

**Perception of bodyweight status among office workers in two government departments in Kuala Lumpur****Fatimah A<sup>1</sup>, Md Idris MN<sup>2</sup>, Romzi MA<sup>1</sup> and Faizah H<sup>1</sup>**

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**ABSTRACT**

The objective of this paper is to assess the perception of bodyweight status among the office workers in two government departments in Kuala Lumpur. A total of 385 Malay workers aged between 18 to 55 years were randomly selected from the Prime Minister's Department and the Ministry of National Unity and Community Development. The weights and heights of all subjects were measured and their Body Mass Index (BMI) determined. In this study, obesity is defined as individuals having  $\geq 25 \text{ kg/m}^2$ . A questionnaire was prepared to obtain information on socioeconomic status, health aspects, dietary intakes, activity levels and perception on bodyweight status. The study revealed a high prevalence of obesity (38.1 %) and among the obese subjects, 21.7 % perceived themselves as having normal weight. The normal weight and underweight subjects perceived themselves as obese (33.5 % and 6.3 % respectively). A small percentage (5.7 %) of the obese individuals who perceived themselves as obese did not wish to lose weight. In contrast, 9.7 % of the normal weight subjects who perceived themselves as having normal weight wanted to lose weight. A third person's perception on the subjects' bodyweight status is significantly associated with the subjects' bodyweight status ( $P < 0.05$ ). Among the obese subjects, more men (32.3 %) perceived themselves as having normal weights as compared to the women (12.3 %). This implies that women are more aware of their bodyweight status as compared to the men.

**INTRODUCTION**

Malaysia is currently undergoing rapid socioeconomic development. Like most growing countries, the problem of obesity represents one of the major health

problems. Affluence and modern technology in developed societies contribute to this increase and steps have to be

taken to overcome the problem. However, weight control programs often fail because there is no attempt to modify clients' personal perception of body image. This encouraged clients to regain weight to match the incorrect images (Popkess & Banks, 1992).

Body image of an individual refers to the physical, emotional and interpersonal view of himself/herself and perception is only one aspects of body image. Misperception of body image may occur in obese patients Some of them may believe that they are larger or smaller than they really are. However, many obese patients do not have disturbances in body Image whereby they gauge their size correctly. In contrary to cultural expectations, not all obese subjects have disturbances in body image (Powers, 1980).

Perception primarily indicates a visual process where sensation is matched with image and the process of recognition take place. When a person said that he perceives something, what he really means is that he has certain expectations about what the thing will be like in the future (Mc Connell, 1974).

This paper reports on the perception of bodyweight status of the obese, underweight and normal weight subjects. The findings will be used in the preparation of an education package in our study to correct the negative perception of bodyweight status especially among the obese individuals.

## **SUBJECTS AND METHODS**

All the government departments in the Federal Territory were initially approached in this cross-sectional study. However, only two departments responded namely, the Prime Minister's Department and the Ministry of National Unity and Community Development. The first phase of this study is done only on the Malay office workers. A total of 500 Malay office workers aged 18-55 years excluding pregnant women and invalids, were randomly selected from the two departments. Only 385 of them responded and others who did not participate were unavailable during the period of the study due to unavoidable reasons.

A questionnaire was designed to obtain information on socioeconomic status, health aspects, dietary intakes, dietary intakes, activity levels and perception of bodyweight status. A guided interview was conducted to obtain the above data. One aspect of the questionnaire requested the respondents to classify themselves as either fat, thin or normal weight based on their and others' perception meaning spouse, family member, colleague or friend. The term fat, thin and normal weight is considered equivalent to obese, underweight and normal weight according to Garrow's classification of body mass index (Garrow, 1981). Questions on their desire to lose weight were also asked.

The height was measured to the nearest 0.1 cm with a microtoise.

The weight was measured to the nearest 0.1 kg with a daily calibrated SECA beam balance. Bodyweight status was assessed based on the Body Mass Index (BMI). The BMI was determined by the following formula :  $BMI = \text{weight (kg)}/\text{height (m)}^2$ . Obesity is defined as individuals having BMI equal or greater than  $25 \text{ kg/m}^2$ . Underweight is defined as individuals having BMI under  $20 \text{ kg/m}^2$  whereas normal weight is defined as individuals having BMI between 20 to  $25 \text{ kg/m}^2$ .

All data was analysed using procedures in the Dbstats Statistical Computer Program. Variables were tested using chisquare tests.

**Table 1.** Characteristics of 385 government office workers in two government departments in Kuala Lumpur

Characteristics		Total (%)
Sex:	Male	186 (48.3)
	Female	199 (51.7)
Age groups:	18 - 34 years old	131 (34.0)
	35 - 44 years old	198 (51.4)
	45 - 55 years old	56 (14.5)
Mean age:	Male	$37.6 \pm 7.3^1$ years old
	Female	$37.2 \pm 6.1^1$ years old
Mean body mass index:	Male	$23.5 \pm 3.8^1 \text{ kg/m}^2$
	Female	$24.0 \pm 4.3^1 \text{ kg/m}^2$
Posts:	Officers	48 (12.5)
	Clerks	273 (70.9)
	Security guards & policemen	27 (7.0)
	Others	37 (9.6)
Marital status:	Single	49 (12.7)
	Married	327 (84.9)
	Divorced	9 (2.3)

<sup>1</sup>mean  $\pm$  SD

## RESULTS

The characteristics of the study sample are described in Table 1. The total number of the respondents was 385 workers. They comprised of an almost equal percentage of men and women (48.3%, 51.7% respectively). The majority of them were clerks (70.9%), followed by officers (12.5%), security guards/policemen (7.0%) and others (9.6%). Out of 385 respondents, 84.9% were married whereas 15.0% were either single or divorced. The mean age for the total sample was  $37.4 \pm 6.7$  years old. The majority (51.4%) were between 35 to 44 years of age.

**Table 2.** The prevalence of underweight, normal weight and obesity among 381<sup>1</sup> government office workers.

Bodyweight status	Men (%)	Women (%)
Underweight (BMI < 20 kg/m <sup>2</sup> )	29 (15.7)	23 (11.7)
Normal weight (BMI 20 - 25 kg/m <sup>2</sup> )	88 (47.5)	96 (49.0)
Obese (BMI > 25 kg/m <sup>2</sup> )	68 (36.8)	77 (39.3)
Total	185 (100.0)	196 (100.0)

<sup>1</sup> 4 respondents were excluded due to incomplete data.

Table 2 shows that the prevalence of obesity among the government office workers for both sexes in the two departments studied is 38.1%. The prevalence is almost similar to other studies done by Jones (1976) and Teo *et al.* (1988). The distribution of the study sample by bodyweight status and sex indicated that there is no significant association between sex and bodyweight status.

The subjects were asked whether they considered themselves as fat, thin or as normal weight individuals. The results show that out of 365 subjects who responded to the questionnaire, 173 (47.4%) considered themselves obese, 37 (10.2%) as underweight and 155 (42.5%) considered themselves to be of normal weight.

The subjects' perception of bodyweight status was then compared to their actual body-weights (Table 3). Twenty three subjects were excluded from the analysis due to incomplete response. Table 3 also indicates that 128 (35.4%) subjects have an incorrect perception of their bodyweight status whereby 30 obese subjects perceived themselves as having normal weights. Among 176 normal weight subjects, 73 of them considered themselves as being obese or underweight (59 and 14 subjects respectively). Out of 48 underweight subjects, 3 of them perceived themselves as obese and 22 of them perceived themselves as having normal weight.

**Table 3.** Self-perception of bodyweight status as related to actual bodyweight status among 362<sup>1</sup> government office workers in Kuala Lumpur

Self-perceived bodyweight status	Actual bodyweight status		
	Obese (%)	Normal weight (%)	Under weight (%)
Obese	108 (78.3)	59 (33.5)	3 (6.3)
Normal weight	30 (21.7)	103 (58.5)	22 (45.8)
Underweight	0 (0.0)	14 (8.0)	23 (47.9)
Total	138 (100.0)	176 (100.0)	48 (100.)

<sup>1</sup>23 respondents were excluded due to incomplete data  
P < 0.05

It is interesting to note that one fifth (21.7%) of the obese subjects considered themselves as having normal weight. In contrast, 33.5% of the normal weight subjects considered themselves obese. A small percentage of the underweight subjects (6.3%) perceived themselves as obese and 48.5% perceived themselves as having normal weights.

**Table 4.** Self-perception of bodyweight status among 138<sup>1</sup> obese subjects.

Self-perceived bodyweight status	Sex	
	Men (%)	Women (%)
Obese	44 (67.7)	64 (87.7)
Normal weight	21 (32.3)	9 (12.3)
Total	65 (100.0)	73 (100.0)

<sup>1</sup>7 respondents were excluded due to incomplete data.  
P < 0.05

**Table 5.** A third person's perception of bodyweight status on 135<sup>1</sup> obese subjects by sex

A third person's perception on the subjects body-weight status	Sex	
	Men (%)	Women (%)
Obese	49 (77.8)	49 (68.1)
Normal weight	12 (19.0)	21 (29.2)
Underweight	2 (3.2)	2 (2.8)
Total	63 (100.0)	72 (100.0)

<sup>1</sup>10 respondents were excluded due to incomplete data.

Table 4 shows the perception of the obese subjects on their bodyweight status. Among the obese subjects, a higher proportion of men (32.3%) perceived themselves as having normal weight in comparison to the female subjects (12.3%). None of them perceived themselves as underweight.

The subjects were asked to recall comments usually made by a third person (e.g. spouse, family member, colleague or friend) regarding their body weight status. There is no significant association of bodyweight status as perceived by a third person between obese men and women (Table 5). The majority of the obese men (77.8%) and women (68.1%) were perceived as obese correctly by a third person. The remainder of the obese subjects were perceived as nonobese by the third person.

Table 6 describes the desire of the obese individuals to lose weight in relation to their perception of bodyweight status. The majority

**Table 6.** The desire to lose weight as related to self-perception of bodyweight status among 133 obese subjects.

The desire to lose weight	Self-perception of bodyweight status	
	Obese (%)	Normal weight (%)
No	6 (5.7)	19 (67.9)
Yes	99 (94.3)	9 (32.1)
Total	105 (100.0)	28 (100.0)

<sup>1</sup> 12 respondents were excluded due to incomplete data.

**Table 7.** The desire to lose weight as related to self-perception of bodyweight status among 163 normal weight subjects

<i>Desire to lose weight</i>	<i>Self-perception of the bodyweight status</i>		
	<i>Obese (%)</i>	<i>Normal weight (%)</i>	<i>Underweight (%)</i>
No	16 (28.1)	84 (90.3)	12 (92.3)
Yes	41 (71.9)	9 (9.7)	1 (7.7)
Total	57 (100.0)	93 (100.0)	13 (100.0)

<sup>1</sup>21 respondents were excluded due to incomplete data.

(94.3%) of the obese subjects who correctly perceived themselves as obese desired to lose weight. However, only 32.1% of the obese subjects who perceived themselves as having normal weight wanted to lose weight.

Table 7 shows the desire of the normal weight subjects to lose weight in relation to their perception of bodyweight status. The majority of those who perceived themselves as obese wanted to lose weight. However, only 9.7% of the normal weight subjects who perceived themselves as underweight wanted to lose weight.

Table 8 describes the desire of the obese individuals to lose weight. The desire to

lose weight was studied in relation to a third person's perception of bodyweight status. The majority (85.1%) of the obese subjects who were perceived as obese by a third person wanted to lose weight. Among the obese subjects who were considered as having normal weights, only 75% desired to lose weight. Only half (50.0%) of those who were considered as underweight by a third person, wished to lose weight.

Table 9 shows the desire of the normal weight individuals to lose weight. The desire to lose weight was studied in relation to a third person's perception of bodyweight status. The majority (60.4%) of the normal weight individuals who were

**Table 8.** The desire to lose weight among 130 obese subjects as related to a third person's perception on their bodyweight status

<i>Desire to lose weight</i>	<i>A third person's perception on bodyweight status</i>		
	<i>Obese (%)</i>	<i>Normal weight (%)</i>	<i>Underweight (%)</i>
No	14 (14.9)	8 (25.0)	2 (50.)
Yes	80 (85.1)	24 (75.0)	2 (50.0)
Total	94 (100.0)	32 (100.0)	4 (100.0)

<sup>1</sup>15 respondents were excluded due to incomplete data.

**Table 9.** The desire to lose weight among 161 <sup>1</sup> normal weight subjects as related to a third person's perception on bodyweight status

<i>Desire to lose weight</i>	<i>A third person's perception on bodyweight status</i>		
	<i>Obese (%)</i>	<i>Normal weight (%)</i>	<i>Underweight (%)</i>
No	19 (39.6)	63 (84.0)	29 (76.3)
Yes	29 (60.4)	12 (16.0)	9 (23.7)
Total	48 (100.0)	75 (100.0)	38 (100.0)

<sup>1</sup>23 respondents were excluded due to incomplete data.

perceived as obese by a third person wanted to lose weight. Among the normal weight subjects who were considered as having normal weight and underweight by a third person, 16.0% and 23.7% respectively desired to lose weight.

## DISCUSSION

The majority (78.3%) of the obese subjects perceived themselves as obese. Among the normal weight subjects, 58.5% perceived themselves as having normal weights whereas only 48.5% of the underweight subjects saw themselves as underweight. The result shows that the individuals who were obese tend to perceive their bodyweight status more correctly than the nonobese individuals. A similar finding is also documented by Wolman (1982).

Among the normal weight individuals, quite a high percentage (33.5%) of them perceived themselves as obese. This might be due to the fact that they were not satisfied with their body image which was reflected by their misperception on their bodyweight status. This finding is comparable to studies done by Laffrey

(1986) who reported that 92% of the overweight and 36% of the normal weight participants perceived themselves as obese. However, the percentage of normal weight subjects who thought that they are obese in our study is lower than that reported by Laffrey (1986). This could be due to the influence of cultural standards of desired body shapes. According to Wolman (1982), the perception and evaluation of one's body appears to be highly influenced by cultural and societal standards of appropriate body shapes.

A high percentage (45.8%) of the underweight individuals considered themselves as having normal weights. This implies that the underweight state was more desirable and considered "normal" among the subjects. Most persons generally tend to overestimate their body size (Cappon & Banks, 1968).

In this study, the result indicates that among the obese subjects, more men (32.3%) thought that they are of normal weight as compared to the women (12.3%). The result implies that men tend to underestimate their actual body

size whereas the reverse is true for women. Twice as many women is not happy with their body weight status as men.

The findings indicates that 27.4% of the obese subjects were considered as not obese by a third person (they were either perceived as having normal weight or underweight). However only 21.7% of the obese subjects saw themselves as not being obese. None of them perceived themselves as underweight. This results suggest that the obese subjects perceived overweight status better than a third person.

The majority of the obese subjects (94.3%) who perceived themselves as obese wanted to lose weight. Only 32.1% of the obese individuals who thought that they are of normal weight desired to lose weight. This implies that the self-perception on bodyweight status of the obese individuals influenced their desire to lose weight. White (1984) concluded from his research findings that body image is a more important motivating factor for entering treatment than were physiological health concerns. The remainder 5.7% of the obese individuals who saw themselves as obese did not want to lose weight. However, this percentage is lower compared to a study done by Horm and Anderson (1993) on a random sample of the United States' population. He reported that 27% of those persons who saw themselves as obese made no attempt to lose weight.

The similar trend is observed among the normal weight subjects regarding their

desire to lose weight. The majority of them (71.9%) who perceived themselves as obese wanted to lose weight. Only 9.7% of the normal weight individuals who perceived themselves as having normal weight desired to lose weight.

A third person's perception of bodyweight status is an important factor for the obese subjects to lose weight. The majority (85.1%) of the obese subjects who were thought as obese by a third person, wanted to lose weight.

Self-perception of bodyweight status is a slightly better motivating factor in influencing the desire to lose weight among the obese subjects. This study reports that 94.3% of the obese subjects desired to lose weight as compared to 85.1% of those who were perceived as obese by a third person. A similar trend is true among the normal weight subjects whereby their own perception is a better motivating factor than a third person's perception.

## **CONCLUSIONS**

In conclusion, the study reports that 21.7% of the obese individuals perceived themselves as having normal weights. There are also other forms of misperception of bodyweight status. The underweight subjects reported themselves as being obese or of normal weights and the normal weight subjects considering themselves as obese and underweight. The focus of this study is only on the obese individuals. Another paper will report on the psychological implications on the misperception of bodyweight status.

Another aspect of the finding is motivation factor towards weight loss. Self-perception of bodyweight status is a better motivating factor towards the desire for weight loss as compared to the third person's perception on bodyweight status.

It is interesting to note that twice as many women is not satisfied with their present weight. Women tended to overestimate their body size. On the other hand, men preferred to be heavier and there is a tendency for men to underestimate their body size as reported in this study. There is a need to change this misperception of bodyweight status in order to overcome the problem of obesity in our society.

Motivation factors like self-perception and a third person's perception should be incorporated in an Intervention program to prevent and overcome the problem of obesity. Utilizing the findings of this study, a health education package will be prepared to correct the misperception of bodyweight status.

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