

The study investigated whether the pattern of relationships among five dimensions of eating disorder would change among female and male participants. A scale was constructed to diagnose five dimensions of eating disorder namely: dieting, use of pills and laxatives, self-starvation, forced vomiting and disordered eating. Reliability coefficient of the whole scale is high (.95). Confirmatory Factor Analysis (CFA) was conducted to establish the factor structure of the checklist. The five dimensions of eating attitudes were intercorrelated separately among female and male participants. The intercorrelations were stronger among female participants. Implications on gender difference were further discussed in the study.

*Keywords:* Eating attitudes, gender difference, eating disorder

## Assessing Eating Disorders: Gender as Moderator of Factors of Eating Attitudes

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The onset of puberty creates numerous changes that may set the stage for weight and shape concerns. Recent studies support the contention that eating disorders typically emerge during adolescence (Hoek & Hoeken, 2003; Van Son, Van Hoeken, Bartelds, Van Furth & Hoek, 2006; Shapiro-Weiss & Shapiro-Weiss, 2001). The rapid physical development during adolescence brings about striking concepts of an ideal body image and the adolescents' views of their own body image (Harris, King, Gordon-Larsen, 2003). According to Griffiths and McCabe, (2000), McCabe and Ricciardelli (2003), Phares, Steinberg and Thompson (2004), Wiseman, Peltzman, Halmi, and Sunday (2004), adolescents' body image, specifically body dissatisfaction, is closely linked with the occurrence of eating disorders and dieting.

Most studies on eating disorders have primarily focused on women (Tylka & Subich, 2002). Grabe and Hyde (2006) confirm that previous research on body image and eating disorders dealt more on female adolescents and less on males since such issues are closely identified with

women. Although eating disorders seem to be more frequently associated with women, a significant proportion of men also manifest disordered eating attitudes (Shapiro-Weiss & Shapiro-Weiss, 2001). Pope, Philips, and Olivardia (2000) suggest that the focus on males and body image is considered a current occurrence because poor body image and eating disorders are commonly referred as women's concerns. Recent research found that males are not immune to body concerns, poor body image and pressure to fit societal ideal (Cash, Morrow & Hrabovsky, 2004; McCabe & Ricciardelli, 2001; McCabe & Ricciardelli, 2003). While female adolescents aspire for the thin ideal, the males work on muscle building to attain the culturally defined images of males portrayed in the media (Ricciardelli & McCabe, 2003). Compared to adolescent males who tend to employ exercise and utilize food supplements to achieve the ideal muscular physique, the females are bent on losing weight and trying to be thin (McCabe & Ricciardelli, 2003).

Young girls who rely on magazines and advertising as relevant sources of information on the ideal body and how to attain it are more likely to be dissatisfied with their physical appearance due to the possible discrepancies that they will discover (Levine & Smolak, 2002). Watching television has also been linked to increased desire to have a thin body and to engage in disordered eating among female adolescents (Harrison & Hefner, 2006). Males also respond to societal pressures to achieve the ideal male body (Leit, Gray, & Pope, 2002). However, cross-sectional studies suggest that unlike females, males tend to see lesser pressures from media to reach the socio-cultural ideal (McCabe & Ricciardelli, 2001). In contrast to women who are pressured to shed pounds and achieve a specific body weight and shape, young males want to increase muscle since they perceive themselves as thinner and less muscular (Frederick, Gordon, Grigorian, & Jarcho, 2007; Corson & Andersen, 2002; Davis, Karvinen & McCreary, 2005). Meanwhile, there is some evidence that exposure to the ideal male body results in negative affect and negative body-related perceptions among boys and men (Halliwell, Dittmar & Osborn, 2007; Leit, Gray et al, 2002) although the impact of such exposure might depend on the nature of the images presented (Farquhar & Wasylkiw, 2007).

According to Vartanian (2009), whereas the measure of attractiveness for women is an unrealistically thin body, the standard of attractiveness for men is a lean and muscular body that is also unrealistic to achieve. This is reiterated in other studies which confirm that while negative self-evaluation brings about dieting behavior and eating disorders in females, body image concerns in males are quite related to low self-esteem and are linked to risky eating patterns and steroid use to gain muscle mass (Cash, et al, 2004; McCabe & Ricciardelli, 2001; McCabe & Ricciardelli, 2003; Button, Loan, Davies & Sonuga-Barke, 1997; Blouin & Goldfield, 1995). Research evidence also points out that negative body-related perceptions among boys and men result from exposure to the ideal male body (Halliwell, Dittmar, & Orsborn, 2007; Leit, Gray, et al, 2002) As such, body dissatisfaction among men contributes to unhealthy weight-control behaviors (Smolak, Levine, & Thompson, 2001).

Similarly, body dissatisfaction among women (Cafri, Yamamiya, Brannick, & Thompson, 2005), may lead to disordered eating behavior (Stice, 2002).

According to previous research, girls demonstrated higher levels of overall eating disorder symptoms than boys (Shapiro-Weiss & Shapiro-Weiss 2001). Girls reported a greater desire to be thin, more dieting behaviors and dissatisfaction with their bodies (Presnell, Bearman, & Stice, 2004). Although other eating disorder symptoms are more typically seen among women, bulimic behaviors are exhibited by boys at a similar rate with girls (American Psychiatric Association, 2000; Vincent & McCabe, 2000). There is also some evidence that adolescent males engage in unhealthy weight-control behaviors due to body dissatisfaction and societal pressures that are similar to those experienced by young women (Smolak, Levine, & Thompson, 2001). Furthermore, recent research has demonstrated the link between body dissatisfaction, dietary restraint (Heywood & McCabe, 2006; Markey & Markey, 2005), and drive for thinness (McCabe, Ricciardelli, & James, 2007) across genders.

The objective of the study is to compare the eating attitudes of adolescent males and females. Gender is used as moderator for the intercorrelations among the factors of eating attitudes.

## Method

### Participants

Participants were 204 males and 211 females across all courses and year levels from an urban college. There are 191 Filipino males and 186 Filipino females. The other respondents are of varied nationalities such as Chinese, Korean, Taiwanese, Japanese and Vietnamese. The age range of all respondents is from 15 to 24. The mean age of females is 21 while the mean age of males is 19.5.

### Instrument

The Eating Attitude Scale was developed and pilot tested by the researcher to assess eating attitudes of male and female adolescents. It is composed of 18 items and 5 subscales namely Self Starvation, 5 items; Forced Vomiting, 2 items; Dieting, 5 items; Disordered Eating, 4 items and Pills and Laxative Use, 2 items. Responses are based on the duration of six months up to present. The scales are always (5), usually (4), often (3), sometimes (2), rarely (1), and never (0). Demographic information is required such as age, sex, height, weight, ideal weight and nationality. The factorial validity of the Eating Attitude Scale was tested using Confirmatory Factor Analysis. The results indicated that the data supports a five-factor structure. The five dimensions were significant components of eating disorder with adequate fit ( $\chi^2=16.53$ , RMSEA=.02, GFI=.95).

## Procedure

The questionnaires were administered to male and female students by class section and in small groups. They were informed that the study will be used in the body image and weight management program for the student population. No compensation was offered and all the respondents were assured that their responses would be treated with utmost confidentiality.

## Data Analysis

Descriptive statistics (mean and standard deviation) and t-test were used to obtain descriptions of two independent samples, male and female groups. Factor analysis was employed to come up with a profile of similarities and differences in the eating behavior patterns of the male and female participants. Moderation analysis was also utilized to compare the strength of coefficients between male and female respondents.

## Results

The mean scores of males and females on the eating attitudes were first compared using t-test for independent samples. Factor analysis was conducted to determine the loadings of the five subscales of eating attitudes for males and females. Intercorrelations of these five subscales were also conducted separately for males and females.

**Table 1**  
*Means and Standard Deviations of the Eating Attitudes for Males and Females*

	Males			Females			<i>t</i>
	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	
Forced vomiting	0.38	1.01	204	0.41	0.82	211	-0.28
Self-starvation	6.42	4.41	206	0.67	1.37	211	18.05**
Dieting	8.07	4.46	206	8.65	4.88	211	-1.27
Disordered Eating	6.88	3.22	206	8.52	4.71	211	-4.14*
Pills Laxatives	0.59	1.35	206	6.88	3.14	211	-26.46*

\* $p < .05$

\*\* $P < .01$

The comparison of mean scores showed that males are significantly higher on self-starvation ( $M=6.42$ ) while females are significantly higher on disordered eating ( $M=8.52$ ) and the use of pills and laxatives ( $M=6.88$ ).

Factor analysis (principal components without rotation) was conducted to determine under which gender each subscale of the eating attitude will highly load on. This determined which gender are the correlations of the factors higher.

**Table 2**  
***Factor Loadings of the Eating Attitudes for Male and Female Participants***

	Males	Females
Forced vomiting	.67	.70
Self-starvation	.79	.85
Dieting	.76	.78
Disordered eating	.40	.47
Pills and Laxatives	.76	.79
Expl.Var	2.40	2.67
Prp.Totl	0.48	0.53

The result of the factor loadings showed higher variance explained for the female participants. All factors of eating attitudes loaded highly among females as compared to males. This indicates that the factors of the eating attitudes are strongly related for the female sample. To investigate further this notion, a separate correlation matrix was reported for males and females.

**Table 3**  
***Correlation of Eating Attitudes among Female Participants***

	1	2	3	4	5
1 Forced vomiting	---				
2 Self-starvation	.47*	---			
3 Dieting	.32*	.70*	---		
4 Disordered eating	.25*	.25*	.24*	---	
5 Pills and laxatives	.53*	.53*	.47*	.27*	---

\* $p < .05$

\*\* $p < .01$

**Table 4**  
***Correlation of Eating Attitudes among Male Participants***

	1	2	3	4	5
1 Forced vomiting	---				
2 Self-starvation	.32*	---			
3 Dieting	.32*	.60*	---		
4 Disordered eating	.11	.21*	.23*	---	
5 Pills and laxatives	.51*	.47*	.37*	.18	---

\* $p < .05$

\*\* $p < .01$

Results showed that among female respondents, there are significant intercorrelations of all the subscales of the eating attitudes. Among the male respondents, similar results were found except that disordered eating is not significantly related to forced vomiting and the use of pills and laxatives. The correlations of the eating attitudes are stronger for the female participants. This further supports the factor analysis conducted.

### Discussion

As previous studies have suggested on the susceptibility of females on eating attitude concerns, the present study shows that all eating disorder factors loaded highly among female participants. While males fared significantly higher than females on starving themselves, the female group was higher on their disordered eating habits as well as on their relying on pills and laxatives to manage their weight. Those females who engage in self-starvation, dieting, disordered eating and those who take pills and laxatives employ forced vomiting to regulate their weight. It is evident that those who diet, take pills and laxatives and adopt disordered eating habits would surely starve themselves to become thin. Those who restrict their diet are most likely into disordered eating and making use of pills and laxatives. It is also apparent that females who take laxatives are having disordered eating regimen.

The correlation relationships are slightly different among the male respondents. Those who force vomit are into self-starvation, dieting and taking laxatives with the exception of having disordered eating habits. However, the male group, just like the females who engage in self-starvation, also diet, embrace disordered eating attitudes and use laxatives and pills in their weight management. Both male and female respondents who indulge in dieting are seemingly preoccupied with taking pills and laxatives and disordered eating concerns.

The Eating Attitude Scale provides clinicians with a brief five factor assessment instrument that can be utilized in measuring eating disorder habits

and attitudes of adolescent men and women. It is an easy scoring scale of 18 items that can give a simple appraisal of anorexic and bulimic symptoms.

The purpose of the study is to compare the eating behaviors of male and female adolescents using gender as moderator of factors of eating attitudes. The descriptive statistics showed significant comparisons by gender on eating attitude factors such as self-starvation, disordered eating habits and use of pills and laxatives. It has also shown that all eating disorder factors were observed mainly among the female group. An extensive description of relationships between factors provided a thorough profile of gender differences on eating attitudes.

The Eating Attitude Scale can be a handy assessment measure for researchers and counselors in early detection of eating behavior symptoms among male and female adolescents. Previous studies have shown that eating disorder prevention programs are largely unsuccessful, so one possible approach would be to concentrate on the promotion of healthy lifestyles and self-image (Lindner, Hughes, & Fahy, 2008). Extensive school programs on body image, healthy weight management, self-esteem and stress management can be organized to educate those who would be diagnosed that need help in dealing with their eating attitudes.

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