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Development of Stressor Scale for Obese People

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Present study was conducted to develop and validate an Indigenous scale to assess the stressors experienced by obese people in different domains of their lives. Mixed method design and purposive sampling technique was used. A list of 29 items was generated after thorough review of the literature and from the details of the interviews conducted with the participants. Validation from expert clinical psychologists was obtained. Exploratory factor analysis (EFA) with oblimin rotation was run on a sample of 300 participants for current study. Confirmatory factor analysis on a separate sample of 400 participants yielded a good model fit and validated three-factor structure with fit indices χ 2 = 807.45 (*df* = 320, N = 300), p < .05, RMSEA = .062, CFI = .91 and TLI = .88. The Cronbach alpha valuewas.86 indicating strong internal consistency of the scale. The distress and Well-being subscales of Mental Health Inventory were utilized to assess the convergent and divergent Validity which yielded positive and negative correlation respectively affirming Stressor Scale for Obese people as a valid construct. The study is an initial step to highlight and understand the stressors experienced by obese people and its severity level. This will help doctors and mental health professional to devise effective management of obesity.

Keywords. Obesity, stressors, negative self-image, social issues, physical and emotional problems

Obesity is a condition in which the body carries excess amount of fat which in turn increases weight and contributes in affecting health adversely. In condition of obesity a person's body mass index (BMI) is higher than required body mass index according to his height, weight and built (Nuttall, 2015). There is an alarming increase in the

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rate of obesity all around the globe, people of all age cohorts are experiencing excessive weight gain and as a result potentially harmful health problems are also at rise. Obesity is a combination of poor lifestyle habits along with the contribution of hereditary (Mitchell, Catenacci, Wyatt, & James, 2011).

Body mass index is one of the most widely used method to recognize the chances of an individual's inclination towards obesity. It is a reliable source to monitor the excess weight gained by an individual and keep a check on the major health problems which may surface in result of it (Bipembi, Acquah, Panford & Appiah, 2015). Previous studies confirmed that BMI values can vary according to ethnic groups. The Asian populations tend to have higher amounts of fat deposited in their bodies at a lower BMI as compared to the western populations which advocates that Asian population are classified as obese with lower BMI cut offs (Misra & Dhurander, 2019).

The prevalence of obesity has doubled and for some countries tripled since 1980. Europeans manifested escalation in obesity for both genders with 32.2% for men and 35.5% for women which has shown the greatest contribution in increased statistics on weight gain (Yanovski & Yanovski, 2011). In Pakistan there is prominent gender difference in incidence of obesity with 28 percent of men in contrast to 38 percent of women experiencing obesity. It is evident from the literature that in youth this condition is growing rapidly. It is also emphasized that the urban population has higher rates of obesity as compared to rural population (Siddiqui et al, 2018).

Formerly, Pakistan was victim of starvation and was identified by undernourishment in adults and children. With the modern-day life with Urban sprawl and adoption of unhealthy lifestyle it is ascertained that one in every four adults are categorized as obese or overweight which shows the need to work on this area expeditiously which current study aimed to do (Butt et al., 2019).

Condition of obesity being such an elevated problem requires it to explore diverse areas of life affected obesity. Stressors can manifest in different ways either physical, social or environmental conditions which challenge the capacity of a person to adapt in different situations. These situations may include a variety of different psychological and physical challenges (Monroe & Slavich, 2016).

We live in a time weighed into unrealistic standards of beauty set by the media giving set caliber towards the physical appearance of a person (Quittkat et al., 2019). When such standards of physical appearance are set it becomes difficult for a person who out stands.

Another study showed that obese people are rejected and discriminated on many occasions which is stressful for them. They avoid any kind of participation or involvement in social gatherings or events and are often hurtful jokes and comments, are judged negatively, teased and name called by the people around them. Also, an obese individual is considered lethargic and self- absorbed, by normal weight individuals which affects their overall personality adversely (Puhl & Brownwell, 2012).

Obesity has its roots in multiple medical ailments. Diabetes type II is most common among the people who are obese. Almost 90 percent of the time being overweight results in the condition of diabetes type II. According to this research the incidence of obesity related diabetes will be doubled by the year of 2025 (Lietner, 2017). Pakistan has secured the highest percentage of individuals with diabetes in South Asia and majority cases of diabetes are linked with obesity (Sidiqui et al., 2018).

Infertility is another problem commonly experienced by obese individuals. They are unable to reproduce successfully which further adds to their stress levels. Having a healthy weight leads to early conception and a healthy baby, but increased weight may cause infertility. In women menstrual disturbance is often experienced due to excess body fat which may further cause fertility problems (Silvestris, Pergola, Rosania, & Loverro, 2018).

A study conducted in Karachi concluded that obesity leads to multiple diseases. It was found to elevate the chances of cardiovascular diseases and hypertension. Weight gain can cause many changes in the structure and functioning of a human heart which further impairs its functioning (Amin, Fatima, Islam, & Gilani, 2015). There is a high prevalence of hypertension in obese individuals as there is a direct relation between the systolic and diastolic blood pressure levels and BMI of an individual (Hall et al., 2015).

Apart from the severe physical ailments routine tasks can be stressful for people with higher BMIs. As shown by a study conducted in Islamabad that obese individuals experience different body aches and get easily fatigued. Tasks like work out, steering way up to the stairs and walking for a mile or more were strenuous for them. Quite often they were not able to accomplish their physical tasks planned for a day as they get exhausted and the desired goals are not achieved (Malik, Shaukat, Hussain, & Hashmi, 2019).

Literature suggests several psychological problems associated with obesity. A meta-analysis of cross-sectional studies was carried out of general population by acquiring the data from PubMed and

Psycinfo to examine the relation between obesity and depression. The relationship was significantly positive among the population, but higher positive significant relationship was evident among obese females and depressive symptoms (Wit et al., 2010).

Another study was conducted on university students in Islamabad to monitor the fear of negative evaluation by others and the internalized self-criticism in the obese individuals. Results showed that there is a lower level of psychological well-being in obese people along with increased criticism towards self and the constant fear of being negatively evaluated by the society (Shamyle & Naqvi, 2016).

Obese people often undergo stigmatization from the society which damages their self-esteem and lowers their level of confidence. Research in New Jersey was conducted to explore the stigmatization, self-esteem and psychological functioning of obese people. The results revealed that weight related stigmatization was frequent among obese population and most common forms of stigmatization included the rejection from the society and incorrect assumptions made by the people about them (Friedman et al., 2005).

Obesity gives a way to low self-esteem which can lead to depression. Weight related discrimination can be stressful which further seeds anxiety related problems. When a person does not achieve desired weight, it can lead to feelings of anxiety (Weschenfelder, Bentley, & Himmerich, 2018).

After the thorough review of the literature, it is evident that obesity is common illness which contributes to the stress in the life of an individual. This condition being quite common requires extra attention to manage its detrimental consequences. We can admit obesity as a source of stress for an individual, but the types of stressors cannot be assessed separately which demands a culturally relevant tool which will assess the diverse stressors faced by obese population in their personal and social life.

A valid and culturally relevant scale will assist in formally identifying and assessing the severity level of stressors experienced by obese people which will sequentially help in devising effective prevention and management plans for stress and obesity. It will also elucidate the types of stressors experienced by obese individuals in different domains of life. Most of the previously done work on obesity is on females though current study included both genders to yield an unambiguous and culturally relevant scale to culture of Pakistan.

Objectives

Following are the objectives of study:

1. To develop a scale for stressors of obese people keeping in view the Pakistani culture.
2. To establish the psychometric properties of the indigenously developed tool.

Method

Present study was conducted in two phases:

Phase I: Exploring Phenomenology and Items Generation

Items Pool. First step was generation of an item pool for stressors of obese people. An interview protocol was prepared for this purpose by reading the literature thoroughly, Discussions related to the topic were carried out with the experienced psychologists. After gathering the information from these sources, the commonly experienced stressors were identified, and interview questions were generated. The tentative interview protocol covered various affected domains (social, personal, and physiological) of an obese individual's life. It was given to two senior psychologists for suggestions. Relevant interview questions were shortlisted. Final interview protocol was carried out with a total of twenty participants including five unmarried males, five married males, five unmarried females and five married females. A list of 30 items pertaining to stressors of obese people was retained for content validation.

Content validation. The aim of this phase was to establish content validity of the items generated. The experts included three female clinical psychologists with MS/PHD in Clinical Psychology along with experience of five years. The scale defining stressors of obese people consisting of 30 items was given to the experts to rate each item on its degree of relevance to stressors of obese people. The scale was rated on a 5-point Likert scale where 5 being the highest level of relevance to stressors of obese people and 1 being the lowest level of relevance.95 percent agreement was calculated for each item and all the items were retained with slight changes in sentence structure which established the content validity. The final scale had a scoring on five-point Likert scale 0 = *never*, 1 = *very less*, 2 = *sometimes*, 3 = *most of the time*, 4 = *always*. The highest score on the scale was 120, higher score suggested greatest level of stressors related to obesity.

Tryout phase. To assess the suitability of language whether the respondents encountered any difficulty or confusion in the comprehension of the items of scale try out was conducted with fourteen participants including seven males and seven females. Participants were selected by purposive sampling. Permission for administration of questionnaires was directly obtained from students. Participants were given instructions on how to respond to the questions. Queries from the participants were clarified by the researcher. It took them 15 minutes approximately to complete the protocol. Overall, the try out phase concluded that participants experienced no major difficulty in understanding of the questionnaire.

Phase II: Establishing Psychometric Properties of the Scale

In phase II, scale was administered on the participants to establish the psychometric properties of the scale. Exploratory factor analysis, convergent and divergent validity of the scale and confirmatory factor analysis were done. Total data set of 700 participants was taken. EFA and CFA was run on different data sets of 300 and 400 participants, respectively. In the succeeding paragraph EFA details are mentioned followed by the details of CFA.

Sample. Purposive technique was used. The sample consisted of three hundred participants comprising of 150 Males and 150 females; (75 unmarried males and females, and 75 married males and females). Unmarried population was selected from colleges and universities. Married population was approached through malls, parks, neighborhood, airport, railway stations and hospitals. The exclusion criteria of the sample were people over the age of thirty, people with the medical causes of obesity like hormonal imbalance and those who were physically challenged were not part of the study. The inclusion criteria were age range between 18 and 30 years and participants with the BMI under the category of obesity.BMI was calculated using the height and weight of the participant using weighing scale and inches tape. The BMI ranging from 23-27.5 is taken under the category of overweight and higher than 27.5 falls in the category of Obesity (Lim, et al, 2017). All the participant with BMI higher than 27.5 were selected.

Measures. Following measures were utilized in field administration

***Stressor Scale for Obese People*.** This scale was developed in current study. It consisted of 30 items which included the stressors faced by obese people in different domains of their lives. The scale had a scoring on five- point Likert scale 0 = *never*, 1= *very less*, 2 =

sometimes, 3 = *most of the time*, 4 = *always*. Overall score ranges between 0 to 120.

Mental Health Inventory. Mental Health Inventory was developed by Viet and Ware (1983). This was used to assess the convergent and divergent validity of the newly developed scale. The scale consisted of 38 items with 22 items assessing distress and 16 items assessing the well-being of the person. Urdu version of this scale was used to establish the convergent and divergent validity of the scale. The scale consisted of thirty-eight items with different ranges of scoring for different items. Mostly the items had 5-point or 6-pointLikert scale ratings. The scale showed significant correlation between its items and total score which confirmed its construct validity. Alpha reliability coefficient values of the wellbeing and distress subscales (.95 and .96) showed the scale as reliable and acceptable (Khan, Hanif, & Tariq, 2015).

Procedure. Data collection started after taking permission from the authorities. Data was collected from various places i.e. (universities, colleges, offices, gyms, high court, railway station, parks, societies, and hospitals). Participants were educated regarding the aim of the study and were inquired about their willingness to participate in the study. After their approval participants were provided questionnaires. Consent forms were also signed by the participants, and they were ensured about the confidentiality principle that their identity and all information shared during the study will be kept private from any external source, use or tampering (Coffelt, 2017). Participants were provided with the protocol consisting of consent form, demographic form, Stressor scale for obese people and Mental Health Inventory. Instructions were clearly written on the forms, but verbal instructions were also provided for further clarity. The participants took 25 minutes on average to fill the questionnaires individually.

Results

Exploratory factor analysis. It was carried out to determine the factor structure and psychometric properties of the Stressor Scale for Obese People. It provided a three-factor solution. Sampling adequacy was also done Kaiser-Meyer-Olkin was .85 which was suitable for structure detection. Bartlett's Test of Sphericity was also significant which was x (435, n = 300) = 2499.773, $p < .001$, indicated that the factor analysis was appropriate for the data. The scree plot was obtained with eigen values and the items of the scale on its x and y axis, respectively. All the factors above the curve of scree plot were retained as they are considered to be high loadings and provides the

reasons of variance in the data set (Ledesma, Valero, & Macbeth, 2015). The factors which showed the eigen values above 1 and factor loadings greater than 3 were retained. Further details about the items are discussed below.

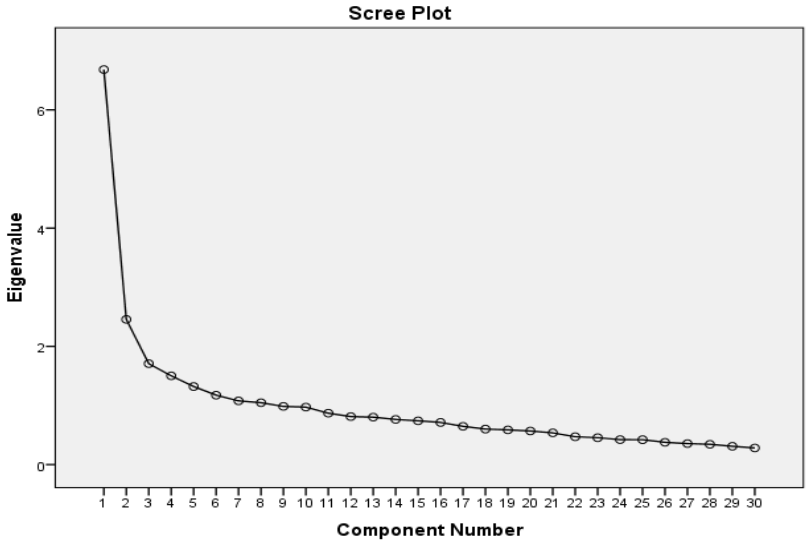


Figure 1. Scree plot for Stressor Scale for Obese People.

Table 1

Factor Loadings, Eigen Values for Exploratory Factor Analysis with Oblimin Rotation of stressors of obese people

Sr. No.	Items No. in SSOP	F1	F2	F3
1	4	.51		
2	11	.63		
3	12	.53		
4	14	.57		
5	16	.68		
6	17	.73		
7	18	.50		
8	21	.53		
9	25	.45		
10	26	.43		
11	5		.35	
12	8		.80	
13	9		.74	
14	10		.67	
15	15		.48	

Continued…

Sr. No.	Items No. in SSOP	F1	F2	F3
16	19		.52	
17	28		.48	
18	29		.57	
19	30		.40	
20	1			.43
21	2			.47
22	3			.51
23	6			.36
24	7			.39
25	13			.34
26	20			.40
27	22			.52
28	23	.		.49
29	24			.30
	Eigen Values	6.69	2.46	1.71
	% of Variance	22.27	8.19	5.69
	Cumulative %	22.27	30.46	36.15

Note. SSOP = Stressors Scale for Obese People.

Table 1 shows factor loadings of 29 items on three-factor as a result of oblimin rotation with fixed factor solution. The factor loadings greater than .30 were retained in each subscale.

Three and four factor solutions were obtained. Three factor solution was retained as it provided clearer factor structure and no cross loadings. In the beginning varimax rotation was used, but the factors were closely interlinked with each other due to which the analysis was run using oblimin rotation. The three factors identified were named after reviewing the merging themes of each factor. Supervisor and psychology faculty helped to finalize the suitable titles for subscales keeping in view the literature and content of items. Subscales were labelled as negative self-image, physical and emotional problems and social issues. Factor 1 and 3 comprised of 10 items each and factor 2 consisted of nine items. The values of the three factors resulted for 36.15 of the total variances.

Factor I: Negative self-image. It consisted of ten items with high factor loadings ranging from .43 to .73. First factor emerged emphasized the perception about oneself and was labelled as negative self-image.

Factor II: Physical and emotional problems. It consisted of nine items with factor loadings ranging between .35 and .80. Items in this

factor entailed emotional experiences similar to anger and irritability. Also, physical difficulties like illness and lethargy related items were included. Items like experiencing physiological illnesses and body pains and increase in feelings of anger and irritability were part of this factor.

Factor III: Social Issues. This factor incorporated ten items with factor loadings between .30 and .52. The items in this factor relate to social stressors like being mocked and bullied. Weight related jokes and clothing related stressors were part of this subscale.

Internal Consistency. To analyze the internal consistency of the 29 items of Stressor scale for obese people, Cronbach Alpha reliability coefficient was utilized. Correlation between the scale and its subscales were obtained.

Table 2

Alpha Reliability, Descriptive and Inter-Subscale Correlation Coefficients of Stressor Scale for Obese People (N = 300)

Scale/Subscale	F1	F2	F3	Total
Negative self-image	-	.44**	.46**	.74**
Physical and emotional problems	-	-	.53**	.81**
Social Issues	-	-		.81**
Total SSOP	-	-	-	.86**
α	.80	.80	.69	.86
M	18.48	18.17	19.99	59.61
SD	7.15	6.39	5.55	14.68

Note. SSOP=Stressor scale for obese people; A= Cronbach Alpha; M = Mean; SD = Standard deviation.

Table 2 shows that Stressor Scale for Obese People and its subscales showed acceptable values of Cronbach alpha adding to its internal consistency. Alpha value for SSOP is .86 and the values of subscales ranged between .69 and .80. This analysis showed that the subscales are assessing similar construct and are interconnected with each other.

Convergent and divergent validity. SSOP scale was validated by establishing its convergent and divergent validity. Newly developed SSOP and Mental Health Inventory were administered. The distress subscale of the MHI was used to assess convergent validity of the indigenous scale. The wellbeing subscale of mental health inventory was used to assess the divergent validity of the indigenous scale. Pearson product moment correlation was conducted to determine the validity.

The correlation matrix of SSOP and Distress subscales of Mental Health Inventory rendered positive correlation with the value (r = .50). The relationship between Wellbeing subscale of Mental Health Inventory and SSOP was found to be negatively correlated i.e. higher the score on the well-being items of MHI lower will be the score in SSOP as both scales measured opposite constructs. The value of correlation obtained was (r = -.58). The values of negative and positive correlation obtained ensured SSOP as a valid construct for the measurement of stressors of obese people.

Confirmatory Factor Analysis (CFA). It was done on the 29 items to validate the factors obtained from EFA analysis. AMOS 21was used to run the analysis.

Sample. The inclusion and exclusion criteria for sample selection was same as used for EFA. The sample consisted of four hundred males and females including 250 females and 150 males, divided into 150 unmarried females, 100 married females, 50 married males and 100 unmarried males. Unmarried population was targeted from colleges and universities. The sample included both obese males and females between the age cohort (18-30 years). Participants were approached at different areas (Hospitals, Colleges, Universities, recreational places, and etc.).

Procedure. Data was collected from universities, hospitals, malls, societies. Initially the authorities were approached and acquainted with the purpose of the research. After formal permission taking the participants were approached directly and were briefed about the purpose of the research. Procedure similar to EFA was followed. Only significant difference was that participants were instructed to fill the newly developed SSOP only which took around ten minutes. Participants and authorities were thanked for their cooperation.

Results.CFA done through AMOS provided a model fit after few modification indices. Following values were achieved χ^2=807.45 (df= 320, N = 300), p < .05, RMSEA = .062, CFI = .91 and TLI = .88. Overall, the results were in alignment with the three-factor solution of EFA. The value of chi square is significant because of greater degree of freedom; therefore, by dividing degree of freedom by chi-square (χ2 /df) the value is 2.54 which is acceptable for model fit. There was no need to delete any item and the three-factor model was retained.

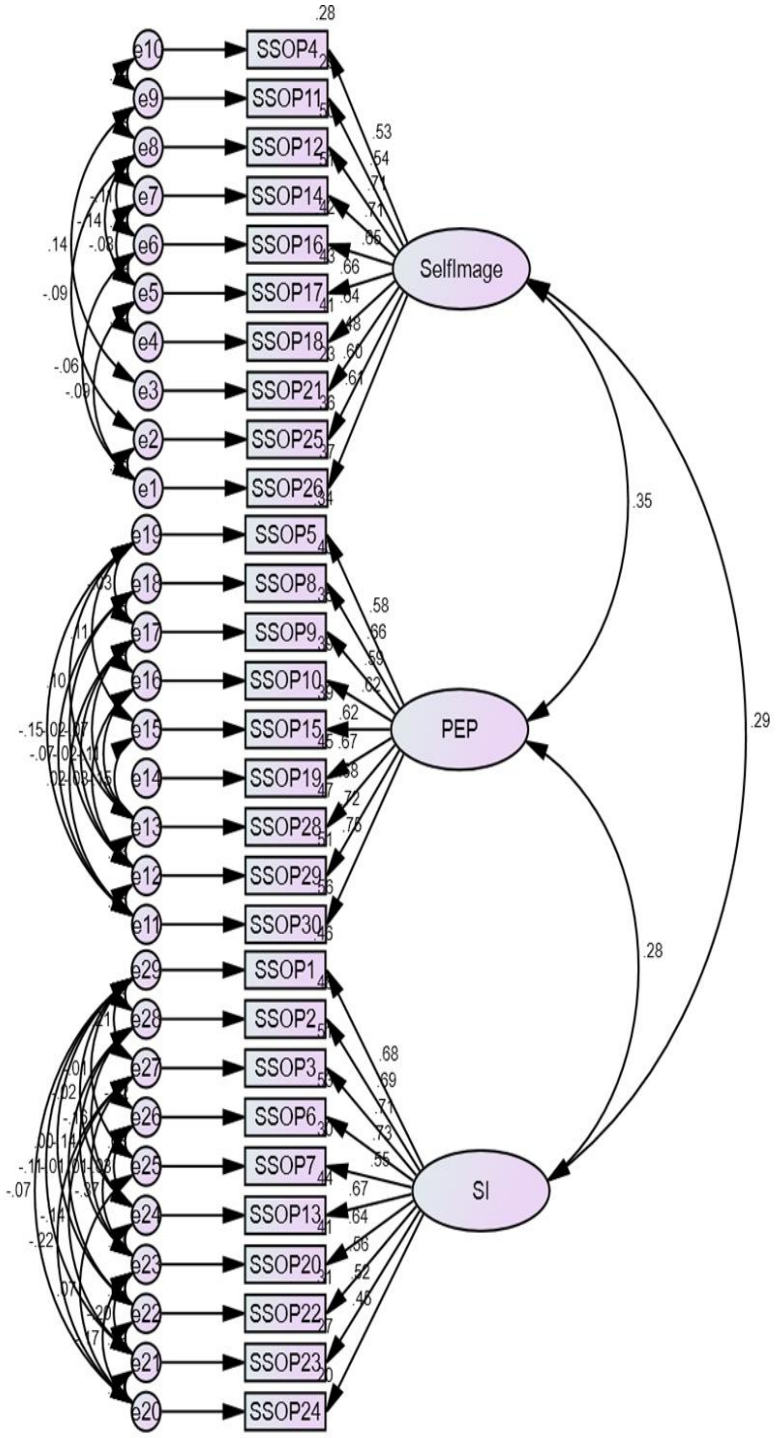
Table 3

Standardized factor loadings of CFA model, 3 Factor solution of SSOP

Items No.	Factor 1	Factor 2	Factor 3
Negative Self-Image			
4	.53		
11	.54		
12	.71		
14	.71		
16	.65		
17	.66		
18	.64		
21	.48		
25	.60		
26	.61		
Physical and emotional problems			
5		.58	
8		.66	
9		.59	
10		.62	
15		.62	
19		.67	
28		.68	
29		.72	
30		.75	
Social Issues			
1			.68
2			.69
3			.71
6			.73
7			.55
13			.67
20			.64
22			.56
23			.52
24			.45

Note. $p < .01$.

Table 3 shows the standardized factor loadings on CFA of 3 factor solution of SSOP. All the factor loadings were within the range of .45 to .75, which were significant and showed that the 29 items had high loadings on the three factors of stressors of obese people. The results of the factor loadings were consistent with the EFA loadings. There were two items (21 & 24) with comparatively low loadings ranging from .47 to .48, for the 24 item it might be due to reverse scoring, but other items with reverse scoring did not get similar result (23)


SelfImage
PEP
SI
SSOP4
SSOP11
SSOP12
SSOP14
SSOP16
SSOP17
SSOP18
SSOP21
SSOP25
SSOP26
SSOP5
SSOP8
SSOP9
SSOP10
SSOP15
SSOP19
SSOP28
SSOP29
SSOP30
SSOP1
SSOP2
SSOP3
SSOP6
SSOP7
SSOP13
SSOP20
SSOP22
SSOP23
SSOP24
.35
.29
.28

Discussion

The current study was designed to develop an indigenous scale to assess the stressors faced by obese people. The age cohort between (18-30) years males and females with higher BMI were selected from the city Lahore. The previously developed scales in west focused on limited problems and did not exactly assess the stressors of obese people. Obesity is considered as a serious disease which can lead to other ailments and is also linked to increased rates of death and weariness, but the stress associated with obesity in routine life and its psychological repercussions are not studied extensively which was carried out in present research (Lorenzo et al., 2019).

Few scales have been developed which assess the difficulties in the lives of obese people in the west. One of these assessed the Impact of weight on quality of life Questionnaire and the other assessed the problems faced by obese people in their lives (Lee et al., 2013). However, both the scales were developed on the western population. In Pakistan there is no scale developed indigenously which can assess the stressors of obese people and monitor the level of severity. So, the present study intended to develop such tool. Hence, For SSOP 29 item pool was utilized with 400 adolescents and adults.

Previously developed Impact of weight on quality of life short questionnaire (IWQOL) assessed overall quality of life of an obese individual. It is consisted of five subscales covering quality of life being adversely affected in areas of physical functioning, self-esteem, sexual life, public distress and work (Kolotkin, Crosby, Krosloski, & Williams, 2001). In the present study the scale was divided into three subscales, first subscale of negative self-image included some distinct items like low levels of confidence, refraining from photography and avoiding certain types of clothing stated as clear situations of stress provocation for obese people which were not identified in IWQOL. In the current study subscale of emotional and physical problems was also identified which assessed emotions of depression and irritability experienced by an obese individual which is supported by the literature as well that higher BMI index is linked with various mental health issues like anger or irritability (Vurren et al., 2019).

Obesity Related Problem scale assessed the psychosocial functioning of an obese individual. It consisted of eight items which mostly consisted of items related to social functioning of an individual (Lee et al., 2013). In the Current study scale aimed to assess stressors experienced by an obese individual which was not only limited to social area of life, but also included emotional and physical stressors.

The first subscale was named as negative self- image. It included ten items related to statements like low levels of confidence, negative evaluation of one's own body, feelings of sensitivity, avoiding photography and refrain from wearing certain kinds of clothing which was consistent with the findings of previous literature showed that the confidence level and self-esteem of a person has a strong connection with the standards of acceptance set by society and Body Mass Index is one of them (Yun et al., 2019).

Present study also unveiled that obese people go through various emotional as well physical difficulties in their lives associated with their obesity. There were nine items in the second subscale which focused solely on the emotional and physical problems. The factor alluded items like fatigue, body pains, breathing difficulties, trouble in maintaining bending posture which signified physical problems. Research has shown that obese people get fatigued easily and reduction in motor movements is also witnessed, due to the fact that the larger postural muscles are affected by higher BMI (Mehta, 2015). The emotional domain of subscale covered feelings of anger and irritability which is supported by literature that body weight of an individual has an impact on the emotions and behaviour of a person. People with increased Body Mass Index have higher chances of negative emotions like depression, stress and anger (Oh, Hass, & Lim, 2016).

Additionally, the third subscale of the current study emerged to assess the social stressors faced by the obese adults. It comprised of items related to social experiences of name-calling, taunts, perceived older than age fellows, difficulty acquiring right size of clothes and being considered intellectually and skillfully incompetent on basis of body weight. Social pressures and prejudiced attitudes of people towards obesity are quite common. Cynicism and weight related partisanship is taking a toll similar to racial discrimination (Wimalawansa, 2014).

Convergent and divergent validity of the scale was also established by utilizing the Distress and Wellbeing subscales of Mental Health Inventory which comprised of 22 items of distress subscale and 16 items of well-being subscale (Viet & Ware, 1983). The convergent and divergent validity were proclaimed to be substantially acceptable which affirmed SSOP as a valid construct to measure the stressors of obese people which is an important factor for validation of a scale (Boateng et al., 2018).

It is evident from the demographic analysis that majority of the participants who fulfilled obesity criteria had other family members or

relatives with high levels of BMI which is congruent to the findings that obesity has its roots in hereditary as well the environmental reasons (Thaker, 2017). One disparate finding of current study ensued that obese individual engaged in some sort of physical activity like walk and exercise this finding was found inconsistent with the previous literature which might be due to the fact that they did engaged in physical activity, but did not meet the ideal standards of exercise or were inconsistent in working out. There is significant rise in the levels of inactivity among adult population as they don't engage in physical activities required for their age and body type (Grasdalsmoen, Eriksen, Lonning & Siversten, 2019).

All-Inclusive, the results stipulated Stressor scale for obese people is a valid and reliable scale to assess the stressors of obese people extensively. It is the first indigenously developed tool for Pakistani population. Some of the stressors were congruous with the previous studies and were better highlighted in Pakistani context in present study pertaining 29 items.

Limitations and Suggestions

Like other researches this study also had some limitations. Firstly, the sample included adolescents and early adulthood people so the results cannot be generalized to stressors experienced by other age groups. In future more work is required to understand and highlight the stressors of different age groups. Secondly the data collection was done only from Lahore city of Pakistan. The stressors of obesity may vary from city to city so the results cannot be generalized to other cities of Pakistan. Additionally, the embarrassment associated with standing on the weighing scale was another limitation of the study which warded off the participants from becoming part of the study. In future some other method of monitoring BMI like waist to height ratio may be employed and people should be made aware of monitoring weight as a healthy practice by overcoming the stigma attached with obesity. Another limitation of the study was the uneven sample distribution with more males and less females and more unmarried than married participants which might be due to the availability of participants. As there are masses of work done on females, but limited studies related to males with obesity it is suggested that in future more work is carried out for males and a separate study for married population can be conducted. Moreover, current study utilized purposive sampling which is often considered as biased or judgmental. Although psychometric properties of the scale were established, but

future studies can be carried out utilizing this indigenously developed scale which will further add to its validity and reliability.

Implications

The present scale is first indigenous tool developed and validated to identify the stressors of obese people. It can be utilized formally to assess the severity level of stressors faced by obese people and identify the major domain of their lives which is adversely affected. The data of current study can be put to use by mental health professionals and physicians to devise effective management plans for obese people. In future, the study findings can facilitate in psycho education of obese individuals related to stress associated with obesity. Additionally, awareness of multifaceted obesity can be provided to the general population so that prompt efforts are made for its prevention and management. Furthermore, the study findings can be utilized by University students to conduct awareness seminars. Bloggers and influencers can also utilize the study findings by bringing in attention of general population the media stigmatization and role of social media in playing a vital role of self- esteem issues and other social problems in obese individuals. Lastly, the current study findings can also be used to enable families and partners to be more empathetic towards obese partners minimizing their obesity related stressors.

Conclusion

It can be concluded from the current study that there was a dire need for a culture specific tool in assessing the stressors faced by obese people. The present study resulted in the development of reliable and valid scale for assessing the stressors of obese people. The study also highlighted that there is a need for the acceptance of obesity and educating the general population regarding their contributions in minimizing pernicious attitude.

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