka Suzuki (2006) were used for assessing body dissatisfaction and the perceived ideal body of the opposite sex.

#### Problems related to body image

Items for this measure were written with references to four inventories: the Minnesota Eating Behavior Survey (von Ranson, Klump, Iacono, & McGue, 2005), the Body Image Concern Inventory (Littleton, Axom, & Pury, 2005), and the Body Image Coping Strategies Inventory (Cash, Santos, & Williams, 2005). Items were scored with the 5-point Likert scale.

#### Susceptibility to information from mass media

Items for this measure were written upon references to the mass-media-related items adopted in Botta (1999, 2003) studies and Fukutomi's (1998) study. Items were scored with the 5-point Likert scale.

#### Results

Principal axis factor analysis with varimax rotation was performed for the problems related to body image measure and for the susceptibility to information from mass media measure respectively. Items with factor loadings below .40 were deleted.

For problems related to body image, 6 factors were extracted and 11 items were deleted, reducing the number of items to 40. For susceptibility to information from mass media, 2 factors were extracted and 3 items were deleted, reducing the number of items to 10.

### Formal Study

#### Participants

588 university students were asked to fill out a questionnaire at the end of their lecture or seminar session. Number of participants judged as valid for subsequent analysis were 573.

#### Materials

Contents of the questionnaire adopted in the formal study were basically the same as the one adopted for preliminary study, except amendments made to the self-report measures according to results from the preliminary study. For problems related to body image measure, 6 items for measuring drive for muscularity were written upon reference to Drive for Muscularity Scale (McCreary & Sasse, 2000).

### Results

Principal axis factoring analyses were performed to problems related to body image measure and susceptibility to information from mass media measure before proceeding to subsequent analyses.

For problems related to body image, 2 items with factor loadings less than .4 were deleted. Eigenvalues (i.e. >1) indicated that 8-factor extraction would be appropriate.

Factor I: Preoccupation with weight. (9 items;  $\alpha=.93$ ).

Factor II: Body shape dissatisfaction. (3 items;  $\alpha=.80$ ).

Factor III: Dieting behaviors. (3 items;  $\alpha=.71$ ).

Factor IV: Overeating behaviors. (7 item;  $\alpha=.90$ ).

Factor V: Preoccupation with physical appearance. (6 items;  $\alpha=.83$ ).

Factor VI: Dissatisfaction with physical appearance. (4 items;  $\alpha=.88$ ).

Factor VII: Preoccupation with others' perception of self-appearance. (6 items;  $\alpha=.84$ ).

Factor VIII: Drive for Muscularity (6 items,  $\alpha=.82$ ).

For susceptibility to information to mass media measure. Factor loadings of all items were over .40. Eigenvalues (i.e. >1) indicated that 2-factor extraction would be appropriate.

Factor I: Concern with fashion magazines and fashion models. (7 items;  $\alpha=.89$ ).

Factor II: Perception of mass media credibility. (3 items;  $\alpha=.64$ ).

**Body fat-muscle mass figure sets crossing cases**

2 out of these 330 valid female participants and 13 out of these 229 valid male participants indicated their current body shapes with the body-fat concentrated figure set and their ideal body shapes with the muscle-mass concentrated figure set.

**Body Dissatisfaction**

For males, within-subject t-test results indicated that they were not satisfied with their body shape and their ideal body shape is larger or more muscular than their current body shape (ideal body shape minus (–) actual body shape  $M = 1.20$ ,  $t(238) = 9.719$ ,  $p < .001$ ). For females, within-subject t-test results indicated that they were not satisfied with their body shapes and their ideal body shapes are significantly slender than their current body shape (ideal body shape minus (–) current body shape  $M = -1.05$ ,  $t(329) = 15.073$ ,  $p < .001$ ). Hypothesis 1 was supported.

**Discrepancy between ideal body shape chosen by self and by opposite sex**

Results were summarized in figure 1. For females, independent sample t-test results indicated that the ideal female body shape chosen by females was significantly thinner than the one chosen by males (ideal shape perceived by females minus (–) ideal shape perceived by males  $M = -.48$ ,  $t(564) = 5.552$ ,  $p < .001$ ). For males, independent sample t-test results indicated that the ideal male body size chosen by males was significantly larger than the one chosen by females. (ideal shape perceived by males minus (–) ideal shape perceived by females  $M = .93$ ,  $t(566) = 6.562$ ,  $p < .001$ ). Hypothesis 2 and 3 were supported.

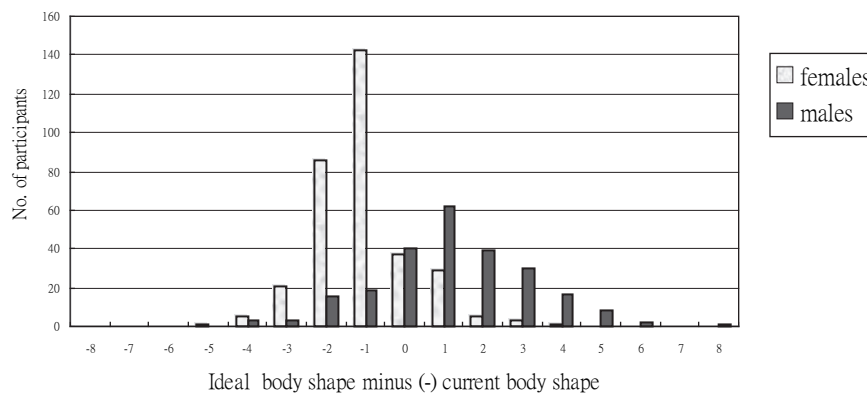


Figure 1. Bar chart for body shape discrepancy: ideal body shape minus (–) current body shape

**Correlation between body dissatisfaction and problems related to body image**

A 2 (gender) X 3 (types of body dissatisfaction) MANOVA was performed on problems related to body image. Main gender effect was significant ( $A = .77$ ,  $F(8, 508) = 18.82$ ,  $p < .001$ ); Main types of body dissatisfaction effect was significant ( $A = .68$ ,  $F(16, 1016) = 13.56$ ,  $p < .001$ ) on problems related to body image. Interaction between gender and body size discrepancy variables was nonsignificant ( $A = .97$ ,  $F(16, 1016) = .97$ ,  $p > .05$ ).

Subsequent analysis results indicated that for main gender effect, females scored significantly higher than males on preoccupation with weight ( $F(1, 515) = 14.93$ ,  $p < .001$ ), body shape dissatisfaction ( $F(1, 515) = 25.08$ ,  $p < .001$ ), overeating behaviors ( $F(1, 515) = 12.23$ ,  $p = .001$ ), preoccupation with physical appearance ( $F(1, 515) = 36.32$ ,  $p < .001$ ), dissatisfaction with physical appearance ( $F(1, 515) = 7.38$ ,  $p < .05$ ), and preoccupation with others' perception of self-appearance ( $F(1, 515) = 4.93$ ,  $p < .05$ ).

Males scored significantly higher than females on drive for muscularity ( $F(1, 515) = 39.51$ ,  $p < .001$ ). No significant main gender effect was found for dieting behaviors ( $F(1, 515) = .01$ ,  $p > .05$ ). Thus, hypothesis 4 was to a large extent supported.

Main types of body dissatisfaction effect was significant on preoccupation with weight ( $F(2, 515) = 38.89$ ,  $p < .001$ ), body shape dissatisfaction ( $F(2, 515) = 65.27$ ,  $p < .001$ ), dieting behavior ( $F(2, 515) = 5.71$ ,  $p < .005$ ), overeating behaviors ( $F(2, 515) = 14.63$ ,  $p < .001$ ), dissatisfaction with physical appearance ( $F(2, 515) = 13.41$ ,  $p < .001$ ), preoccupation with others' perception of self ( $F(2, 515) = 7.47$ ,  $p = .001$ ), and drive for muscularity ( $F(2, 515) = 7.74$ ,  $p < .001$ ). No significant effect was found for preoccupation with physical appearance ( $F(2, 515) = .91$ ,  $p > .05$ ). Results were summarized in table 7.

Among the significant factors, desire for a thinner body group scored significantly higher than satisfied with current body group

and desire for a larger/more muscular body group on preoccupation with weight ( $p < .001$ ), body shape dissatisfaction ( $p < .001$ ), overeating behaviors ( $p < .001$ ), dissatisfaction with physical appearance ( $p < .001$ ), and preoccupation with other people's perception of self-appearance ( $p < .001$ ). Desire for a thinner body group also scored significantly higher on dieting behaviors than desire for a larger/more muscular body group ( $p < .001$ ) but not when compared to the satisfied with current body group ( $p > .05$ ). Satisfied with current body group score significantly higher than desire for a more muscular body group on preoccupation with weight ( $p < .005$ ), and dieting behaviors ( $p < .05$ ). In addition, desire for a larger/ more muscular body group scored significantly higher than the other two groups ( $p < .001$ ) on drive for muscularity, and satisfied with current body group scored significantly higher than desire for a thinner body group ( $p < .005$ ) on this subscale.

Since no interaction was found between gender and types of body dissatisfaction, hypothesis 5 was not supported. Results were summarized in figures 2 to 9.

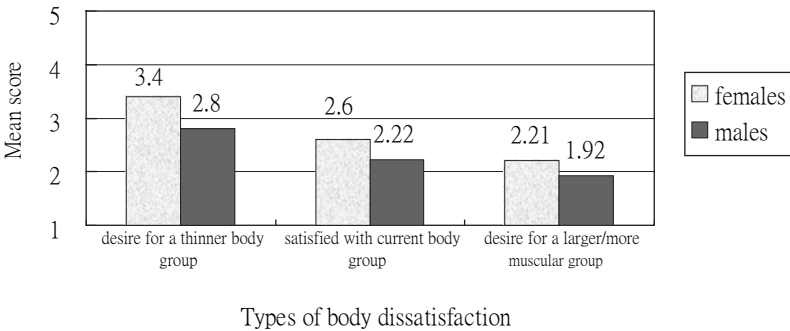


Figure 2. Mean scores for preoccupation of weight: gender by types of body dissatisfaction

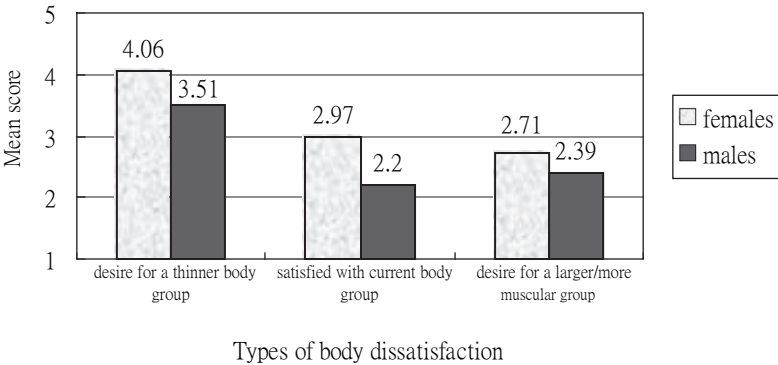


Figure 3. Mean score for body shape dissatisfaction: gender by types of body dissatisfaction

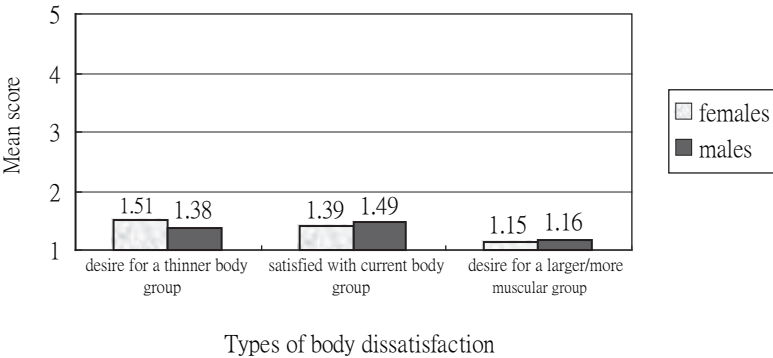


Figure 4. Mean score for dieting behaviors: gender by types of body dissatisfaction

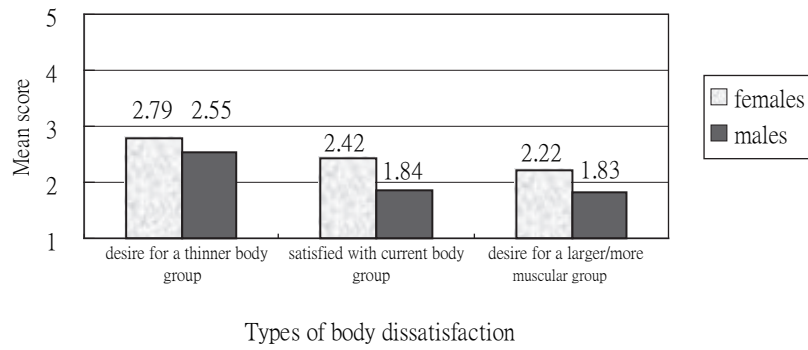


Figure 5. Mean scores for overeating behaviors: gender by types of body dissatisfaction

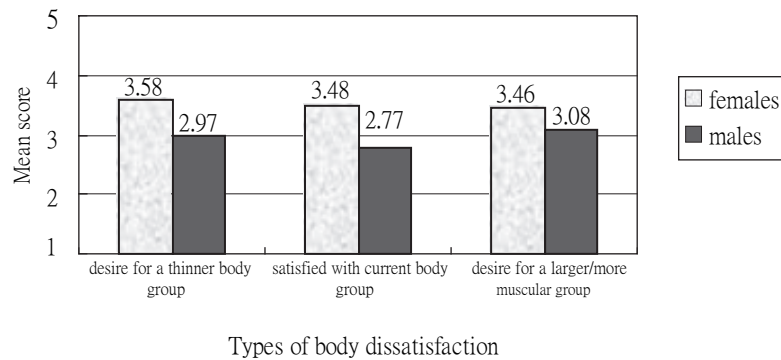


Figure 6. Mean score for preoccupation with physical appearance: gender by types of body dissatisfaction

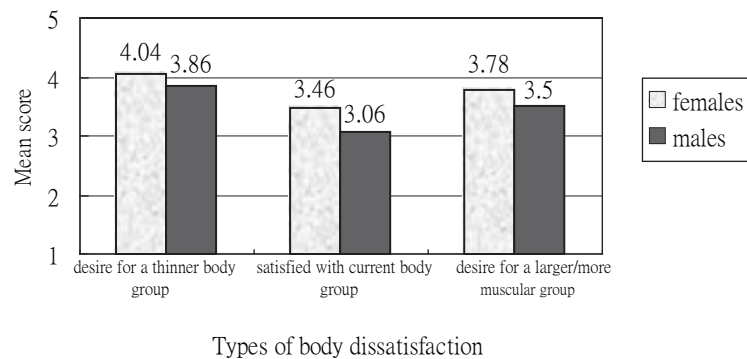


Figure 7. Mean score for dissatisfaction with physical appearance: gender by types of body dissatisfaction

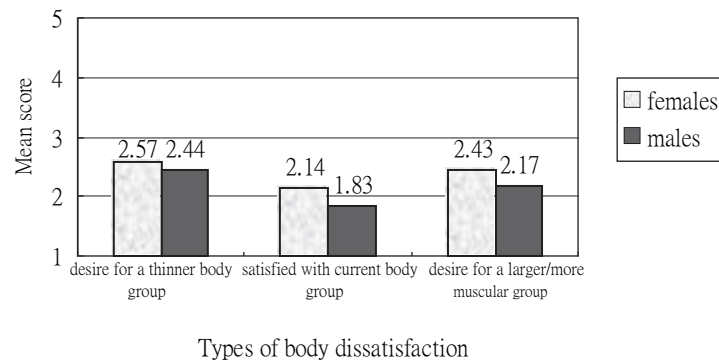


Figure 8. Mean score for preoccupation with others' perception of self-appearance: gender by types of body dissatisfaction

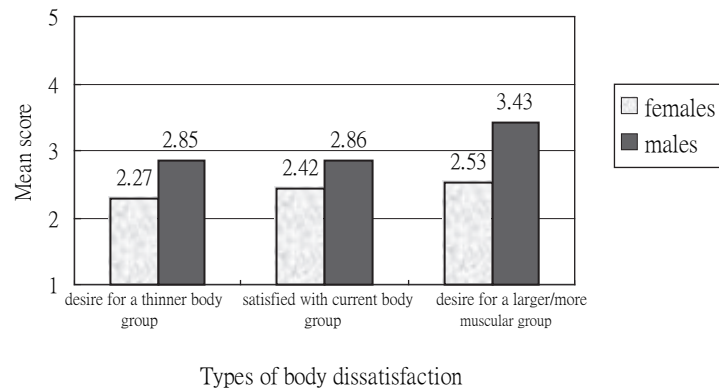


Figure 9. Mean score for drive for muscularity: gender by types of body dissatisfaction

### ***Correlation between susceptibility to information from magazines and problems related to body image***

#### ***Results on high/low in concern with fashion magazines x high/low in perception of mass media credibility***

Possible buffering effect from the perception of mass media credibility to the effect of concern with fashion magazines and fashion models on participants' susceptibility to body image-related problems analyzed by a 2 (high/low in concern with fashion magazines and fashion models) X 2 (high/low in perception of mass media credibility) One-way ANOVA analysis indicated significant differences among groups on preoccupation with weight ( $F(3, 553) = 83.63, p < .001$ ), body shape dissatisfaction ( $F(3, 559) = 41.87, p < .001$ ), dieting behaviors ( $F(3, 562) = 16.35, p < .001$ ), overeating behaviors ( $F(3, 555) = 26.09, p < .001$ ), preoccupation with physical appearance ( $F(3, 562) = 69.15, p < .001$ ), dissatisfaction with physical appearance ( $F(3, 560) = 33.57, p < .001$ ), and preoccupation with others' perception of self-appearance ( $F(3, 560) = 26.62, p < .001$ ).

Post-hoc test results indicated that the significant differences were found between high and low in concern with fashion magazines and fashion models groups, regardless of their scores on perception of mass media credibility.

#### ***Concern with fashion magazines and fashion models as a predictor of different body image-related problems***

For females, concern with fashion magazines and fashion models was found to be a significant predictor of preoccupation with weight ( $R^2 = .37, \beta = .61, p < .001$ ), body shape dissatisfaction ( $R^2 = .16, \beta = .40, p < .001$ ), dieting behaviors ( $R^2 = .11, \beta = .33, p < .001$ ), overeating behaviors ( $R^2 = .12, \beta = .35, p < .001$ ), preoccupation with physical appearance ( $R^2 = .35, \beta = .59, p < .001$ ), dissatisfaction with physical appearance ( $R^2 = .22, \beta = .47, p < .001$ ), and preoccupation with others' perception of self-appearance ( $R^2 = .21, \beta = .46, p < .001$ ). As expected, concern with fashion magazines and fashion models did not predict drive for muscularity in females ( $R^2 = .01, \beta = .11, p > .05$ ). Hypothesis 6 was supported.

For males, concern with fashion magazines and fashion models was found to be a significant predictor of preoccupation with weight ( $R^2 = .26, \beta = .51, p < .001$ ), body shape dissatisfaction ( $R^2 = .12, \beta = .34, p < .001$ ), dieting behaviors ( $R^2 = .11, \beta = .34, p < .001$ ), overeating behaviors ( $R^2 = .09, \beta = .29, p < .001$ ), preoccupation with physical appearance ( $R^2 = .30, \beta = .55, p < .001$ ), dissatisfaction with physical appearance ( $R^2 = .17, \beta = .42, p < .001$ ), preoccupation with others' perception of self-appearance ( $R^2 = .14, \beta = .38, p < .001$ ), and drive for muscularity ( $R^2 = .09, \beta = .30, p < .001$ ). Thus, hypothesis 7 was to a large extent supported.

#### ***Comparison of concern with fashion magazines and fashion models among the desire for thinner body, desire for a larger/ more muscular body and satisfied with current body groups***

For females, One-way ANOVA analysis results indicated a significant difference among the groups ( $F(2, 324) = 6.65, p = .001$ ). Post-hoc test results indicated that the desire for a thinner body group scored significantly higher on concern with fashion magazines and fashion models than the desire for a more muscular body group ( $p < .005$ ). No significant difference was found on concern with fashion magazines and fashion models between desire for thinner body group and satisfied with current body group ( $p > .05$ ), as well as between desire for a larger/more muscular body group and satisfied with current body group ( $p > .05$ ).

For males, the One-Way ANOVA results indicated no significant difference between the three groups on concern with fashion magazines and fashion models ( $F(2, 223) = .86, p > .05$ ). Thus, hypothesis 8 was only partially supported.



## Discussion

The current study makes a contribution in offering an overview on the body image of the young Japanese. The findings that most of the young Japanese are experiencing body dissatisfaction as well as preoccupation with and dissatisfaction with physical appearance could imply an emphasis on individuals' physical attractiveness in the society.

Results from the current study suggested that although Japanese males are experiencing body dissatisfaction and desire for a more muscular body like the Western males do, the male body ideal perceived by them is apparently less muscular than the one perceived by Western males. Two possibilities could be considered. First, the ideal males' body image perceived by Japanese is less muscular than the one perceived by Western males. Second, the smaller body build of Japanese males could result in the perception of a relatively less muscular body as ideal. Nevertheless, the selection of a larger than current body size implied that a large or muscular physique is as important to Japanese males' body image, as thinness is to Japanese females' body image.

The drive for muscularity subscale in this study measures a range of concerns, from attitudes and beliefs related to muscularity to behaviors aiming at increasing muscle mass. The high drive for muscularity found in a majority of males could imply that muscularity is perceived as way for enhancing one's confidence and spiritual empowerment in Japanese males. The finding that Japanese males who desire for a larger/more muscular have a tendency to strive for a more muscular body by taking protein supplements and engaging in weight training could imply that Japanese males could be as susceptible to preoccupation with muscularity as Western males do.

## Prospects for future research on body image

In conclusion, the current study found that the types of body dissatisfaction experienced by Japanese young females and males are similar to that found in their Western counterparts. The relatively high score on preoccupation with and dissatisfaction with physical appearance among males and females in general Japanese young generation revealed that physical appearance deserves as much attention as body shape in the research field.

The paradoxical findings on association between concern with fashion magazines and models and males body image implied that the perception of a muscular body as the male body ideal in the non-Western countries could have its formation associated with factors different from that of the Western countries, which in turn warrants more body image research in non-Western countries for thorough exploration. Finally, the adoption of a new two-dimensional figure rating scale exposed the insufficiency of studying body image with a single dimensional figure rating scale. Future research might consider the development of a multi-dimensional figure rating scale, like variation in different body parts, for further investigation into the body image issue.



Appendix

Figure rating scale for assessing female body dissatisfaction(by A. Suzuki)

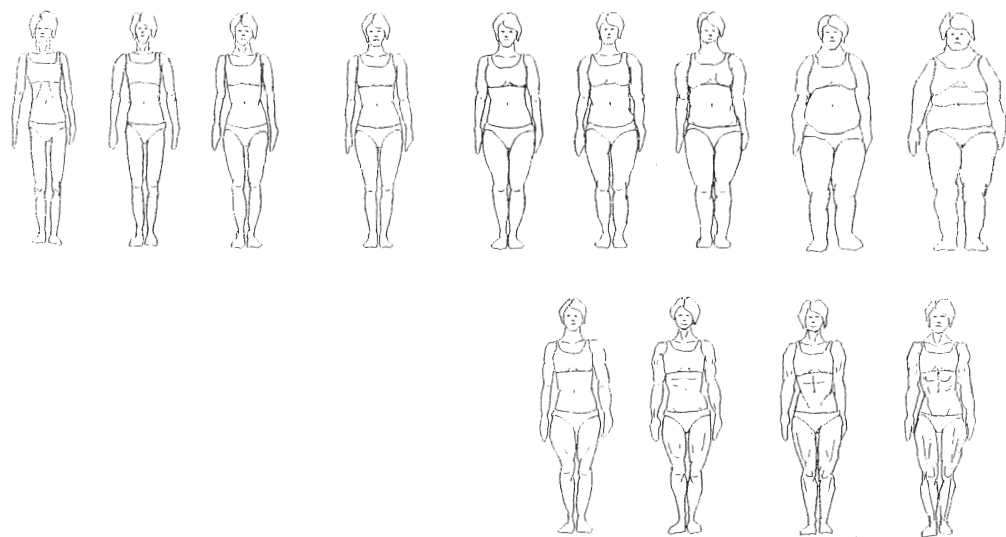
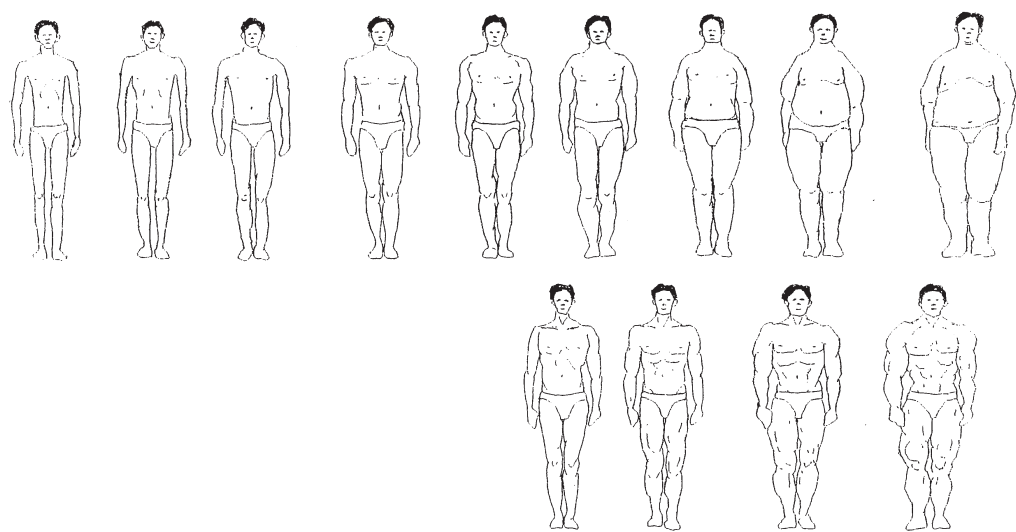


Figure rating scale for assessing male body dissatisfaction(by A. Suzuki)



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## Japanese body Image: Body dissatisfaction, body image-related problems, and effects of magazines exposure on body image

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### **Abstract**

The current study investigated the general body image of young Japanese through the examination of body dissatisfaction, susceptibility to different problems related to body image, and the effect of magazines exposure on body image in 588 university students by the combination of new figure rating scales and the self-report measures. Results indicated that body dissatisfaction of females and males manifest in opposite directions, with females desire for a thinner body and males desire for a larger body. By dividing participants into the desire for a thinner body, satisfied with current body and desire to be larger/more muscular groups, the current study found that both gender and types of body dissatisfaction have main effects on a range of problems related to body image. Concern with fashion magazines and fashion models significantly predicted a wide range of problems related to body image in both males and females. The complicated results indicated in the association between magazines exposure and males' body image suggested possible ethnic differences in the factors contributed to the perception of a muscular body as the male body ideal.

**Key words:** body image, body dissatisfaction, body shape

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