

MEDIA INFLUENCE ON EATING AND DIETING
HABITS OF ADOLESCENTS AND YOUNG ADULTS
IN HONG KONG

BY

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ABSTRACT

Objectives: This study aimed to research into the effects of unsolicited media exposure (ME) to slimming and fitness advertisements on body dissatisfaction (BSQ); eating disorder symptomatology (EAT) and weight-loss behaviors (WLB) and to investigate the gender differences and the relations between body dissatisfaction and extreme weight-loss behaviors. **Methods:** 876 students (410 female, 46.80% $M=17.21$, $SD=2.82$; 466 male, 53.20%, $M=16.70$, $SD=2.28$) completed a set of questionnaire on ME, BSQ, EAT and WLB. **Results:** ME was moderately associated with BSQ and weakly correlated with EAT and WLB ($r = .270$, $r = .166$, $r = .167$ respectively, $p < .01$ in all cases). Female had significantly higher scores in all three variables. 4.91% of the participants reported an EAT score of ≥ 20 , which is a strong indicator of potential eating disorder (Garner et al., 1982). 48.22% of the participants had engaged in at least one extreme weight-loss behavior. 41.33% of female and 23.51% of male participants over estimated their body shapes. The ideal BMI for female and male participants were 18.40 ($n=349$, $SD=1.71$) and 20.06 ($n=397$, $SD=2.52$) respectively. **Conclusions:** This study demonstrated that the “thin-ideal” phenomenon was deep rooted in Hong Kong society. This study also revealed a high degree of body shape dissatisfaction and the high participation rate in extreme weight-loss behaviors, especially in female, which warranted attentions from educators and health professions and further researches in order to develop effective prevention programs.

Keywords: Mass media; Eating disorder; Body dissatisfaction; Weight-loss behavior.

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MEDIA INFLUENCE ON EATING AND DIETING HABITS OF ADOLESCENTS AND YOUNG ADULTS IN HONG KONG

1. INTRODUCTION

In recent years, an interesting phenomenon emerged in Hong Kong that wherever you go, you are constantly bombarded with revealing body images of celebrities greeting you from different directions: from billboards on virtually every inch of wall space in MTR stations; from posters lined on panels of bus and tram stops; from gigantic plasma displays at major traffic junctions; and TV screens in buses and trains. These revealing images posing in virtually impossible postures usually come with personal testimonies claiming that they had lost 15 pounds over two weeks; or losing 30 pounds over a month, from a hundred and twenty odd pounds to a mere ninety odd pounds. These kinds of unsolicited and sometimes unwelcomed images and information are virtually unavoidable. Imagery of half naked men and women in obscure, unnatural and even impossible postures seemed to be accepted as a fact of life although it may be seen as a nuisance to some. But do these body imageries, most of the time portraying unrealistic slimness for women and muscularity for men, have a deeper impact on us, on our own body satisfaction and our lifestyle?

At the same time, researches showed that eating disorder was on the rise in many developed countries including Hong Kong (Lee, 2000). According to Lee (2000), three to 10% of the women in Hong Kong had certain degree of eating disorder, which may be of concern. Are these phenomena related? Does unsolicited exposure to slimming and fitness advertisements have effects on eating and dieting behaviors of adolescents and young adults in Hong Kong?

A number of researches were performed on the effects of media influence on body shape dissatisfaction and eating disorder in the West (Grabe, Ward & Hyde, 2008; Hargreaves & Tiggemann, 2002; Holmstrom, 2003; Morry & Starska, 2001; Richins, 1991), but few studies of similar natures were performed in Hong Kong (Lee & Lee, 2000).

1.1. Literature Review

1.1.1. Media and body dissatisfaction

Media influence on body images had been a controversial topic for a number of years in the West; many blamed the media for promoting unrealistic slim body figures. A number of studies were performed in the West looking into the effect of media images on young people (Agliata & Tantleff-Dunn, 2004; Botta, 1999; Grabe, Ward & Hyde, 2008; Hargreaves & Tiggemann, 2002; Johnson, McCreary & Mills, 2007; Morry & Staska, 2001; Richins, 1991).

Richins (1991) performed several studies on female college students, subjecting them to advertisements with or without attractive models. Richins found that idealized body images in advertisements provided a higher standard in social comparison and therefore lower consumers' satisfaction of their own body-image.

Another study on the impact of media images on adolescent girls was performed by Botta (1999). Botta studied the relationship between exposures to "thin television drama", television dramas featuring thin characters, and body image disturbance. Botta based her study on social comparison theory and found that although media exposure and exposure to thin ideal materials were not significant predictors of body dissatisfaction, they did contribute to body image disturbance in adolescent girls when coupled with social comparison processes.

In 2008, Grabe, Ward and Hyde performed a meta-analysis of 77 studies on the effect of media depicting thin-ideal bodies on body image disturbance in women. Their analysis covered correlational and experimental studies with media types ranged from television commercials, television programs, thin-ideal television programs, and magazines to general media. They noted that although the effect size was small, media exposure was related to body image concerns and endorsement of disordered eating behaviors in women.

A number of studies had described body dissatisfaction among women as “normative” (Grabe et al., 2008; Rodin, Siberstin & Striegel-Moore, 1985 as cited in Tiggemann, 2006), while mixed findings were noted on similar researches performed on male. Agliata and Tantleff-Dunn (2004) performed similar studies as Richins (1991) with male subjects. Male participants were exposed to ideal male images or neutral images, and their moods and muscle dissatisfactions were measured. Their research noted that the group exposed to ideal male images were significantly more depressed and showed more muscle dissatisfaction with themselves. These results were very similar to the results of Richins’ findings (1991). On the other hand, Johnson, McCreary and Mills (2007) performed an experimental study and subjected male participants to objectified male images; objectified female images; or neutral images. Contrary to earlier findings by Agliata and Tantleff-Dunn (2004), they noted no significant effect on psychological well-being when participants were exposed to objectified male images as compared to the two control groups (Johnson et al., 2007).

Morry and Staska (2001) performed an experimental study on the correlations among magazine exposure to idealized body images; concern with appearance; body shape dissatisfaction and eating disorder symptomatology. They invited 150 college students of both genders and measured their exposures to a selected list of beauty

magazines for female, and fitness magazines for male participants. Morry and Staska then measured the self-objectivity, i.e. the degree of concern of appearance; the body shape dissatisfaction and eating disorder symptomatology, as well as measurements of certain possible mediating factors. Their results showed gender differences in psychological processes leading to body dissatisfaction and eating disorder symptomatology. Despite gender differences in psychological processes, they concluded that reading beauty and fitness magazines had effects on concern of appearance, eating disorder symptomatology and body shape dissatisfaction in both genders (Morry & Staska, 2001).

Hargreaves and Tiggemann (2002) studied the effects of media-portrayed appearances in television commercials on the immediate moods and body dissatisfactions on the participants. They noted that the viewing of attractiveness related television commercials had a direct impact on the negative mood, such as anger and body dissatisfaction (Hargreaves & Tiggemann, 2002).

1.1.2. Body dissatisfaction and eating disorder

Cooper, Taylor, Cooper and Fairburn (1986) noted that concern over body shape was widespread in female in the West and also noted that an extreme form of such concern could be a symptom of eating disorder.

Paxton et al. (1991) surveyed 341 female and 221 male high school students and measured their body dissatisfaction, weight-loss behaviors and beliefs. They noted that body dissatisfaction and weight-loss behaviors were closely related and that girls were significantly more dissatisfied with their bodies than boys.

Cohane and Pope (2001) wrote a literature review on body dissatisfaction on boys. They found that boys were generally less dissatisfied with their bodies than girls, but a high proportion were still dissatisfied with their body shapes. Cohane and

Pope (2001) noted, from the 17 studies they reviewed, that girls generally had a thinner ideal image, whereas for boys, some preferred a thinner ideal image, but some favored a larger body shape.

Lau, Lum, Chronister and Forrest (2006) performed a pilot study on body image of Asian American female college students. They hypothesized that level of acculturation to western values was positively correlated to body dissatisfaction because Asian American female with higher level of acculturation were likely to be actively exposed to American television programs and magazines, which passed on strong messages about the Western “standard of beauty”. They found that, contrary to their hypothesis, those with lower acculturation level, i.e. those who were identified more strongly with Asian cultures, were more dissatisfied with their bodies; their findings suggested that “thin-ideal” was also deep rooted in Asian cultures. They also hypothesized that those who reported higher media influence were more dissatisfied with their body. Their overall results supported that media influence was indeed a significant factor on body dissatisfaction (Lau et al., 2006).

1.1.3. Eating disorder

Patton, Selzer, Coffey, Carlin and Wolfe (1999) performed a cohort study over three years on teenagers in Australia on dieting and eating disorder. Patton et al. (1999) noted that the proportion of eating disorder in adolescent girls was nine times more than their male counterpart and that 8% of the teenage girls diet severely and 60% diet moderately. Patton et al. also found that it was 18 times more probable that those who diet severely to develop a eating disorder as compared to the non-diet group.

1.1.4. Extreme weight-loss behaviors

In their survey, Paxton et al. (1991) reported that 47.9% of the female and 26.0% of male subjects had used at least one extreme weight-loss method at least occasionally. Neumark-Sztainer, Wall, Story and Perry (2003), on the other hand, tried to identify correlates of unhealthy weight-loss behaviors in order to develop a program to prevent eating disorder in adolescents. They found that weight-body concern was strongly correlated with unhealthy weight-loss behaviors.

O'Dea, Abraham and Heard (1996) studied the food habit, weight control behaviors and body image of young adolescents of 11-14 years old in Australia. They found that female on average used 4.0 weight-loss methods as compared to 2.0 for male, but there were no difference between the mean numbers of extreme weight-loss methods. They noted that 16.2% of female and 6.9% of male participants used at least one extreme weight-loss method.

1.1.5. Theories

A number of studies had been performed on the media influence and certain theories emerged from studies on media influence of body image. A number of studies attributed the media influence of body image to sociocultural theory, and more specifically, social comparison theory (Botta, 1999; Clark & Tiggemann, 2008; Lavine & Cash, 2001; Richins, 1991).

Social comparison theory was originally proposed by Festinger in 1954 (Goethals, 1986). Festinger (as cited in Goethals, 1986) suggested that people had a natural urge to compare themselves with others and ideal models; and engage in self-evaluation when an objective criterion was not available. Applying social comparison theory to media influence on body dissatisfaction and eating disorder, when exposed to idealized body images of the same gender, people tended to compare themselves to

such ideal (Richins, 1991). When they could not match up with the ideal image, it would result in a state of dissonance, i.e. body dissatisfaction.

Stice, Schupak-Neuberg, Shaw and Stein (1994) further identified that media exposure as associated with the ideal body stereotype through social comparison, it was also associated with gender role endorsement, i.e. the endorsement of the stereotype of social roles of male and female. Stice et al. (1994) noted that gender role endorsement further enhance the internalization of ideal body stereotype and body dissatisfaction, which was related to eating disorder symptomatology.

Holmstrom (2003) performed a meta analysis of 34 empirical studies of media effect on body images for female. Holmstrom noted media had little or no effect on body dissatisfaction in female. Holmstrom argued that since the media was filled with ideal female images and became a common phenomenon, they could not evoke any social comparison responses in viewers since they had already been sensitized.

Murnen, Smolak, Mills and Good (2003) suggested that media objectified women and promote a slim, sexy ideal body shape. Objectification theory was first put forward by Fredrickson and Roberts (1997), they suggested that female were “acculturated to internalize an observer’s perspective as a primary view of their physical selves” in other words, female tend to evaluate themselves primarily by how other people might view them. Fredrick and Roberts (1997) further proposed that due to this continuous self-evaluation, it increased anxiety, shame and mental health risks in female. Although Fredrick and Roberts focused their theory on female, Murnen et al. (2003) suggested that media also objectified male in terms of muscularity, they found that boys were aware of the muscularity ideal for men.

On the entrenchment of “thin-ideal” culture, Dittmar, Halliwell and Ive (2006) suggested that such ideal emerged at a very young age when girls developed their

self-concepts. They looked at the effect of exposure to ultra-thin Barbie dolls on young girls. They suggested that during the development of their self-concept, Barbie dolls became role models for young girls. Ultra thin Barbie dolls became the object for their social comparison and gradually, the “thin-ideal” internalized and was accepted as an important feature of attractiveness.

1.1.6. Local studies

Lee and Lee (2000) compared the concern over body shape in high school girls in three Chinese sites, including Hong Kong. They found that although the average Body Mass Index (“BMI”) of the subjects in the three Chinese sites was towards the lower end of the normal range recommended by the World Health Organization (“WHO”, 2004), subjects still desired an even lower BMI. Lee and Lee (2000) suggested that slimness had become a “collective phenomenon” among Chinese women. In their studies, Lee and Lee also highlighted the upward trends in eating disorder in these sites and predicted that the rapid modernization in Asian countries, fat concern, dieting and eating disorder would increase, posing a challenge for the governments and health care providers in these countries.

Tam, Ng, Yu and Young (2007) surveyed 2,382 secondary school adolescents in three schools in Hong Kong. They noted a high degree of body dissatisfaction among adolescents and up to 3.9% adolescent boys and 6.5% adolescent girls showed a significant degree of eating disorder (EAT score ≥ 20) with the youngest case only 11 years of age. Tam et al. (2007) also noted that there was a positive correlation between exposure to media, such as entertainments, beauty and youth magazines, and disordered eating behaviors.

1.2. Research Problem

This study investigated whether unsolicited exposure to slimming and fitness advertisements featuring unrealistic body images had any effect on body dissatisfaction; eating and weight-loss behaviors of adolescents and young adults in Hong Kong. A number of studies on the effect of media exposure on body dissatisfaction and eating disorder had been performed in the West (Agliata & Tantleff-Dunn, 2004; Botta, 1999; Grabe et al., 2008; Hargreaves & Tiggemann, 2002; Morry & Staska, 2001; Richins, 1991), however, little information is available on the current situation in Hong Kong (Lee, 2000; Lee & Lee, 2000; Tam et al., 2007). This research aimed to bridge this gap and obtained local data in order to reveal the local situation in Hong Kong.

This study also investigated the gender differences and the relations between body dissatisfaction and extreme weight-loss behaviors.

1.3. Hypotheses

This study hypothesized that exposure to unsolicited weight-loss and fitness advertisements (“media exposure”, ME) does affect body dissatisfaction, eating and dieting behaviors among adolescents and young adults in Hong Kong.

1.3.1. H1: ME is associated with BSQ; EAT; and WLB

It was hypothesized that the higher the exposure to weight-loss and fitness advertisements in the daily life of participants, the higher the body dissatisfaction; the higher the score for eating disorder symptomatology and the higher the score for weight-loss behavior in both genders.

1.3.2. H2: BSQ scores for female >BSQ scores for male

It was also hypothesized that female were generally more dissatisfied with their body shape compared to their male counterparts (Paxton et al., 1991).

1.3.3. *H3: BSQ of the extreme weight-loss group is higher than the non-extreme weight-loss group*

To support findings of Neumark-Sztainer et al. (2003) that weight-body concern was strongly correlated with unhealthy weight-loss behaviors, it was hypothesized that the group that used extreme weight-loss methods had higher BSQ scores than the non-extreme weight-loss group.

2. METHODS

2.1. Design

The main objective of this study was to investigate the relationships among four continuous variables; the independent variable - the media exposure scores ("ME"); and the dependent variables - eating disorder symptomatology, body dissatisfaction and weight-loss behavior. The research design was a correlational design utilizing survey methodology. A questionnaire was prepared incorporating a total of 85 items; including a media exposure section, with 16 self-developed items ("ME") measuring the frequency of exposure to slimming and fitness advertisements and the source of such exposure; 26 items measuring eating attitude based on the Eating Attitude Test (EAT; Garner, Olmsted, Bohr & Garfinkel, 1982); 8 items measuring body dissatisfaction based on a short form of the Body Shape Questionnaire scale (BSQ; Cooper et al., 1986; Evans & Dolan, 1993); 21 questions on weight-loss behavior (WLB; O'Dea et al., 1996) as well as 7 items on important criteria for selection of weight-loss methods and 7 items on demographic and general information such as age, gender, height and weight of participants. None of the information collected could reveal the identity of the participant and no other personal information were collected.

The questionnaire was in English with Chinese translations directly underneath each question (Appendix). Statistical tests were performed to evaluate the correlations among the variables.

2.2. Participants

Senior secondary school and undergraduate students, mainly from five secondary schools (one girl school, one boy school and three co-education schools) and three universities in Hong Kong were invited to complete a questionnaire survey. A total of 876 students, aged between 15 to 26, responded to the questionnaire (410 female, 46.80% $M=17.21$, $SD=2.82$; 466 male, 53.20%, $M=16.70$, $SD=2.28$). The difference in mean BMI between two genders was small but significant (0.47 kg/m^2 , $t_{(802)}=1.88$, $p=.006$).

2.3. Instruments

2.3.1. Media exposure (“ME”)

A self-developed list of questions required participants to record the frequency of exposure to eight current slimming and fitness advertisements in the past one-month. These advertisements were selected based on their usage of celebrities, such as famous singers and international movie stars, as spokespersons; the high profile of their advertisement displays in public transports and other parts of the city; their usage of revealing and idealized body images; and in some cases, slogans such as “(losing) 10-15 pounds and 20-30 inches within a month”. These kinds of advertisements tended to attract more attentions and were more memorable to viewers. Among the eight advertisements, five of them were on slimming, targeting female viewers. The remaining three were fitness advertisements mainly targeting male viewers. Efforts were made to produce a more gender-balanced list, but there were few slimming or fitness advertisements that target male viewers.

Participants were requested to return the frequency of exposure, in the past one month, to each advertisement on a 6-points scale (6=Everyday; 5=Several times a week; 4=At least once a week; 3=Several times a month; 2=Once or twice a month; 1=Never). An extra item, “Other slimming/fitness advertisements” was added to capture any such advertisements not included in the short list.

A list of six possible sources of advertisements, namely, television, MTR stations, advertisement screen on buses, billboards, posters, newspaper and magazines, were also presented to participants to indicate the frequency of exposure to slimming/fitness advertisements they encountered through those sources on the same 6-points scale (6=Everyday; 5=Several times a week; 4=At least once a week; 3=Several times a month; 2=Once or twice a month; 1=Never). An extra item, “Others”, was included to capture any media not on the list.

The ME score was computed by adding the frequency scores of exposure to individual advertisements and the frequency scores by sources of exposure. The possible range of ME score was 16 to 96.

2.3.2. Eating disorder symptomatology

Eating disorder symptomatology was measured using the EAT-26 questionnaire. The Eating Attitude Test, a 40-items test, was originally developed by Garner and Garfinkel (1979) to measure symptoms in anorexia nervosa. An abbreviated version of 26 items (EAT) was later proposed and was tested to be valid and reliable (Garner et al., 1982). The EAT was a self-reported test requiring subjects to return answers in a 6-points forced choice scale (1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Usually, and 6=Always) which was easy to administer and score. A maximum score of three and a minimum of zero could be awarded to each question resulting in a range of EAT scores from 0 to 78. The EAT questionnaire was

developed as an eating disorder screening tool, individuals who scored ≥ 20 in the EAT questionnaire should be interviewed by a qualified professional.

2.3.3. Body shape dissatisfaction

Body shape dissatisfaction of participants was measured using a short form of the Body Shape Questionnaire. The original Body Shape Questionnaire had 34 items and was developed by Cooper et al. (1986) to measure the concerns of body shape in women. Evans and Dolan (1993) later developed 4 different short forms of 8 items each (BSQ) from the original Body Shape Questionnaire. Evans and Dolan (1993) noted that the four short forms had Cronbach alphas from .88 to .94 among each other and concluded that they were reliable measures of body shape dissatisfaction. Short form BSQ-8C was used for this study. Like the EAT scale, participants were requested to return answers in a 6-points forced choice scale (1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Usually, and 6=Always). The higher the score in BSQ, the higher the level of body shape dissatisfaction. BSQ scores were calculated by adding the answers returned for the eight items, resulting in a possible range of scores from six to 48.

2.3.4. Weight-loss behaviors

In their study of food habits, body image and weight control of young male and female adolescents, O'Dea et al. (1996) developed a survey on weight-loss behaviors ("WLB"). Their survey consisted of 21 behavioral statements, participants were requested to return the frequency of that particular behavior on a 5-points force choice scale (1=Never, 2=Rarely, 3=Sometimes, 4=Usually, and 5=Always). The higher the score, the more frequent the individual participate in weight-loss behaviors. WLB scores were computed by simply adding the number returned for each question, giving a range of scores from 21 to 105.

In their list of weight-loss behaviors, O'Dea et al. defined several extreme weight-loss behaviors, which included starvation; usage of laxatives or dieting pills; smoking; and self induced or attempt to vomit. Participants who returned an answer other than 1 for any one of the following items - "Use natural laxatives"; "Use chemical laxatives"; "Fast or starve yourself"; "Try to vomit"; "Vomit"; "Smoke cigarettes"; and "Slimming/diet pills", i.e. those who had used at least one extreme weight-loss behavior, were classified into the extreme weight-loss group. The rest were classified into the non-extreme weight-loss group.

2.4. Procedures

Participants were invited to complete an 85 items questionnaire (See Appendix), which took, on average, 10-15 minutes to complete. BMI; ME; BSQ; and WLB scores were measured and computed. Data collected were analyzed using the Statistical Package for the Social Sciences, ("SPSS"), to investigate the relationships among the variables tested. Individuals with ME of one standard deviation over the mean ME were classified as "High ME"; those with ME of one standard deviation below the mean ME were classified as "Low ME"; and the remaining with ME scores within one standard deviation either sides of the mean were classified as "Normal ME". Analyses of Variance (ANOVA) were performed to investigated the association of the independent variable - media exposure (ME) with the dependent variables - body dissatisfaction (BSQ); eating disorder symptomatology (EAT); and weight-loss behavior (WLB) to test the first hypothesis. Pearson correlations among ME, BSQ, EAT and WLB were also computed and analyzed.

Independent sample *t*-test was performed on BSQ to investigate the gender differences and to test the second hypothesis.

To test the third hypothesis, independent sample *t*-test was performed to find out whether there was any difference in the mean BSQ of the extreme weight-loss and non-extreme weight-loss groups.

3. RESULTS

A total of 876, aged between 15 to 26, responded to the questionnaire (410 female, 46.80% $M=17.21$, $SD=2.82$; 466 male, 53.20%, $M=16.70$, $SD=2.28$). Mean BMI for male was slightly higher than female (0.47 kg/m^2 , $t_{(802)}=1.88$, $p=.006$).

Table 1.

Descriptive Statistics of BMI, ME, BSQ, EAT and WLB

	<i>N</i>	<i>M</i>	<i>S.D.</i>	Min.	Max.
Age	876	16.94	2.56	15	26
BMI	804	20.30	3.09	12.35	36.29
ME	875	47.97	14.18	16	96
BSQ	876	20.66	9.16	8	48
EAT	876	6.59	6.92	0	75
WLB	875	33.26	9.81	21	105

3.1. Media influence

The ME scores had a mean of 47.97 ($n=875$, $SD=14.18$, see Table 1). The “High ME” scores i.e. one standard deviation above the mean, was $ME \geq 62$ and the “Low ME”, i.e. one standard deviation under mean, was $ME \leq 34$; the “Normal ME” score range was therefore $34 < ME < 62$.

Table 2

Independent Sample t-test on ME between the two Genders

		<i>N</i>	<i>M</i>	<i>SD</i>	<i>d.f</i>	<i>t</i>	Sig.
ME	Male	465	47.30	15.39	873	1.49	p=.138
	Female	410	48.72	12.6			

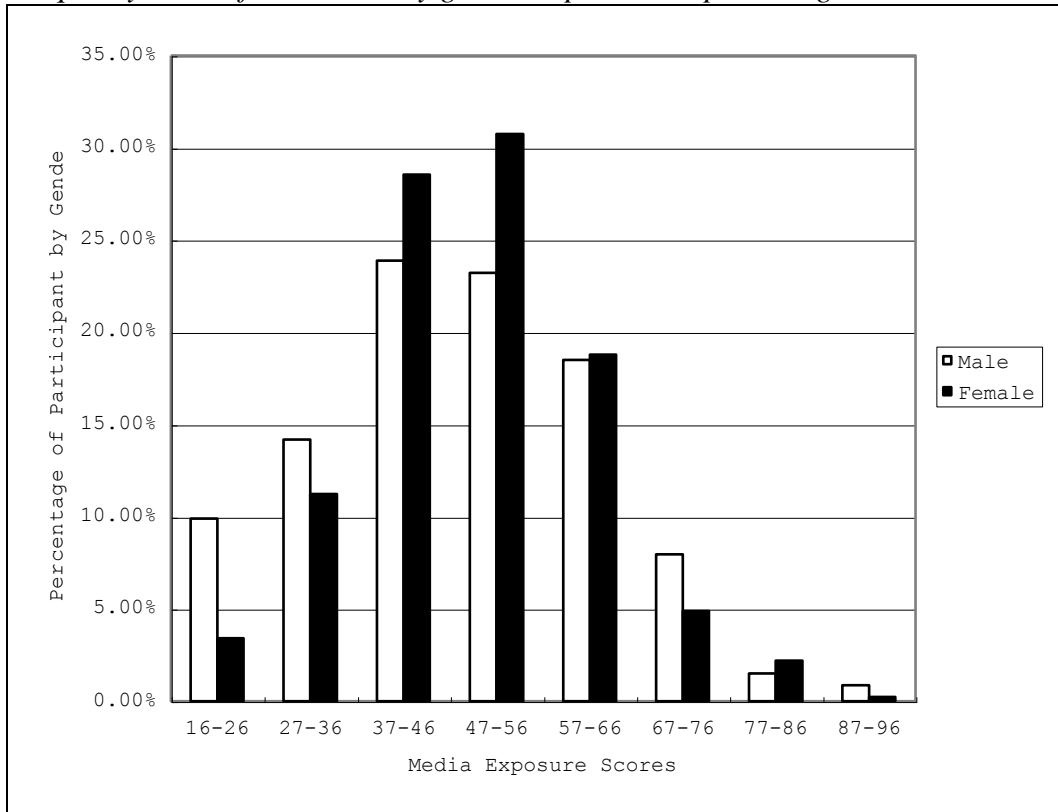
Although the difference between the mean ME scores of the two genders was not significant ($t_{(873)}=1.49$, $p=.138$, see Table 2), on closer examination of the

frequency chart of ME scores (see Figure 1), it was noted that the ME scores for male participants were skewed towards the lower end as compared to the female group.

This may be due to the fact that there were more fitness and slimming advertisements targeting female viewers.

Figure 1

Frequency chart of ME scores by gender expressed in percentage



3.1.1. Relations between ME, BSQ, EAT and WLB

ANOVA were conducted to explore the impact of ME on scores of BSQ, EAT and WLB by gender.

Table 3

ANOVA Results on Effects of ME on BSQ, EAT and WLB

	d.f.	Sum of Square	Mean Square	F	Effect Size
BSQ	2	3,542.64	1,771.32	26.57**	.06
EAT	2	1,280.28	640.14	14.04**	.03
WLB	2	1,965.80	982.90	10.63**	.02

** $p < 0.01$

It was found that the effects of ME on all three dependent variables, namely BSQ, EAT and WLB were significant at $\alpha=.01$. The effect size of ME on BSQ was moderate ($\eta^2=.06$, see Table 3) and effect sizes of ME on EAT and WLB were small ($\eta^2=.03$ and $.02$ respectively, see Table 3). Graphs of mean scores of dependent variables, BSQ, EAT and WLB, against ME group were plotted (see Figure 2, 3 & 4 respectively). It was noted that the higher the media exposure, the higher the BSQ and WLB scores. For EAT, mean difference between the “Low ME” and “Normal ME” groups were not significant, but the mean EAT score was significantly higher for the “High ME” group.

Table 4
Descriptive Statistics of BSQ, EAT and WLB by ME Groups and by Gender

	Low ME (n = 150)	Normal ME (n = 582)	High ME (n = 143)
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
BSQ			
Male	15.30 (7.72)	17.21 (7.89)	19.66 (8.69)
Female	19.94 (8.47)	24.19 (8.12)	29.90 (9.31)
EAT			
Male	6.11(6.53)	5.32 (5.59)	7.11 (5.82)
Female	6.27 (5.77)	6.78 (7.08)	11.67 (1.05)
WLB			
Male	30.41(8.62)	32.06 (9.11)	34.25 (11.49)
Female	31.80 (9.79)	34.19 (9.17)	38.48 (12.37)

Figure 2
Graph to show the effect of ME on mean BSQ scores by gender

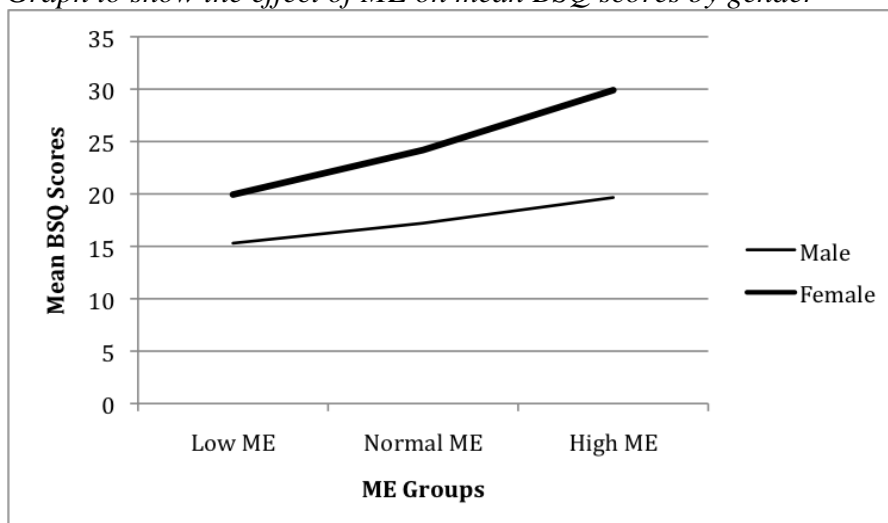


Figure 3

Graph to show the effect of ME on mean EAT scores by gender

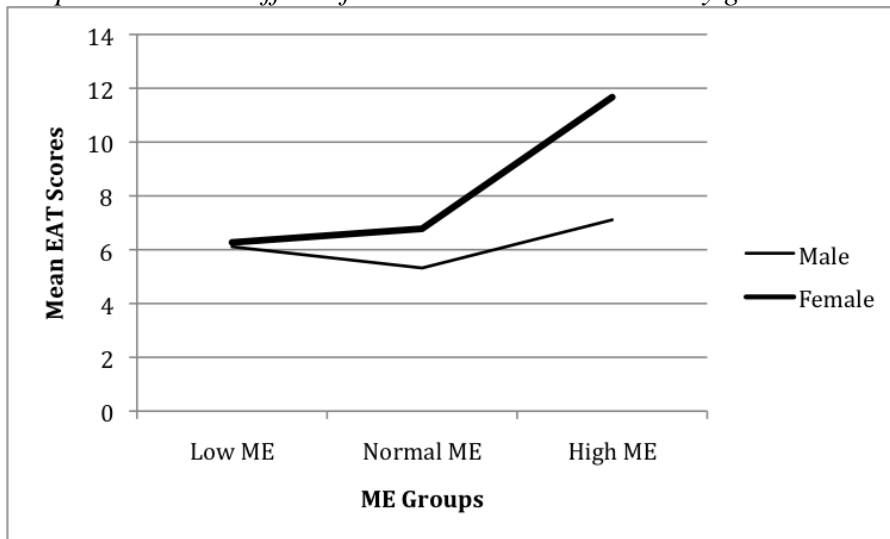
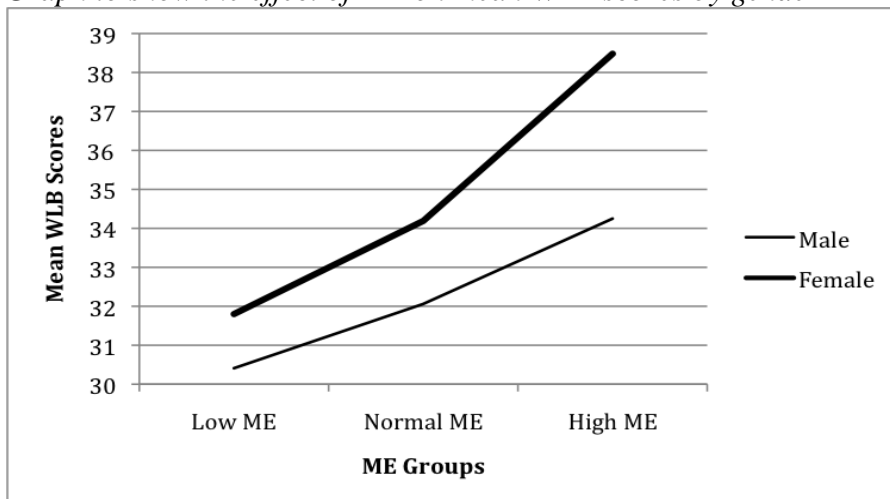


Figure 4

Graph to show the effect of ME on mean WLB scores by gender



Data were further analyzed, using Pearson correlations, among ME, BSQ, EAT and WLB scores. It was noted that ME was moderately correlated with BSQ and weakly correlated with EAT and WLB ($r=.270$; $r=.166$; $r=.167$ respectively, $p<.01$ in all cases, see Table 5).

Both the ANOVA results and the correlations results supported the first hypothesis that media exposure effected BSQ, EAT and WLB.

Table 5
Pearson Correlations (r) among ME, BSQ, EAT and WLB

	BSQ	EAT	WLB
ME	.270** n = 874	.166** n = 874	.167** N = 873
BSQ		.499** n = 876	.472** n = 875
EAT			.485** N = 875

** $p < .01$

3.1.2. Inter-correlations among BSQ, EAT and WLB

The inter-correlation among BSQ, EAT and WLB were significant at $\alpha = .01$ and were fairly strong (BSQ-EAT, $r = .499$; BSQ-WLB, $r = .472$; EAT-WLB, $r = .485$, $p < .01$ in all cases, see Table 5).

3.2. Gender differences in body dissatisfaction

When comparing gender differences, it was noted that female have significantly higher mean scores for all three variables - BSQ ($t_{(874)} = 12.72$, $p < .001$, see Table 6), EAT ($t_{(874)} = 3.42$, $p = .001$, see Table 6) and WLB scores ($t_{(873)} = 3.63$, $p < .001$, see Table 6).

Table 6
Independent Sample t-test on BSQ, EAT and WLB between the two Genders

		N	M	SD	d.f.	t	Sig.
BSQ	Male	466	17.27	8.13	874	12.72	$p < .001$
	Female	410	24.52	8.73			
EAT	Male	466	5.84	5.91	874	3.42	$p = .001$
	Female	410	7.44	7.84			
WLB	Male	466	32.14	9.59	873	3.63	$p < .001$
	Female	409	34.54	9.91			

These supported the second hypothesis of this study that female were significantly more dissatisfied with their body shape than male. These results also support findings from previous studies (Cohane & Pope, 2001; Paxton et al., 1991)

3.3. Eating disorder symptomatology

This study found that 43 (4.91%; 27 female, 6.59%; 16 male, 3.43%) participants reported an EAT score of ≥ 20 which, according to Garner et al. (1982), is a strong indicator of potential eating disorder and require further professional assessments. As mentioned before, gender differences were significant at $\alpha=.01$ ($t_{(874)}=3.42, p=.001$, see Table 7).

Table 7
Independent Sample t-test on EAT between the two Genders

		<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>t</i>	Sig.
ME	Male	466	5.91	5.91	874	3.42	p=.001
	Female	410	7.44	7.84			

3.4. Extreme weight-loss behaviors

421 (48.11%, 237 female, 57.95%; 184 male, 39.48%) participants had engaged in at least one extreme weight-loss behavior and 305 (34.86%) had used some kind of laxative or diet pills; 224 (25.60%) tried to fast and starved themselves; 162 (18.51%) had vomited or attempted to vomit; and 74 (8.46%,) used smoking as means to lose weight (See Table 8). There were significantly more female engaged in extreme weight-loss behaviors than male ($t_{(873)}=3.79, p<.001$).

Table 8
Count and Percentage of Extreme Weight-Loss Behaviors by Gender

	Male		Female	
	Count	%	Count	%
Laxative and/or diet pills	125	26.82%	180	44.01%
Fast/ Starve	87	18.67%	137	33.60%
Vomit or try to vomit	91	19.53%	71	17.36%
Smoke	45	9.66%	29	7.09%

It was found that those who used extreme weight-loss methods were significantly more dissatisfied with their body shape ($t_{(873)}=10.34, p<.001$) and have

higher EAT scores ($t_{(873)}=6.61, p<.001$) which supported the third hypothesis that the extreme weight-loss group had higher BSQ scores than the non-extreme group.

3.5. Body Shape Perception and Ideal BMI

The body shape perceptions of participants were compared to their actual BMI. The WHO recommended BMI cut-off points for Asian (WHO, 2004) were used to classify the participants into underweight (BMI<18.5); normal range (18.5≤BMI<23); and overweight (BMI≥23).

41.33% of female and 23.51% of male over estimate their body shapes and considered themselves normal in weight or overweight when their were in fact underweight or normal in weight respectively. Only 1.60% of female and 9.76% of male understated their body shape and consider themselves underweight or normal in weight when they were normal in weight or overweight (see Table 9).

Table 9
Count of Perceived Shape vs. Actual BMI

Gender	Perceived shape	Actual BMI Class		
		Underweight BMI<18.5	Normal 18.5≤BMI<23	Overweight BMI≥23
Male	Underweight	57 (46.34%)	24 (11.43%) [^]	--
	Normal	62 (50.41%) [#]	153 (72.86%)	17 (22.37%) ^{&}
	Overweight	4 (3.25%) [#]	33 (15.71%) [@]	59 (87.63%)
Female	Underweight	32 (28.07%)	1 (0.47%) [^]	--
	Normal	78 (68.42%) [#]	138 (65.09%)	5 (10.42%) ^{&}
	Overweight	4 (3.51%) [#]	73 (34.43%) [@]	43 (89.58%)

Underweight BMI but considered themselves normal in weight or overweight

@ Normal BMI but considered themselves overweight

[^] Normal BMI but considered themselves underweight

& Overweight BMI but considered themselves as normal in weight or underweight

Table 10
Count and Percentage of Body Shape Estimation by Gender

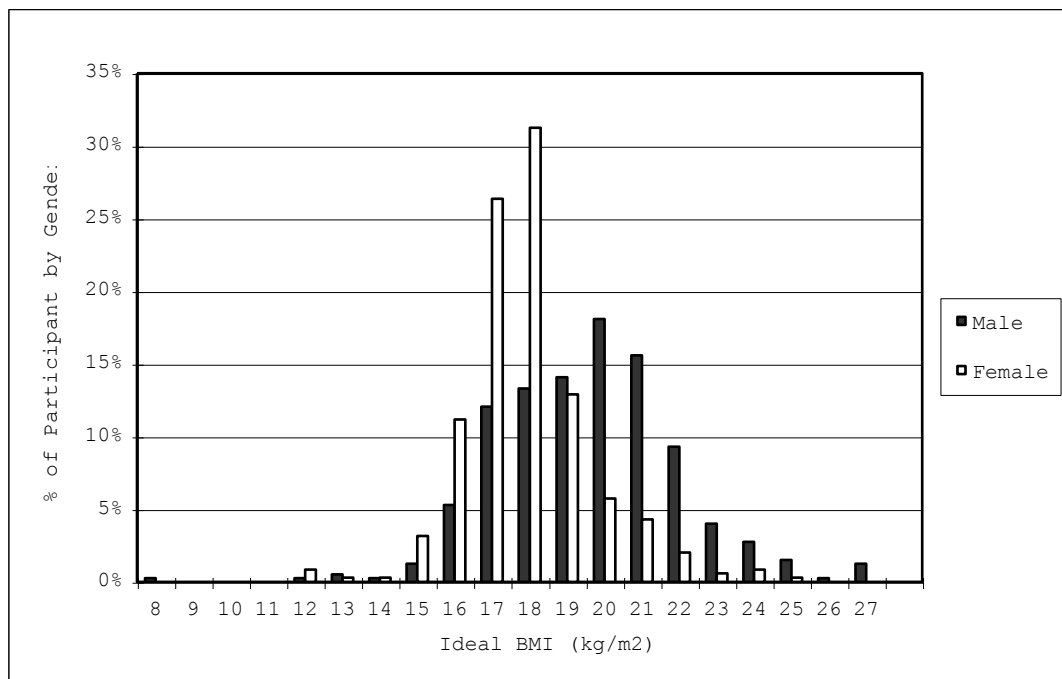
	Over-estimate	Correct estimation	Under-estimate
Male	99 (23.51%)	269 (66.73%)	41 (9.76%)
Female	155 (41.33%)	213 (57.07%)	6 (1.60%)

Ideal BMI of participants were calculated based on their actual weight adjusted with their ideal weight-gain or weight-loss. It was noted that the ideal BMI for female participants was 18.40 ($n=349$, $SD=1.71$) and 20.06 for male ($n=397$, $SD=2.52$) (See Table 11). The mean ideal BMI for female was found to be below the normal BMI range ($18.5 \leq \text{BMI} < 23$) recommended by WHO (2004).

Table 11
Mean Actual BMI vs. Mean Ideal BMI by Gender

Gender	Mean Actual BMI	Mean Ideal BMI
Male	20.49 $n=425$	20.06 $n=397$
Female	20.05 $n=379$	18.40 $n=349$

Figure 5
Frequency chart of ideal BMI by gender expressed in percentage



4. DISCUSSION

The results of this study supported that exposure to unsolicited slimming and fitness advertisements was associated with body dissatisfaction, eating disorder symptomatology and weight-loss behaviors for both genders, consistent with similar

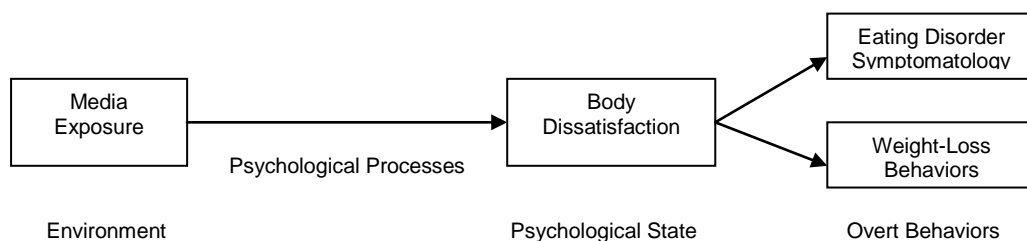
researches performed in the West (Agliata & Tantleff-Dunn, 2004; Botta, 1999; Cohane & Pope, 2001; Grabe, et al., 2008; Hargreaves & Tiggemann, 2002; Morry & Staska, 2001; Richins, 1991).

4.1. Media exposure

ME was positively associated with BSQ, EAT and WLB although the effect sizes were moderate to small. It was noted that the association between ME and BSQ was stronger than the association with the two remaining dependent variables, EAT and WLB. It was also noted that the inter-correlations among the three dependent variables were strong. These results suggested that media exposure to idealized body images trigger certain psychological processes, which contributed to the psychological state of body dissatisfaction, which in turn affect the overt behaviors – eating disorder symptomatology and weight-loss behaviors (See Figure 6).

Figure 6

Diagram to show the relationships among environment, psychological processes, psychological state and overt behaviors



In the introduction section of her book, Perse (2001) questioned why the effect sizes of researches on media influence were not as strong as expected. Perse (2001) attributed the small effects reported by researches to limitations on research designs; assumption of linearity in many designs; conflicting processing in the media and the information selection processes employed by recipients. This helped to explain the moderate to low effect size of media exposure on the dependent variables.

Although the direct effect of media influence may not be very strong, mass media do contribute to a lot of social changes in many societies. Becker (2004)

interviewed a number of Fijian schoolgirls three years after the introduction of television to their communities. Becker (2004) noted that media imageries significantly impacted the body shape perception of young schoolgirls in Fiji and since the introduction of American television programs, eating disorder was on a rise in Fiji. This demonstrated the spreading of Western values, standards and lifestyles through media¹.

A number of researches suggested that the media objectified female and male bodies (Fredrickson & Roberts, 1997; Murnen et al., 2003). Such objectified body shapes promoted “thin-ideal” in women and muscularity in men. People compared themselves to the objectified bodies through social comparison (Botta, 1999; Clark & Tiggemann, 2008; Lavine & Cash, 2001; Richins, 1991) and became discontent with their own body shapes, resulting in eating disorders and/or extreme weight-loss/body-building behaviors. This implied that mass media is driving the trend and creating “cultures”. It is submitted that, to get to the root problem of objectification of unrealistic body shapes, the mass media should promote healthier body images and lifestyles, in order to strike a balance between exercising their social responsibilities in the interest of the public and their freedom of expression.

¹ On a broader perspective, media not only affect people’s perception of ideal body shape, it may be affecting our core values and behaviors. A number of studies were performed on effects of media violence on aggression in children and adults (Huesmann, Moise-Titus, Podolski, & Eron, 2003; Josephson, 1987) it was noted that children exposure to violence television program predict later aggressive behaviors.

4.2. Gender differences

It is evident from the results of this study that there were gender differences in all three dependent variables, although difference in mean media exposure between the two gender was not significant.

Murnen et al. (2003) suggested that objectification theory applied to male as well as female but they also acknowledged there were gender differences in the degree of body dissatisfaction. They noted that although boys were aware of the muscularity ideal for men, their exposure to such objectified image of male were much less while objectified images of female were more widespread.

Other studies attributed the gender differences to different psychological processes involved. Agliata and Tantleff-Dunn (2004) suggested that male do not internalize and react to social pressure on appearance as female; Morry and Staska, (2001) also found that the psychological processes employed by the two genders were different.

In order to be able to develop effective prevention programs against eating disorder and extreme weight-loss behaviors, attentions should be paid on the differences in psychological processes involved in the two genders. Development of separate prevention programs may be necessary to address different needs for each gender.

4.3. Eating disorder symptomatology

It was note that 31 (4.67%; 18 female, 6.38%; 13 male, 4.13%) participants reported an EAT score of ≥ 20 which is a strong indicator of potential eating disorder (Garner et al., 1982). These results were comparable to the results of Tam et al. (2007) from a younger sample aged between 10 to 21 years old. They reported that 3.9% adolescent boys and 6.5% adolescent girls had EAT scores ≥ 20 .

Lee, Kwok, Liao and Leung (2002) validated the EAT scale using eating disorder patients in Hong Kong and found that EAT underestimate anorexia nervosa cases in community survey. They noted that the mean EAT score for anorexia nervosa patients was 18.4 which was lower than the conventional cut-off point of 20. If a cut-off point of 18 was used, 44 (6.64%; 23 female, 7.44%; 21 male, 5.93%) participants had high degree of eating disorder symptomatology that require professional follow-up.

These results suggested that eating disorder in Hong Kong was on a rise. In Australia, eating disorder was among the top 10 causes of disabilities in young female (Mathers, Vos, Stevenson, & Begg, 2000, as cited in Striegel-Moore & Bulik, 2007) and anorexia nervosa had the highest mortality rate in several Western countries (Striegel-Moore & Bulik, 2007). This rapid rise in eating disorder in Hong Kong may have deeper implications to the society and poised a risk to the local healthcare system. It is submitted that health authority and schools should be vigilant in developing effective prevention programs against eating disorder and promoting healthy body image in the society.

4.4. Body shape perception and ideal BMI

Most participants perceived themselves to be larger than they really were, over 41.33% of female and 23.51% male described themselves as normal or overweight when they were in fact underweight or normal in weight respectively. This phenomenon was more severe in female participants.

This study found that the mean ideal BMI for female participants was lower than the normal BMI range recommended by WHO (2004); over half (56.45%) of female and 26.95% male participants desired a BMI of <18.5; 15.76% female and 7.81% male participants even desired a BMI of <17. BMI <17 was described by

WHO as “moderate” to “severe underweight” and were considered to have increased health risk. These results supported that the “thin-ideal” culture was deep-rooted in Hong Kong and also suggested that this “thin-ideal” may not be limited to the female population, but may affect part of the male population too.

Such body shape perception and low ideal BMI of female participants reflected that the “thin-ideal” for female was not merely a Western beauty standard. Consistent with Lau, Lum, Chronister and Forrest (2006) findings, certain Asian cultures, such as Hong Kong, also subscribed to such beauty standard. This “thin-ideal” body shape for female may have deeper and more significant implications to their general health if their desired BMI were attained. Flegal, Graubard, Williamson and Gail (2005) studied the increased risk of mortality in relations to underweight ($BMI < 18.5$), overweight ($25 \leq BMI < 30$) and obesity ($BMI \geq 30$) relative to normal weight range ($18.5 \leq BMI < 25$). They eliminated other confounding factors and noted that the mortality rate was significantly higher for the underweight group and the obese group. They did not find any difference in the mortality rate of the overweight group as compared with the normal group. The Department of Health of Hong Kong also advised in the website of their Central Health Education Unit (“CHEU”) that it was important to maintain a normal body weight and that underweight could compromise immunity, lead to osteoporosis and malnutrition (CHEU, 2005).

The mean ideal BMI for male was very close to their mean actual BMI (20.06 kg/m^2 and 20.49 kg/m^2 respectively, see Table 10), this does not necessarily suggest that male were contented with their body shape. 295 (64.41%) male participants desired to change their body weight, 26.64% of them desired to gain weight, whereas 37.77% would like to lose weight (See Table 12). These results were consistent with findings by Cohane and Pope (2001) that some male participants

avored slimmer body shapes and others favor larger body shapes. Cohane and Pope (2001) further noted that male did not desire a body fatter than themselves, but a more muscular body. However, the current BMI measure did not differentiate between fatness and muscularity.

Table 12
Count of Desired Weight Change by Gender

	Male		Female	
	<u>Count</u>	<u>Percentage</u>	<u>Count</u>	<u>Percentage</u>
Gain Weight	122	26.64%	20	4.91%
Lose Weight	173	37.77%	306	75.18%
No Change	163	35.59%	81	19.91%

The desired weight change for female was more one sided, over three quarter of the female participants desired to lose weight, 173 (42.51%) of them perceived their existing body shape to be normal or underweight but still desired to lose weight. This support earlier studies that described body dissatisfaction in female as “normative discontent” (Grabe et al., 2008; Rodin, Siberstin & Striegel-Moore, 1985 as cited in Tiggemann, 2006). The proportion of body weight discontent reported in this study was far higher than the results from a similar survey performed in Hong Kong with younger subjects (Tam et al., 2007). Tam el al. (2007) reported that up to a quarter of boys and a half of girls were discontented with their weight. This suggested that adolescents were getting more discontented with their body weight as they enter early adulthood.

4.5. Extreme weight-loss behaviors

It was noted in this survey that 57.95% of female and 39.48% of male participants engaged in at least one extreme weight-loss behavior in the past. It was by far higher than similar researches performed in Australia (16.2% of female and 6.9% of male reported by O’Dea et al., 1996; 47.9% of female and 26.0% of male

reported by Paxton et al., 1991). This was a significant finding in the current study, which suggested that adolescents and young adults in Hong Kong were willing to take extreme measures to attain their ideal body shape, even to the extent that it might compromise health. Coupled with earlier findings that eating disorder in Hong Kong was on a rise and the objectification of unrealistic ideal body shapes of female, health implications relating to extreme weight-loss behaviors and eating disorder is becoming a significant health concern for Hong Kong (cf. Neumark-Sztainer, Story, Dixon & Murray, 1998²). It is submitted that the “thin-ideal” culture seemed to be getting more and more entrenched with aids from the media technology. Not only local prevention programs and better health education are needed to make our youth more resilient to outside influence, efforts from the international fashion industry, corporate and governments should also play key roles in promoting and nurturing a wider culture of healthy body shape.

4.6. Limitations

Although the results have been presented to support the hypotheses that exposure to unsolicited slimming and fitness advertisement was associated with body dissatisfaction; eating disorder symptomatology; and weight-loss behavior, it could also be interpreted that individuals who were dissatisfied with their body; with eating problems and engaged in weight-loss behaviors were more aware of such advertisements.

² Neumark-Sztainer, Story, Dixon & Murray (1998) concluded in their research that adolescents engaged in extreme weight-loss behaviors were more likely to engage in other health compromising behaviors, such as smoking; substance use; suicide ideation/attempts and participation in unsafe sex. In the midst of drug abuse scandals at schools and teenage pregnancies, the results of this study highlighted an important area requiring attentions from health professionals and educators.

This study only concentrated on unsolicited exposures to slimming and fitness advertisements and ignored other types of media influence, such as thin-ideal television programs and movies; youth and fashion magazines etc. This study also only measured the frequency of exposure to a small selected set of specific advertisements, a wider range of other slimming, beauty and fitness advertisements were omitted. Participants may be exposed to other media influences that were not measured. Other factors, such as self-esteem, peer influences, and family influences were not considered in this study.

This study aimed to investigate the relationships between current phenomena in society and did not look in detail at the related psychological processes and theories. Results of this study provided a reference point for further researches in this area.

4.7. Further research

The current study bridged the gap of studies performed in the West on media influence, body dissatisfaction, eating and weight-loss behaviors and revealed the current local situations in Hong Kong.

This study revealed a high degree of body shape dissatisfaction and the high participation rate in extreme weight-loss behaviors among adolescents and young adults in Hong Kong, especially for female, which warranted attention from educators and health professions. Although media influence was found to be a contributing factor, further studies should be performed to identify other collaborating factors, such as self-esteem and personality profile as well as the effect of media influence, in order to develop effective prevention programs against eating disorder and extreme weight-loss behaviors. This study also demonstrated that the “thin-ideal” phenomenon was deep rooted in Hong Kong society. Further studies should also be performed to identify the psychological processes involved in the different types of

media influences and how media could be effectively utilized as means to promote healthier body image.

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APPENDIX

Media influence on the eating and dieting behaviors of adolescence and young adults in Hong Kong

傳播媒介對香港年輕人的進食和節食行為的影響 問卷調查

Description of the project and procedures 研究描述及過程:

You are invited to take part in a questionnaire survey about media influence on the eating and dieting behaviors of adolescence and young adults in Hong Kong. If you agree to take part in this study, please complete the attached questionnaire. The questionnaire will take, on average, 10-12 minutes to complete.

誠意邀請您參與此項有關傳播媒介對香港年輕人的進食和節食行為的影響之問卷調查。如果您同意參與這項研究，請完成以下的問卷。完成這問卷平均需時約 10-12 分鐘。

Confidentiality 資料保密:

This study is purely for academic interests and the information you provide will be kept strictly confidential. Data collected will be used for statistical purposes only and information about the individual respondent's identity will not be collected.

此項調查純粹為學術研究，所得資料將嚴加保密。收集的數據只使用作整體統計，並不會收集參與者個人身份的資料。

Questions 查詢:

If you have any questions about this research project, please call Jennifer Wong at or email at

如果您對此項研究有任何問題，請聯絡 Jennifer Wong 電話
或發電子郵件

Please initial box
請簡簽以下格子

1. I confirm that I have read and understand the information for the above study and have had the opportunity to ask questions.
我證實我已閱讀，並瞭解上述研究的描述亦有機會作查詢。
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason.
我明白我的參與是義務性的，並可在任何時候退出，無需給予原因。
3. I agree to complete the questionnaire.
本人願意填寫這份問卷。

Date 日期

Part 1 Personal Data

第一部分 個人數據

Please fill in the information or ✓ the appropriate 請填上資料或在適當 旁加上✓號

1.	Your gender is : 您的性別是 :	a)	Male 男性	<input type="checkbox"/>
		b)	Female 女性	<input type="checkbox"/>
2.	Please state our age: 您的年齡是:	_____ 歲		
3.	Please state your weight : 您的體重是 :	_____ lbs (磅) or 或 _____ kg (公斤)		
4.	Please state your height: 您的身高是:	_____ ft (尺) _____ in (寸) or 或 _____ cm (公分)		
5.	Would you consider yourself: 你認為自己的身形是:	a)	significantly overweight 明顯超重	<input type="checkbox"/>
		b)	overweight 超重	<input type="checkbox"/>
		c)	average in weight 平均	<input type="checkbox"/>
		d)	Underweight 過輕	<input type="checkbox"/>
		e)	significantly underweight 明顯過輕	<input type="checkbox"/>
6.	If you can gain / lose some weight, by how much would the change be? 如您能改變您的體重, 您希望會:	a)	<input type="checkbox"/> Gain 增加	_____ lbs (磅) or 或 _____ kg (公斤)
		b)	<input type="checkbox"/> Lose 減少	_____ lbs (磅) or 或 _____ kg (公斤)
		c)	<input type="checkbox"/> No Change 不改變	

Part 2 Data relating to the level of exposure to keep fit/ body building advertisements

第二部分 有關對纖體/健身廣告接觸的數據

In the past one month, how often have you encountered the following advertisements?

在過去的一個月內, 您接觸以下廣告的頻密程度。請您圈出右邊最適當的一個數字代碼。

6	5	4	3	2	1
每天	一星期數次	每星期最少一次	一個月數次	一個月一、兩次	從未

1	樂基兒 - 修身堂	6	5	4	3	2	1
2	廖碧兒 - 瑪花纖體	6	5	4	3	2	1
3	劉愷威 - Mence 男士美容中心	6	5	4	3	2	1
4	成龍 - California Fitness	6	5	4	3	2	1
5	郭富城 - Physical Fitness	6	5	4	3	2	1
6	衛蘭 - 必瘦站	6	5	4	3	2	1
7	徐子珊 - 纖型22 Mega Dance	6	5	4	3	2	1
8	關心妍 - 現代美容 Modern Beauty	6	5	4	3	2	1
9	其他瘦身/纖體廣告	6	5	4	3	2	1

Where do you encounter these advertisements and how frequent? 您從甚麼媒介接觸這些廣告? 請您圈出右邊最適當的一個數字代碼表示其頻密程度。

1	電視 Television	6	5	4	3	2	1
2	港鐵站 MTR Stations	6	5	4	3	2	1
3	巴士 RoadShow/FirstVision	6	5	4	3	2	1
4	大型廣告板 Billboards	6	5	4	3	2	1
5	海報 Posters	6	5	4	3	2	1
6	報紙、雜誌 News paper, Magazines	6	5	4	3	2	1
7	其他 Others	6	5	4	3	2	1

Part 3 Body Shape Questionnaire BSQ-8C
第三部分 體型問卷 BSQ-8C

We would like to know how you have been feeling about your appearance over the **PAST FOUR WEEKS**. 我們想知道您在**過去的四週**內對自己的外表有甚麼感覺

6	5	4	3	2	1
Always	Usually	Often	Sometimes	Rarely	Never
總是	通常	經常	有時	很少	從未

Please read each question and circle the appropriate number to the right. Please answer all the questions. 請閱讀每一項，並請您圈出右邊最適當的一個數字代碼：

OVER THE PAST FOUR WEEKS 在過去的四週內：

	Always 總是 ←————→ 從未 Never					
1. Have you been afraid that you might become fat (or fatter)? 您曾否擔心自己會變肥 (或變得更肥)	6	5	4	3	2	1
2. Has feeling full (e.g. after eating a large meal) made you feel fat? 進食完豐富的一餐後很飽足時，會否令你感覺肥胖?	6	5	4	3	2	1
3. Has thinking about your shape interfered with your ability to concentrate (e.g. while watching television, reading, listening to conversations)? 會否因想起自己的體型影響你的專注力 (例如: 看電視、閱讀、聆聽)	6	5	4	3	2	1
4. Have you imagined cutting off fleshy areas of your body? 你曾否想象過把身體過多的贅肉切掉	6	5	4	3	2	1
5. Have you felt excessively large and rounded? 曾否感覺自己太『大隻』(大塊頭) 和太豐滿?	6	5	4	3	2	1
6. Have you thought that you are in the shape you are because you lack self-control? 曾否感覺現在擁有的身型是因為自己缺乏自制能力	6	5	4	3	2	1
7. Has seeing your reflection (e.g. in a mirror or shop window) made you feel bad about your shape? 當在鏡中或櫃窗內看到自己的樣子時，你會否對自己的體型有壞的感受?	6	5	4	3	2	1
8. Have you been particularly self-conscious about your shape when in the company of other people? 與他人相處時，你曾否對自己的身型特別自覺?	6	5	4	3	2	1

Body Shape Questionnaire BSQ-8C has been reproduced with permission. Evans, C. & Dolan, B. (1993). Body Shape Questionnaire: derivation of shortened "alternate forms". *International Journal of Eating Disorders*, 13, 315-321

Part 4 The EAT-26
第四部分 進食態度測試

6	5	4	3	2	1
Always	Usually	Often	Sometimes	Rarely	Never
總是	通常	經常	有時	很少	從未

Please choose one response by marking a check to the right for each of the following statements:

以下是一些關於對進食態度的聲明，請閱讀每一項，並請您圈出最適當的一個數字代碼：

	Always					Never
	總是	←			→	從未
1. Am terrified about being overweight. 對超重 (或可能超重) 感到恐懼	6	5	4	3	2	1
2. Avoid eating when I am hungry. 避免在肚餓時進食	6	5	4	3	2	1
3. Find myself preoccupied with food. 對食物過份關注	6	5	4	3	2	1
4. Have gone on eating binges where I feel that I may not be able to stop. 狂吃到覺得自己不能停下來	6	5	4	3	2	1
5. Cut my food into small pieces. 把食物弄成小塊	6	5	4	3	2	1
6. Aware of the calorie content of foods that I eat. 了解吃的東西所含的熱量	6	5	4	3	2	1
7. Particularly avoid food with a high carbohydrate content (i.e. bread, rice, potatoes, etc.) 特別避免進食高澱粉含量的食物 (例如：麵包、飯、馬鈴薯...等等)	6	5	4	3	2	1
8. Feel that others would prefer if I ate more. 覺得其他人想我多吃一點	6	5	4	3	2	1
9. Vomit after I have eaten. 進食後嘔吐	6	5	4	3	2	1
10. Feel extremely guilty after eating. 進食後感到極度內疚	6	5	4	3	2	1
11. Am preoccupied with a desire to be thinner. 對想瘦身的慾望過份關注	6	5	4	3	2	1
12. Think about burning up calories when I exercise. 當運動時會聯想到燃燒熱量	6	5	4	3	2	1
13. Other people think that I am too thin. 其他人覺得我太瘦	6	5	4	3	2	1
14. Am preoccupied with the thought of having fat on my body. 對自己身體上有脂肪的想法過度關注	6	5	4	3	2	1
15. Take longer than others to eat my meals. 進食正餐時，比其他人需更多時間	6	5	4	3	2	1
16. Avoid foods with sugar in them. 避免進食有糖份的食物	6	5	4	3	2	1
17. Eat diet foods. 進食纖體食物	6	5	4	3	2	1
18. Feel that food controls my life. 感到食物控制我的生活	6	5	4	3	2	1
19. Display self-control around food. 對食物表現出有自制	6	5	4	3	2	1
20. Feel that others pressure me to eat. 覺得其他人迫使我進食	6	5	4	3	2	1
21. Give too much time and thought to food. 用太多時間想食物	6	5	4	3	2	1
22. Feel uncomfortable after eating sweets. 在進食甜品/糖果後覺得難受	6	5	4	3	2	1
23. Engage in dieting behavior. 進行節食	6	5	4	3	2	1
24. Like my stomach to be empty. 喜歡肚子空	6	5	4	3	2	1
25. Have the impulse to vomit after meals. 進食後有衝動要嘔吐	6	5	4	3	2	1
26. Enjoy trying new rich foods. 喜歡嘗試新的濃味食物	6	5	4	3	2	1

The EAT-26 has been reproduced with permission. Garner et al. (1982). The Eating Attitudes Test: Psychometric features and clinical correlates. *Psychological Medicine*, 12, 871-878.

Part 5 Weight-loss behavior survey

第五部分 瘦身行為調查

5	4	3	2	1
Always	Usually	Sometimes	Rarely	Never
總是	通常	有時	很少	從未

How often do you participate in the following behaviors in an attempt to control weight?

您使用以下的體重控制方法的頻密程度。請您圈出右邊最適當的一個數字代碼。

	Always 總是 ←—————→ 從未 Never				
1. Exercise 做運動	5	4	3	2	1
2. Not eat between meals 每餐之間不進食	5	4	3	2	1
3. Keep busy to avoid eating 令自己忙碌以避免進食	5	4	3	2	1
4. Go on a magazine diet 用雜誌介紹的纖體餐單	5	4	3	2	1
5. Go on your own diet 用自己設計的纖體餐單	5	4	3	2	1
6. Select low joule foods 選擇低熱量食物	5	4	3	2	1
7. Drink water before meals 用餐前喝水	5	4	3	2	1
8. Skip meals 減吃正餐	5	4	3	2	1
9. Do excessive exercise 做大/(過)量運動	5	4	3	2	1
10. Become vegetarian 只吃素食	5	4	3	2	1
11. Avoid situations where there will be food 避免去有食物的場合	5	4	3	2	1
12. Take advantage of illness to avoid eating 利用病的時候減少進食	5	4	3	2	1
13. Use natural laxatives (e.g.: bran) 進食天然的助瀉食物 (如:麥糠)	5	4	3	2	1
14. Use chemical laxatives 使用瀉藥	5	4	3	2	1
15. Fast or starve yourself 禁食或挨餓	5	4	3	2	1
16. Try to vomit 嘗試嘔吐	5	4	3	2	1
17. Vomit 嘔吐	5	4	3	2	1
18. Smoke cigarettes 吸煙	5	4	3	2	1
19. Slimming/diet pills 使用瘦身/減肥藥物	5	4	3	2	1
20. Not swallowing food 不吞下食物	5	4	3	2	1
21. Other methods? Specify 其他：請說明 _____	5	4	3	2	1

The Weight-loss Behavior Survey has been reproduced with permission. O'Dea, J. and Caputi, P. (2001). Socioeconomic, weight, age and gender interactions in the body image and weight control practices of 6-19 year old children and adolescents. *Health Education Research*, 16(5), 521-532. O'Dea, J., Abraham, S. & Heard, R. (1996). Food habits, body image and weight control practices of young male and female adolescents. *Australian Journal of Nutrition and Dietetics*, 53, 32-38.

Which are the most important attributes when choosing a weight control program

(1= Most important ... 7=least important)

當選擇重量控制法時，哪些因素較重要: (1 = 最重要 2 = 次重要 ... 7= 最不重要)

- 1 Fast effect 快速見效
- 2 No pain 無痛楚
- 3 No drug 無需藥物
- 4 Less time consuming 較省時
- 5 Longer effect 效果長久
- 6 Long term health 長遠健康
- 7 Cheaper 便宜

~ The End 問卷完 ~

Thank You Very Much for Your Valuable Time!!
多謝您的寶貴時間!!