



# Psychological well-being and weight efficacy lifestyle of adults with obesity

## Abstract

**Background and aim:** Obesity is a growing phenomena and various psychological constructs need to be addressed in obesity as psychological aspects play an important role in the development and maintenance of obesity. Psychological constructs related to obesity such as weight efficacy lifestyle play a dynamic role. There is a dearth of studies on weight efficacy lifestyle and psychological well-being among obese adults especially in the Indian setting. The aim at the present study was to examine the differences in psychological well-being and weight efficacy lifestyle in obese and normal weight Indian adults. **Methods:** The sample involved 200 obese adults aged 18 to 42 years and 100 normal adults belonging to age group 18 to 42 years. Body mass index, Weight Efficacy Lifestyle (WEL) scale and Ryff's Psychological Well-Being (PWB) scale were used to collect the data. t-test was used to study the differences between the two groups of obese adults and normal weight adults. **Results and conclusions:** The findings revealed that there were significant differences in WEL scale for two sub-domains (negative emotions,  $t=3.133$ ,  $p<0.01$  and social pressure,  $t=2.934$ ,  $p<0.01$ ) between the obese adults and the normal weight adults indicating that the obese adults experienced lesser negative emotions and social pressure as compared to the normal weight adults. On the PWB scale there were significant differences in three sub-domains such as autonomy ( $t=2.735$ ,  $p<0.01$ ), environmental mastery ( $t=2.496$ ,  $p<0.05$ ), and self-acceptance ( $t=2.190$ ,  $p<0.05$ ) between the obese adults and the normal weight adults indicating that obese adults had lower autonomy, poorer environmental mastery, and lesser self-acceptance than the normal weight adults.

**Keywords:** Body Mass Index. Autonomy. Eating.

**Harpreet Mehar<sup>1</sup>, Shikha Srivastava<sup>2</sup>,  
Ranjana Tiwari<sup>3</sup>**

<sup>1</sup>Assistant Professor in Clinical Psychology, Child Development Centre, Department of Pediatrics, Maulana Azad Medical College, New Delhi and PhD Scholar at Galgotias University, Greater Noida, Uttar Pradesh, India, <sup>2</sup>Program Chair and Assistant Professor, Department of Applied Psychology, School of Humanities and Social Sciences, Galgotias University, Greater Noida, Uttar Pradesh, India, <sup>3</sup>Assistant Professor, Department of Applied Psychology, School of Humanities and Social Sciences, Galgotias University, Greater Noida, Uttar Pradesh, India

**Correspondence:** Harpreet Mehar, Flat No. 4177, Sector D, Pocket 4, Vasantkunj, New Delhi-110070, India. harpreetmehar@gmail.com

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## Introduction

Despite medical advances in the treatment of obesity, it is an increasing phenomena in the world. Obesity cannot involve only addressing physical health aspects but psychological aspects related to obesity as well need to be looked into. If only the physical aspects are addressed the vicious cycle of gaining and losing weight would continue for many obese individuals.[1] Psychological issues play a significant role in the development and consequences of obesity and hence obesity is as much a psychological problem as a physical problem.[2] To look at the psychological aspects in obese adults it would be interesting to see the psychological well-being of obese adults. Psychological well-being has been defined as "The striving for perfection that represents the realisation of one's own true potential".[3] Psychological well-being of an individual is influenced by other psychological variables such as weight efficacy lifestyle.

Lifestyle of an individual influences obesity however weight efficacy lifestyle is related specifically to the weight of an individual. It is a relatively newer concept and needs to be researched further. Weight efficacy lifestyle has been hardly researched in India. Self-efficacy is defined as an individual's

ability to perform on a task so as to mediate the performance on future tasks.[4] To address this concern in obese adults, the concept of weight efficacy lifestyle was developed that assesses an individual's confidence to abstain from eating in a variety of different situations.[5]

To gain insight on role of psychological well-being and weight efficacy lifestyle in obesity, it is important, first to establish if there are significant differences in these aspects among obese and normal weight adults. Hence in the present study psychological well-being and weight efficacy lifestyle are compared between obese as well as normal weight Indian adults.

## Method

### Objectives

To study the difference in psychological well-being and weight efficacy lifestyle between obese adults (study group) and normal weight adults (comparative group).

### Hypothesis

Psychological well-being and weight efficacy lifestyle of obese adults would be poorer than normal weight adults.

## Participants

A sample size of 200 obese adults of age group 18 to 42 years was randomly selected from different clinics in Delhi as well as from Galgotias University, Greater Noida, Uttar Pradesh, India. A sample of 100 normal weight adults of age group 18 to 42 years was selected from Galgotias University (involving both faculty and students). However while analysing, one data was incomplete in the comparative group (female participant) and had to be excluded.

### Inclusion criteria for obese adults

1. Participants who had a body mass index (BMI)  $\geq 30$ .
2. Participants who had age range of 18 to 42 years.

### Exclusion criteria for obese adults

1. Participants who underwent surgery (for any organ like heart, liver, kidney, etc.) in last three months.
2. Participants who had sub-average intelligence as per the clinical interview.
3. Pregnant or lactating women.
4. Women who had childbirth within last six months.
5. Participants with physical disorder of thyroid, hypertension, or diabetes.
6. Individuals with depression or anxiety.

### Inclusion criteria for normal weight adults

1. Participants who had a BMI of 19 to 24.9.
2. Participants who had age range of 18 to 42 years.

### Exclusion criteria for normal weight adults

1. Participants who had a BMI of  $\geq 30$ .
2. Participants who underwent surgery (for any organ like heart, liver, kidney, etc.) in last three months.
3. Participants who had sub-average intelligence as per the clinical interview.
4. Pregnant or lactating women.
5. Women who had childbirth within last six months.
6. Participants with physical disorder of thyroid, hypertension, or diabetes.
7. Individuals with depression or anxiety.

## Measures

### *Demographic information sheet*

A data information sheet was prepared to collect details of the participants' age, education, number of family members, family history, socioeconomic status, occupation, and residence.

### *Body mass index*

BMI was calculated by weight (in kg) divided by height (in cm).

### *Self-report measures*

#### *Weight efficacy lifestyle (WEL)*

The WEL has 20 items. This assesses a person's confidence in being able to resist from eating in a variety of different

situations.[5] The questionnaire gives an overall or total score as well as subscale scores. The subscales are negative emotions, availability, social pressure, physical discomfort, and positive activities. High scores indicate high eating self-efficacy and low scores indicate low eating self-efficacy. The reliability of WEL on Cronbach alpha ranged from 0.70 to 0.90. The measure also shows convergent validity of the Eating Self-Efficacy Scale.

#### *Ruff's Psychological Well-Being (PWB)*

The 54-item scale version was used.[3] The scale involves items of six constructs of psychological well-being which is autonomy, self-acceptance, environmental mastery, personal growth, purpose in life, and positive relations with others. Responses are totalled separately for the six constructs. A high score by the respondent indicates that the person has mastery over that area and a low score indicates that the respondent is struggling with that particular concept of psychological well-being. The inter-factor correlations between the psychological well-being constructs were sufficiently high ( $>0.80$ ). Internal consistency varied from 0.86 to 0.93 for the various dimensions.

### *Procedure for obese and normal weight adults*

Ethical clearance was not required in the present study as it was non-intervention-based. The participants that met the above mentioned inclusion and exclusion criteria were explained the purpose of the study. Participants who gave written informed consent were selected for the study. BMI was recorded. WEL and PWB scales were administered on 200 obese adults.

### *Statistical analysis*

SPSS-20 version was used for statistical analysis. t-test was used to find out the difference between adults with obesity and adults with normal weight with regard to psychological well-being and weight efficacy lifestyle.

## Results

Table 1 reflects the socio-demographic data of the obese adults and the normal weight adults. Gender was equal for the obese adults group (50% males and 50% females) and almost equal for the normal weight adults group (50.5% males and 49.5% females). As for age there were more middle aged participants (61.5%) as compared to young participants (38.5%) in the obese adults group whereas in the normal weight adults there were more young participants (67.7%) as compared to middle aged participants (32.3%). As for education maximum participants were graduates in both the obese adults group (35.5%) as well as in the normal weight adults group (55.5%). As for marital status in the obese adults group, maximum (75%) participants were married and unmarried (25%) were less whereas in the normal weight adults group, maximum participants were unmarried (56.6%) and the married (43.4%) participants were lesser.

Table 2 reflects the comparative mean and SD and t-test for the obese adults and the normal weight adults among the

**Table 1:** Socio-demographic data for the obese adults and the normal weight adults

Socio-demographic variables	Obese adults (%)	Normal weight adults (%)
Gender		
Male	100 (50)	50 (50.5)
Female	100 (50)	49 (49.5)
Age		
Young (18-30 years)	77 (38.5)	67 (67.7)
Middle aged (31 to 42 years)	123 (61.5)	32 (32.3)
Education		
Up to 12th standard	34 (17)	2 (2.02)
Graduation	71 (35.5)	55 (55.55)
Post-graduation	61 (30.5)	41 (41.41)
Above post-graduation	34 (17)	1 (1.01)
Marital status		
Married	150 (75)	43 (43.4)
Unmarried	50 (25)	56 (56.6)

various sub-domains of WEL and PWB scales. On WEL scale there were significant differences between two sub-domains which was negative emotions ( $t=3.133, p=0.002$ ) and social pressure ( $t=2.934, p=0.004$ ) between the obese adults and the normal weight adults. The mean was lesser for the obese adults ( $23.405\pm 8.763$ ) than the normal weight adults ( $26.283\pm 6.744$ ) for the negative emotions sub-domain of the WEL scale indicating that obese adults experienced lesser negative emotions in comparison to the normal weight adults. The mean was lower for the obese adults ( $21.155\pm 7.053$ ) than the normal weight adults ( $23.707\pm 7.090$ ) for the social pressure sub-domain also of the WEL scale indicating that obese adults experienced lower social pressure as compared to the normal weight adults. The mean score of WEL-total in the obese adults was 107.130 (28.432) and in the normal weight adults was 116.585 (26.738) which suggests that the mean score of the normal weight adults was found to be high in comparison to the obese adults indicating that the overall weight efficacy lifestyle of the obese adults was poorer than the normal weight adults. On PWB scale there were significant differences in three sub-domains which are autonomy ( $t=2.735, p=0.007$ ), environmental mastery ( $t=2.496, p=0.013$ ) and self-acceptance ( $t=2.190, p=0.029$ ) between the obese adults and the normal weight adults. The mean was lower for the obese adults ( $35.210\pm 6.133$ ) than the normal weight adults ( $37.293\pm 6.325$ ) on the autonomy sub-domain indicating that obese adults had lower autonomy as compared to the normal weight adults. On the environmental mastery sub-domain also the mean was lower for the obese adults ( $36.470\pm 6.527$ ) than the normal weight adults ( $38.450\pm 6.405$ ) indicating that obese adults had lesser environmental mastery than the normal weight adults. The mean was lower for the obese adults ( $36.390\pm 6.467$ ) than the normal weight adults ( $38.050\pm 5.583$ ) on the self-acceptance sub-domain too indicating that obese adults had lower self-acceptance as compared to the normal weight adults.

**Table 2:** t-test for weight efficacy lifestyle (WEL) and psychological well-being (PWB)

Sub-domains of the scales	Obese adults N=200	Normal weight adults N=99	t	p
WEL-negative emotions	23.405 (8.763)	26.283 (6.744)	3.133	0.002*
WEL-availability	17.650 (8.216)	19.121 (6.885)	1.534	0.126
WEL-social pressure	21.155 (7.053)	23.707 (7.090)	2.934	0.004*
WEL-physical discomfort	23.925 (7.859)	25.434 (6.099)	1.824	0.069
WEL-positive activities	20.995 (7.821)	22.040 (6.217)	1.253	0.212
WEL-total	107.130 (28.432)	116.585 (26.738)	2.759	0.006*
PWB-positive relations	37.945 (7.691)	38.657 (6.460)	0.792	0.429
PWB-autonomy	35.210 (6.133)	37.293 (6.325)	2.735	0.007*
PWB-environmental mastery	36.470 (6.527)	38.450 (6.405)	2.496	0.013**
PWB-personal growth	37.050 (6.911)	37.830 (6.449)	0.937	0.350
PWB-purpose in life	38.015 (6.855)	37.172 (6.227)	1.031	0.303
PWB-self-acceptance	36.390 (6.467)	38.050 (5.583)	2.190	0.029**
PWB-total	221.070 (30.986)	227.454 (27.995)	1.730	0.085

F value significant at alpha \*0.01, \*\*0.05

## Discussion

The aim of the present study was to see if there is any difference in psychological well-being and weight efficacy lifestyle between obese and normal weight adults. For this purpose a sample of 200 obese adults and 100 normal weight adults of the age group of 18 to 42 years were selected. PWB and WEL scales were administered to the participants and the data was analysed with t-test. As far as the socio-demographic details for the present study is concerned, gender was equally distributed (50% males and 50% females) in the obese adults group and was almost equal in the normal weight adults (Table 1). There were more participants of middle age (61.5%) in the obese adults and more young participants (38.5%) in the normal weight adults (Table 1). Maximum candidates were graduates in both the obese adults (35.5%) as well as in the normal weight adults (55.5%) (Table 1). More participants were married (75%) in the obese

adults and more unmarried (56.6%) in the normal weight adults (Table 1).

The findings on t-test revealed that there were significant differences between the obese adults and the normal weight adults for WEL and PWB scales (Table 2). On WEL there were significant differences in two sub-domains. Negative emotions ( $p < 0.01$ ) and social pressure ( $p < 0.01$ ) were the sub-domains that showed significant differences between the obese and normal weight adults. The mean was lower for obese adults than normal weight adults for negative emotions (Table 2) indicating that obese adults experience lesser negative emotions as compared to the normal weight adults. A previous research study revealed that disordered eating behaviours function as maladaptive efforts to escape from negative emotional states in obese college students.[6] In the findings of the present study also negative emotions significantly differed with obese and normal weight adults. Obese adults may have maladaptive eating in order to cope with their negative emotions in their life. Another researcher also found in their study that binge eating was used inappropriately to deal with negative emotions by obese adults that would in turn further contribute to obesity.[7] Hence obese adults may have difficulty in dealing with their negative emotional states and consume food in a maladaptive pattern as a consequence to negative emotions, which increases their obesity further. In a previous study researchers looked into people's food portion size decisions and found that social pressure was a factor of individuals to eat inappropriate food portion size which in turn leads to increase in weight.[8] Significant differences in the present study have been observed between the obese and normal weight adults. It could be that obese adults give in to social pressure easily and consume food despite not being hungry. This further contributes to increasing their obesity. There were no significant differences between the two groups on physical discomfort, positive activities, and availability sub-domains of WEL scale. A previous research study found that obese people used poor coping mechanisms to deal with their physical pain.[9] In the current study however no significant difference was found between obese and normal weight adults on physical discomfort sub-domain. A previous research study has demonstrated that eating while watching television in obese adults is a negative activity being followed.[10] However in the current study there was no significant difference on this aspect. It could be eating while TV viewing is a regular activity for all adults due to lack of time in this competitive times. Researchers investigated in a study and found that the presence of fast-food restaurants has an effect on BMI.[11] However in the present study there was no significant difference on availability of food items. This could be due to lack of time in this competitive times and people buying food in order to save time and energy for cooking.

On PWB scale there were significant differences between the obese adults and normal weight adults on three sub-domains out of six (Table 2) which is autonomy, environmental mastery, and self-acceptance. The mean was higher in the normal weight adults for the three sub-domains indicating that obese individuals had lower autonomy, lesser environmental mastery, and lower self-acceptance than normal weight adults (Table 2). A previous study on obese individuals concluded

that when physicians used reflective listening techniques, the obese patients saw it as receiving high autonomous support and results improved for autonomy.[12] In the present study the findings of lower autonomy in obese adults are also consistent with the previous research that autonomy is low in obese individuals. A previous study investigated the effect of emotional eating on obesity and found that people with eating disorders like anorexia, bulimia, purging signs reported poor mental health and more emotional eating.[13] In the present study lower scores on environmental mastery in the obese adults than the normal weight adults could be due to emotional and external cue eating. Researchers found that obese persons reported lower levels of self-acceptance than normal weight persons.[14] The finding of the current study on self-acceptance is consistent with the previous research findings. There was no significant difference on the positive relations, personal growth, and purpose in life sub-domains of the scale for both the obese and the normal weight adults. In today's times where it is difficult to make ends meet and survive in this competitive world it could be that most individuals maintain positive relations with people and have a definitive purpose of life and emphasise personal growth also irrespective of obesity.

The present study was done on a large sample of obese adults which is a strength. The limitation of the present study is that it is not a longitudinal study from which the trends of obesity could have been known. Another limitation was that the study is not done in multi cities of India and was restricted to Delhi and National Capital Region (NCR) only. Future studies can be done in various Indian cities to see if the results vary or are the same.

## Conclusion

The present study revealed significant differences between obese and normal weight adults with regard to negative emotions, social pressure, and overall total of WEL scale. Significant difference was found on autonomy, environmental mastery, and self-acceptance sub-domains of PWB scale between obese and normal weight adults.

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