

Body image perception among multi-ethnic male university students

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ABSTRACT

The present study aimed to investigate student self-rating towards body dissatisfaction, drive for muscularity and self-esteem, as well as to investigate their relationship. Results from a sample of 293 male students from University Malaysia Sabah showed a significant positive relationship between body dissatisfaction and drive for muscularity ($r = .22, p < .01$). An interesting result was that body dissatisfaction is positively correlated with higher self-esteem ($r = .142, p < .05$), which was assumed that body dissatisfaction alone was a poor predictor of self-esteem. Culture has its role affecting the values people place on different aspects of the body. By using One-way ANOVA, study found the significant ethnic difference in body dissatisfaction ($F_{(3, 289)} = 3.779, p < .05$) and drive for muscularity ($F_{(3, 289)} = 5.116, p < .05$). However, the majority of them hold positive perception to their body parts, exhibiting a healthy body image perception

Keywords: *male body image perception; body dissatisfaction; self-esteem ethnic difference*

Introduction

The desire to develop muscularity has emerged as a central issue associated with male body image (McCreary & Sasse, 2000; Jones & Crawford, 2005) and conforming to the “ideal”. Male body dissatisfaction is beginning to increase possibly due to emerging social pressures for men to achieve a lean and muscular body image ideal (Harvey & Robinson, 2003; in Buneto, Haboush & Jones-Forrester, 2007). Besides, multi-dimensional body dissatisfaction (i.e., muscle tone, upper torso, weight, overall appearance) among men over the last 30 years seems to be increasing (Cash, 2002; in Martin, Kliber, Kulinna & Fahlman, 2006).

Studies on male body become important as they are the group vulnerable to psychosocial problems (e.g. self-identity and self-worth) in college life. The many pressures in college can place students on a precarious foundation and searching for ways to gain acceptance in their lives (Kanekoa, 2007). One way students believe will help them attain the acceptance they desire is to fit the ideal body image. They manage the ways how they present themselves to others and this kind of self-presentation, including their physical appearance and physical attractiveness, might influence their confidence.

Many studies found that the causal evidence that self-esteem is a precursor of poor body image and consequent weight and diet concerns. Body image derives not only from an individual's cognitive and emotional development, but that feelings about one's body can influence other psychological characteristics like affect self-esteem (Davis, 1997; McCreary & Sasse, 2000; Olivardia et al., 2004; Sheffield, Tse & Sofronoff, 2005).

While studies showed the desire for muscularity and increased body dissatisfaction among male population, research on the development of male body image are not much been done in Malaysia and hence there might be differences of perceptions toward the issue of ideal body image. In Malaysia, there would be lesser exposure to media images of male bodies comparing to the Western context.

In Malaysia, as stated by Khor et al. (2009), studies that focus on body image are still limited. Besides, most Malaysian studies focus on female's body image, thus just a few do examine on male's body image perception. There is even less research study on college-age Malaysian men. In Malaysia, a significant proportion of adolescents are not satisfied with their body weight, leading to them having a poor body image (Khor et al., 2009). Besides, as a multi-racial country, ethnic differences (including ethnic minorities) should be also considered to find out whether ethnic itself brings effect or differences toward self-evaluation on body image as well as drive for muscularity. Data on men and women from modernizing cultures in Asia would be important not only for cross cultural comparison but as a psychological marker during a time of rapid social change. It is plausible that populations in non-Western nations, as men become more affluent, will in turn be more at risk of eating disorders, irrespective of ethnicity or cultural background (Soh, Touyz & Surgenor, 2006).

This article reports the results obtained from a sample of Malaysian university students from University Malaysia Sabah. Specifically, the Malaysian study was undertaken with the following objectives:

- 1) Due to the few research regarding men body image have been done in Malaysia, this study is hoped to provide more information regarding to body satisfaction or dissatisfaction and drive for muscularity among Malaysian men from different ethnics. Self-rating towards body satisfaction, muscularity and self-esteem among male students will be reported.
- 2) As noted before, male students tend to view muscularity as an important factor in determining body satisfaction. Hence, this study is conducted to find out whether body dissatisfaction is related to drive for muscularity.
- 3) The study is also to find out if body dissatisfaction influences self-esteem and thus help us to have better understanding on Malaysian male body image development.
- 4) Lastly, this study is initiated with the aim of investigating and studying on ethnic difference both in body dissatisfaction and drive for muscularity.

Body Image

Body image “involves our perception, imagination, emotions, and physical sensations of and about our bodies” in relation to values that are not necessarily innate but “learned or expected culturally” (Lightstone, 2006). There are two core facets of body image attitudes: evaluative thoughts about one's body, and the psychological investment or importance one places on one's physical appearance; body image can be defined and measured with reference to an individual's level of satisfaction with her/his body shape, which is known as an attitude and, can be measured with respect to an individual's preoccupation with her/his body (Mazzeo, 1999; in Wood-Barcalow, 2006).

Muscularity

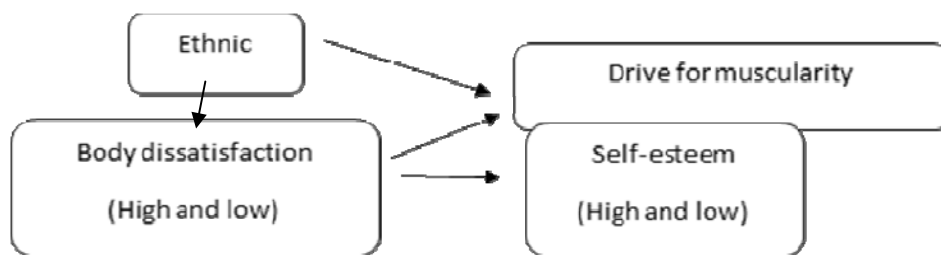
The drive for muscularity, which reflects the desire to achieve a muscular mesomorphic physique, is emerging as an important area of inquiry within the field of male body image. Within the mesomorphic category (well-proportioned, average build), a majority select the muscular mesomorphic body type, a V-shaped “muscleman”- type body “characterized by well-developed chest and arm muscles and wide shoulders tapering down to a narrow waist”.

Self-esteem

In this study, self-esteem is linked to how comfortable a person feels about their body shape. In this sense, dissatisfaction towards own body shape and body image can lead to negative self-evaluation and is associated with lower self-esteem. In contrast, individuals with a positive and realistically defined body image are more secure in their interpersonal relationships and are more successful in their jobs (Izgc et al., 2004). In this study, Rosenberg Self-esteem Scale (1989) is used to measure the participants overall level of self-esteem. It assesses the participant's true level of self-esteem. This is one of the most published methods for assessing self-esteem and therefore was relevant to this research.

Theoretical framework

This diagram explain the all the variable which is discussed below.



In this study, body dissatisfaction serves as independent variable (IV1) where men who report dissatisfaction to their body image are assumed to have higher drive for muscularity (DV1). As well mentioned before, men prefer a more muscular physique (Silva, 2006) and hence dissatisfaction to their own body would enhance this desire. Besides, negative perception towards current body image (IV1) affects their self-esteem (DV2). The discrepancy between their ideal body image and their actual body type may affect self-evaluation and confidence (Khor et al., 2009), and also their self-esteem (Rice, 1998; Olivardia et al., 2004; Frederick et al., 2007; Vartanian, 2009).

Ethnic serves as the second independent variable (IV2) in this study. One study shows Asian men reported the larger degree of body dissatisfaction compared with Caucasian men (Barnett et al., 2002). However, there are no studies of ethnic difference on body satisfaction (DV3) among Malaysian men. There might be no significant difference among ethnic and hence this study will test this assumption. Also, previous cross-cultural studies on male body perception have shown that men in both East and the West would ideally like to be more muscular. A large, muscular cultural ideal for men do not differ between ethnic groups (Barnett et al., 2002). Therefore, it is assumed that there is no significant difference between ethnic (IV2) and drive for muscularity (DV1).

Hypotheses

In the present study I investigate the following hypotheses:

- (a) There is significant positive relationship between body dissatisfaction and drive for muscularity among male participants.
- (b) There is significant negative relationship between body dissatisfaction and self-esteem among male participants.
- (c) There is no significant difference between ethnic and body dissatisfaction among male participants.
- (d) There is no significant differences between ethnic and drive for muscularity among male participants.

Methodology

Participants

In this study, the total of 300 questionnaires was distributed and only 293 questionnaires (97.67%) were returned back. Participants are selected from the population by using convenience sampling as they are available and easy accessible. Questionnaires are distributed to participants when they are in the lecture halls before and after the class or when studying in library. The average age of the participants was $M = 22.4$ years. The ethnic composition was 27% Malay, 31.1% Chinese, 30.4% *Bumiputera* (mainly *Kadazan* and *Iban*), and 11.6% Indian.

Procedure

Participants were then told that the purpose of the study was to examine male's body image perception, muscularity issue, and their self evaluation. Questionnaires were distributed to total of 300 undergraduates. They are given 15 minutes. They were asked to answer questionnaire consisted of four parts: demographic, Body Areas Satisfaction Subscale (BASS), Drive for Muscularity Scale and Rosenberg's Self-esteem Inventory. Once they had completed the questionnaire, they were allowed to leave. Three weeks of time are used to collect data.

Results

Descriptive statistics

Findings support the internal consistency reliability for the scales utilized in this study, given that Cronbach's alpha for all scales is greater than .70. Results show high level of reliability and hence are suitable to use in main study.

Table 3: Descriptive Statistics and Reliability Test of Three Main Instruments of Study

Instrument	Number of Items	Mean	Std. Deviation	Cronbach's Alpha
BASS	9	22.40	6.55	.898
DMS	15	44.44	14.08	.907
Rosenberg's Self-esteem Inventory	10	21.55	3.95	.722

Mean scores for all of three instruments show a moderate level of scoring. For BASS, mean score of $M = 22.4$ demonstrate a slightly positive perception to body parts, as 45 score is the maximum score of BASS. Higher scores indicate more dissatisfaction with most areas of the body. While mean score of DMS in current study is $M = 44.44$ and it shows moderate level of drive for muscularity among male participants. The third instrument, the 10-item Rosenberg's Self-esteem Inventory also reported that participants have moderate level of self-esteem and participants tend to have positive self-evaluation, with its mean score more than $M = 20$. High scores indicate high self-esteem.

Hypothesis one: Relationship between body satisfaction and drive for muscularity

Table 4: Correlation between Body Dissatisfaction and Drive for Muscularity

Variables	Drive for muscularity	Sig.
Body dissatisfaction	.222	.000**

$p < .01$

The result shows there is significant positive correlation between body dissatisfaction (BASS scores) and the drive for muscularity (DMS scores) ($r = .222, p < .01$). The relationship between

body dissatisfaction and drive for muscularity is positively correlated. The higher score of body dissatisfaction, the higher score drive for muscularity among male participants. Hence, hypothesis is accepted.

Table 5: Frequency of Participants in Lower and Higher Body Dissatisfaction

Item	<i>M</i> < 22.5		<i>M</i> > 22.5	
	N	%	N	%
Body Dissatisfaction	144	51.2	149	48.8

In studying body dissatisfaction, the mean score of 9-item Body Area Satisfaction Subscales (BASS) from all 293 participants is *M* = 22.40. The maximum score of BASS is 45 where mean score of *M* = 22.50 and above indicates that participants have less satisfaction with most areas of the body. There are quite an equal numbers of participants who rate negatively or dissatisfied with their body image (N = 149 or 50.9% of them). The rest of participants (N = 144, 49.1%) are below the average of *M* = 22.5 scores can be said have a more positive ratings of their own body image (Table 5).

Table 6: Frequency of Participants in Lower and Higher Drive for Muscularity

Item	<i>M</i> < 45		<i>M</i> > 45	
	N	%	N	%
Drive for Muscularity	150	49	143	50.9

Among the total of 293 male participants, there are 150 of them (51.2%) score less than median scores of DMS (*M* = 45). This means that these participants have lower drive for muscularity if compared to the rest of 143 participants (48.8%) who have higher score than median (Table 6). To note, there are only 3 of them (1%) rate the lowest score of DMS reporting they never think of or attempt to get more muscular.

Table 7: Descriptive Data of Each 9 items of BASS among Male Participants

Item	N				
	1	2	3	4	5
Face	70	101	106	16	8
Hair	73	106	88	16	10
Buttocks	54	80	124	30	5
Waist, stomach	45	73	135	33	7
Chest, shoulders, arm	37	93	122	36	5
Muscle tone	36	84	134	34	5
Weight	43	83	91	60	16
Height	44	94	86	54	15
Overall appearance	72	121	83	12	5

Notes: Scales in BASS: 1= "very satisfied", 2= "mostly satisfied", 3="neither satisfied nor dissatisfied", 4= "mostly dissatisfied" and 5= "very dissatisfied".

As shown in Table 7, in looking forward their rating of muscle tone, chest, shoulders or arm, statistic shows not many of them dissatisfied with muscle-related body parts. For item of "muscle tone", only 11.5% rate "mostly dissatisfied" and only 1.7% rate "very dissatisfied". Interestingly, a number of 134 of them (45.7%) report that they neither feel satisfied nor dissatisfied. Statistic for item of "chest, shoulders or arm" also shows the similar result. Besides, when these two items of BASS are correlated to DMS, they both showed positive significant relationships with DMS at the $p < 0.01$ level; respectively, "muscle tone" item, $r = .202$ and "chest, shoulders or arm", $r = .218$.

Hypothesis two: Relationship between body dissatisfaction and self-esteem

Table 8: Correlation between Body Dissatisfaction and Self-esteem

Variables	Self-esteem	Sig.
Body dissatisfaction	.142	.015*

$p < .05$

As contrast to the hypothesis, significant positive correlation is found between the BASS scores and the Rosenberg's Self-esteem Inventory scores ($r = .142, p < .05$). Hence, hypothesis is rejected. In other words, result shows the higher score of body dissatisfaction, there is higher self-esteem reported among male participants. Although the positive significant relationship is reported, the value of the correlation is considered low ($r = .142$).

There are 149 participants (50.9%) are considered having higher body dissatisfaction as they score more than $M = 22.50$ in BASS. However, only 32.8% from the total participants report low self-esteem. In other words, more than half of them (67.2%) hold positive evaluation toward their own self, in spite of a number of them reporting dissatisfaction to current body image.

Hypothesis three: No ethnic difference in body dissatisfaction

Before proceed to interpretation of ANOVA, an examination of the *Levene* test for homogeneity of variances is tested on for both third and fourth hypothesis. Results suggest that assumption has not been violated ($p > .05$) and the population variances for each group are appropriately equal. Therefore, interpretation of the ANOVA can proceed.

Table 9: Result of One way ANOVA Test towards Ethnic and Body Dissatisfaction

Body dissatisfaction	df	Sum of Squares	Mean Square	F	Sig.
Between Groups	3	472.77	157.59	3.77	.011
Within Groups	289	12051.51	41.70	9	

$p < .05$

The result of one way ANOVA test shows that there is significant difference between ethnic and body dissatisfaction, ($F_{(3, 289)} = 3.779, p < .05$). Body dissatisfaction is different across ethnic groups. Hence, hypothesis that sounds there are no significant difference between ethnic and body dissatisfaction among male participants is rejected.

Results from this study show that all four ethnic groups had different mean scores in BASS. Chinese male student in the present study show the highest body dissatisfaction. They have reported greatest weight dissatisfaction with the mean score of 2.96 for “weight” item in BASS while Malay student do report the lowest dissatisfaction to weight. Results are shown in Table 10.

Table 10: Descriptive Statistics of Body Dissatisfaction and Drive for Muscularity among Ethnic Groups in Study

Variables	Ethnic	N	Mean
Body Dissatisfaction	Malay	79	21.84
	Chinese	91	24.14
	Indian	34	20.29
	<i>Bumiputera</i>	89	21.92
Drive for Muscularity	Malay	79	47.92
	Chinese	91	41.62
	Indian	34	39.18
	<i>Bumiputera</i>	89	46.25

Hypothesis four: No ethnic difference in drive for muscularity

Table 11: Result of One way ANOVA Test towards Ethnic and Drive for Muscularity

Drive for muscularity	Df	Sum of Squares	Mean Square	F	Sig.
Between Groups	3	2917.62	972.54	5.116	.002
Within Groups	289	54934.59	190.09		

$p < .05$

Based on the result above, it shows that there is significant difference between ethnic on drive for muscularity ($F_{(3, 289)} = 5.116, p < .05$). Drive for muscularity is significantly different across ethnic groups. Hence, hypothesis that predicts no significant difference between ethnic and body dissatisfaction is rejected.

As shown in Table 11, mean scores for drive for muscularity in descending are Malay ($M = 47.92$), *Bumiputera* ($M = 46.25$), Chinese ($M = 41.62$) and Indian ($M = 39.18$). *Bumiputera* or ethnic minority in present study have reported a second high of drive for muscularity if compared to Chinese and Indian. However, the mean score of $M = 46.25$ of DSM is still considered at a moderate level of drive of muscularity, as well as Malay student who have reported the highest drive for muscular body ($M = 47.92$).

Discussions

Relationship between body dissatisfaction and drive for muscularity

Many studies have shown that male prefer a muscular body image as ideal figure (Barnett et al., 2002; Yang et al., 2005; Martin et al., 2006; Frederick et al., 2007) as it immunizes individuals from body dissatisfaction. The findings of present study affirm the expected association between body dissatisfaction and drive for muscularity. Hence, if participant obtains a relatively higher score on the BASS, he is likely to obtain a relatively higher score on the DSM as well.

Muscularity and weight concerns each contributed unique variance to the prediction of body dissatisfaction (Jones & Crawford, 2005). This finding confirms much related research, which suggests that perceptions of muscularity have important ramifications for men's body image (Martin et al., 2006). Recent studies also reveal body image disturbances in males are manifested in concerns about both weight and muscularity, suggesting body dissatisfaction among males may be more complex than among females (Bergstrom & Neighbors, 2006).

Previous research examining self-presentation theory has found that those who are concerned with their appearance and how others perceive them are more likely to engage in excessive exercise behaviours compared to those who place less value in their appearance. However, mean scores of body dissatisfaction in present study ($M = 22.40$) shows that in overall these male participants hold positive view and have reported more favourable body image perceptions. Yang et al. (2005) stated that body image disorders appear to be more prevalent in Western when comparing Western and non-Western men. Hence, the present findings that demonstrate positive view of most of body parts exhibit a healthy body image perception among Malaysian participants.

Relationship between body dissatisfaction and self-esteem

Unexpectedly, a positive linkage emerged in the correlational analyses between body dissatisfaction and self-esteem. This indicates that men who dissatisfied with current body parts report higher self-esteem. It is interesting to note that higher body dissatisfaction is related to somewhat higher self-esteem ($r = .142, p < .05$) by correlating BASS scores and Rosenberg's Self-esteem Inventory scores. This discrepant finding indicates that body dissatisfaction alone is a poor predictor of self-esteem.

Besides, a numerous of participants from both groups of lower and higher body dissatisfaction in present study tend to report moderate positive self-evaluation. This indicates that variables other than body dissatisfaction itself may play more important role in relating self-esteem, especially in those different cultures that value differently and have other emphasis of variables. An interesting possibility is that any stressor, including but not limited to body dissatisfaction, may impinge upon low self-esteem (Vohs et al., 2001).

A cross-cultural study of Swami & Tove'e (2005) towards Britain and Malaysian male in physical attractiveness explains the significant role of different society that appears to promulgate different expectations for ideal male body shapes. Ethnographic observation from Swami & Tove'e (2005)

also supports the relative lack of exposure to Western media images among rural Sabahans. Although the present study does not consider and study the variable of rural-urban difference, it is reasonable to state that there would be male participants who have received lesser exposure to media images of male ideal bodies and that would help them from developing body dissatisfaction and from being impinged to lower self-esteem.

Ethnic difference in body dissatisfaction

Observed ethnic group differences in body dissatisfaction may occur because of differing cultural values about body shape and size, ethnic variations in media portrayals of body types, or differences in normative body types across ethnic groups (Glauert, Rhodes, Byrne, Fink & Grammer, 2006). Study of Yates, Edman & Aruguete (2004) state the influence of Western culture is greater in Japan than in other parts of Asia. Hence it is likely that the proportions of people dissatisfied with their body image differ between regions and ethnics in Malaysia.

In this study, Chinese student report the highest body dissatisfaction ($M = 24.143$) while the *Bumiputera*, e.g. *Kadazan*, *Iban*, *Dusun* report quite a low body dissatisfaction ($M = 21.921$). Chinese student do care more about the whole presentation of self-image, including concern on all of body parts and overall appearance. This may explain the highest score Chinese student get for all of items in BASS. According to Parker, Haytko & Hermans (2008), as the Chinese culture becomes more influenced by western ideals, the trend in body image dissatisfaction should increase. Similarly, Yang et al. (2005) found a significant difference between the ideal body image and the actual body image of Chinese males. This may increase their body dissatisfaction.

Ethnic difference in drive for muscularity

An interesting finding shows that Malay students have the highest drive for muscularity among these ethnic groups but lower body dissatisfaction. A possible reason for this finding is that when they do mostly satisfy with their body parts, they also perceive muscularity is beneficial but is "harmless" to them when they are exposed to ideal Western images. It is interesting to find that not all studies indicate that negative upward comparisons will take place when confronted with the idealized images that are often portrayed in the media (Parker et al., 2008).

Another finding of study is Chinese student are reporting the highest body dissatisfaction but not the highest in drive for muscularity. Although Chinese students score the highest in body dissatisfaction for all 9 items in BASS, result still infers a positive view of them towards their current body image. Hence, I assume that their positive view might moderate this urge for a muscular body and is shown in lower score for drive for muscularity.

Conclusions

These findings in present study imply that perceptions of the male body are similarly becoming influenced, shaped, and reflected in much the same way with perceptions of the female body influenced by Western culture. Pon and colleagues (2004) reported that chronic dieting, and the

habitually low total food intake associated with it may also result in low levels of a variety of essential nutrients. A similar belief system could be developing for men.

References

- Altabe, M. (1998). Ethnicity and body image: Quantitative and qualitative analysis. *International Journal of Eating Disorders*, 23(2), 153-157.
- Barnett, H. L., Keel, P. K., & Conoscenti, L.M. (2002). Body type preferences in Asian and Caucasian college students. *Sex Roles*, 45, 11-12.
- Benuto, L., Haboush, A., & Jones-Forrester, S. (2007). Research report: Compensatory efforts for body dissatisfaction: Some gender and ethnic difference. *The New School Psychology Bulletin*, (5)2, 19-25.
- Cachelin, F. M., Striegel-Moore, R. H., & Elder, K. A. (1998). Realistic weight perception and body size assessment in a racially diverse community sample of dieters. *Obes Res.*, 6, 62–68.
- Cachelin, F. M., Rebeck, R. M., Chung, G. H., & Pelayo, E. (2002). Does ethnicity influence body-size preference? A comparison of body image and body size. *Obesity Research*, 10(3), 158-166.
- Davis, C. (1997). Body image: exercise and eating behaviors. In Fox, K. R. (Ed.), *The physical self: From motivation to well-being*. USA: Human Kinetics.
- Davis, C. & Katzman, M. (1997). Charting new territory: body esteem, weight satisfaction, depression, and self-esteem among Chinese males and females in Hong Kong. *Sex Roles*, 36, 7-8.
- Fleisvher, B., & Read, M. (1982). Food supplement usage by adolescent males. *Adolescence*, 17, 831-845.
- Furnham, A., Badmin, N., & Sneade, I. (2002). Body image dissatisfaction: Gender differences in eating attitudes, self-esteem, and reasons for exercise. *The Journal of Psychology*, 136(6), 581–596.
- Giles, D. C., & Close, J. (2008). Exposure to 'lad magazines' and drive for muscularity in dating and non-dating young men. *Personality and Individual Differences*, 44, 1610–1616.
- Glauert, R., Rhodes, G., Byrne, S., Fink B., & Grammer, K., (2006). Body dissatisfaction and the effects of perceptual exposure on body norms and ideals. *International Journal of Eating Disorders*, 42(5), 443-452.

- Hallsworth, L., Wade, T., & Tiggemann, M. (2005). Individual differences in male body-image: An examination of self-objectification in recreational body builders. *British Journal of Health Psychology, 10*, 453–465.
- Hart, T. A., Flora, D. B., Palyo, S. A., Fresco, D. M., Holle, C., & Heimberg, R. G. (2008). Development and examination of the social appearance anxiety scale. *Assessment, 15*(1), 48-59.
- Izgiç, F., Akyüz, G., Dogan, O., & Kugu, N. (2004). Social Phobia Among University Students and Its Relation to Self-Esteem and Body Image. *Canadian Journal of Psychiatry, 49*(9), 630-634.
- Jackson, L. A. (2002). Physical attractiveness: A sociocultural perspective. In T. F. Cash & T. Pruzinsky (Eds.), *Body image: A handbook of theory, research, and clinical practice* (pp. 55-62). New York: The Guilford Press.
- Jones, D. C. & Crawford, J. K. (2005). Adolescent boys and body image: Weight and muscularity concerns as dual pathways to body dissatisfaction. *Journal of Youth and Adolescence, 34*(6), 629–636.
- Kanekoa, M. L. (2007). A Correlation between the eating attitude test and body shape questionnaire. Unpublished degree thesis, Brigham Young University.
- Keelan, J. P. R., Dion, K. K., & Dion, K. L. (1992). Correlates of appearance anxiety in late adolescents and early adulthood among young women. *Journal of Adolescence, 15*, 193-205.
- Labre, M. P. (2002). Adolescent boys and the muscular male body ideal. *Journal of Adolescent Health, 30*, 233-242.
- Leary, M. R. (1992). Self-presentational processes in exercise and sport. *Journal of Sport and Exercise Psychology, 14*, 339–351.
- Martin, J. J., Kliber, A., Kulinna, P. H., & Fahlman, M. (2006). Social physique anxiety and muscularity and appearance cognitions in college men. *Sex Roles, 55*, 151–158.
- McCabe, M. P., Ricciardelli, L. A., & Banfield, S. (2001). Body image, strategies to change muscles and weight, and puberty. Do they impact on positive and negative affect among adolescent boys and girls? *Eating Behaviour, 2*, 129-149.
- McCreary, D. R., & Sasse, D. K. (2000). An exploration of the drive for muscularity in adolescent boys and girls. *Journal of American College Health, 48*, 297-304.
- McKinley, N. M. (2006). Longitudinal gender differences in objectified body consciousness and weight-related attitudes and behaviors: Cultural and developmental contexts in the transition from college. *Sex Roles, 54*(3), 159-173.

- Mohd Nasir M. T., Chin, Y. S., & Dan, S. P. (2005, March). Body distortion and eating disorders in young women: A review of current situation in Malaysian universities. Symposium conducted by the Nutrition Society of Malaysia, Kuala Lumpur, Malaysia.
- Neighbors, L., Sobal, J., Liff, C., & Amiraian, D. (2008). Weighing weight: Trends in body weight evaluation among young adults, 1990 and 2005. *Sex Roles, 59*, 68-80.
- Parker, R. S., Haytko, D. L., & Hermans, C. M., (2008). The marketing of body image: A cross-cultural comparison of gender effects in the U.S. and China. *Journal of Business & Economics Research, 6*(5), 55-66.
- Patrick, H., Neighbors, C., & Knee, C. R. (2004). Appearance-related social comparisons: The role of contingent self-esteem and self perceptions of attractiveness. *Personality and Social Psychology Bulletin, 30*, 501-514.
- Pervin, L., Cervone, D. & Oliver, J. (2005). *Theories of personality* (9th ed.). Danvers, MA: Capella University.
- Pon, L. W., Kandiah, M., & Mohd Nasir M. T. (2004). Body image perception, dietary practices and physical activity of overweight and normal weight Malaysian female adolescents. *Malaysian Journal of Nutrition, 10*(2), 131-147.
- Ramachandran, V. (1996). Illusions of body image: What they reveal about human nature. *The mind-brain continuum: Sensory processes. 29-60.*
- Rosenberg, M. (1965). *Society and the adolescent child*. Princeton, NJ: Princeton University Press.
- Roxana Dev Omar Dev, Permal, V., & Mohd. Sofian Omar Fauzee (2009). Rural urban differences in body image perception, body mass index and dieting behaviour among Malay adolescent Malaysian schoolgirls. *European Journal of Scientific Research, 34*(1), 69-82.
- Rice, F. P. (1998). *Human development* (3rd ed.). NY: Prentice-Hall.
- Shariff, Z. M., & Yasin, Z. M. (2005). Correlates of children's eating attitude test scores among primary school children. *Perception Motor Skills, 100*, 463-72.
- Sheffield, J. K., Tse, K. H., & Sofronoff, K. (2005). A comparison of body-image dissatisfaction and eating disturbance among Australian and Hong Kong women. *European Eating Disorders Review, 13*, 112-124.
- Silva, M. A. (2006). Body image dissatisfaction: A growing concern among men. Newsletter for mental health. Retrieved on 13th July 2009 from MSOE Counseling Services.

- Siti Nurhuda M., & Mohd Nasir M. T. (2005, March). Body weight status, body image, self-esteem and eating attitude among male adolescents in Shah Alam, Selangor. Symposium conducted by the Nutrition Society of Malaysia, Kuala Lumpur, Malaysia.
- Taqi, A. M., Shaikh, M., Gowani, S. A., Shahid, F., Khan, A., Tayyeb, S. M. et al. (2008). Body Dysmorphic Disorder: Gender differences and prevalence in a Pakistani medical student population. *BMC Psychiatry*, 8(20), 1-10.
- Vartanian, L. R. (2009). When the body defines the self: Self-concept clarity, internalization, and body image. *Journal of Social and Clinical Psychology*, 28(1), 94- 126.
- Vohs, K. D., Voelz, Z. R., Pettit, J. W., Bardone, A. M., Katz, J., Abramson, L. Y. et al. (2001). Perfectionism, body dissatisfaction, and self-esteem: An interactive model of bulimics symptom development. *Journal of Social and Clinical Psychology*, 20(4), 476-497.
- Woo, S. S., & Mohd Ismail Noor (2005). *Body composition and waist circumference among adolescents with normal weight, overweight and obese*. Symposium conducted by the Nutrition Society of Malaysia, Kuala Lumpur, Malaysia.
- Wood-Barcalow, N. L. (2006). Understanding the construct of body image to include positive components: A mixed-methods study. Unpublished doctoral dissertation, Ohio State University, Ohio.
- Woodrow-Keys, E. (2006). The effects of body image on career decision making, self- efficacy and assertiveness in female athletes and non-athletes. Unpublished degree thesis, Marshall University.
- Yang, J. C., Gray, P., & Pope, H. G. Jr. (2005). Male body image in Taiwan versus the West: Yanggang Zhiqi meets the adonis complex. *American Journal of Psychiatry*, 162, 263–269.
- Yates, A., Edman, J., & Aruguete, M., (2004). Ethnic differences in BMI and body/self-dissatisfaction among Whites, Asian subgroups, Pacific Islanders, and African-Americans. *Journal of Adolescence Health*., 34(4), 300-307.
- Ye, L., Parish, W. L., & Laumann, E. O. (2005). A population-based study of body image concerns among urban Chinese adults. *Body Image*, 2, 333–345.