**Impact Of Social Interaction Anxiety And Body Image on General Sleep Disturbance Among Obese**

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**Abstract**

*The purpose of the present study was to explore the impact of social interaction anxiety and body shape on general sleep disturbance among obesed(obese). The sample consisted of 211 participants taken from general population. Their age range was between 20 to above 50 years. General Sleep Disturbance Scale (GSDS) by Kate Willkinson, and Shai marcu, (2011),no need of refrence write it your own perspective Social Interaction Anxiety Scale (SIAS) by Mattick and(&) Clarke. (1996), Body Shape Scale (BSS) Cooper, Taylor, Cooper, & Fairburn, (1987), were used to measure the degree of general sleep disturbance, social Interaction anxiety, and body shape among obese. Results indicated that General Sleep Disturbance and Social Interaction Anxiety was high among the female as compared to male (p<0.01). On the other hand male were found more conscious about their body shape as compared to female. As concerned with demographic variables, sleep disturbance was high among unmarried individuals as compared to married ones (p<0.01). While, married individuals get interacted with others more easily as compared to unmarried. People in late adulthood are more socially interacted as compared to young ones. Social Interaction Anxiety and Sleep disturbance are positively correlated with each other. (Conclusion should be précised and accurate)*

*Keywords:*general sleep disturbance, social interaction anxiety, body shape, obese

**(Please check APA Manual 6th edition page 41)**

**Introduction**

Sleeplessness is an observation of insufficient sleep. It has been considered for a long time that the basic reasons of Sleep Disturbance are frustration and Tension (Adrien, 2002), Sleep Disturbance also resulted in worse outcomes like Disturbance of mood, Unclear-sightedness and lose of self-motivation. (Harvey, 2008). The Association among disturbance of mood, anxiety and Sleep Disturbance in both mentally unhealthy and healthy people have been shown in recent studies. Hamilton(citing refrence in text, inclusion of year with paragraph) in the past, said that, stress is the result of sleep disturbance. Many people who are affected from depression have claimed that their main problem is sleep; all their problems would come to an end if the sleep on time. Sabrra & Aleen(citing refrence in text inclusion of year within paragraphr) says, that the Disruption of sleep is commonly due to Stress and exhaustion. Disturbance of sleep results in many plausible issues linked to anxiety including threat related to neutralism on the way to non-clear urge and the excess amount of memories that are declared negatively determined. Disturbance of sleep increases the chances of depression and stress (Van der helm & Walker, 2009).

From all problems related to sleep, insomnia is common problem in most of the people. Insomnia is usually occurred up to 35% of the population (Karacan 1976; Bixler 1979 ordering citation within the parnthesis).There are some demographic variables like age and gender also influenced in insomnia and may also cause other health related issues. In most studies, it is revealed that the ratio of insomnia in women is higher than men, and main demographic variable is age. As age increases the ratio of insomnia also increases (Ford & Kamerow, 1989). Other different causes of insomnia in psychiatric issues might be stress, depression and anxiety. In the range of anxiety, the issues related to social anxiety, withdrawal of love ones, unfulfilled social commitments, specific phobias, post-traumatic stress disorder and other daily life issues may be a source of insomnia (Walsh et al 1994; Wooten 1994). Some of the studies have also related sleep disturbance to obesity and investigated the relationship among both (Goodwin et al, 2007).

Different researches have shown increased levels of obesity issue in relation with decrement in sleep duration. (Adrien,2002). Many of studies have indicated that the sleep shortage problem may inclined individuals to weight gain by enhancing the body need and thus energy intake as a result of substitute levels of the body need controlling Chemical Compounds, such as gherkin and lepton. (Siegel, Leproult, Colecchia, L'Hermite-Balériaux, Nie, Copinschi *et al*., 2005).The sleep shortage pattern is the most common sleep behavior, in-relation with obesity has been checked in various studies which suggested that there is relationship a relationship exists between both phenomenon. Lack of sleep is also linked with the poor instinctive control, menace behaviors and other mental as well as the cerebral deficits that may take part in the weight gain. While in contrast, some of the studies have also suggested that the short sleep pattern may not independently influence obesity (Fryar, Carroll, & Ogden, 2012).

In few studies there is an overlap of anxiety and depression, and their association with the sleep disturbance. So it also has been endeavor to control this overlap for attaining more precise results of sleep disturbance and their association with anxiety. So the participants who have depression excluded from the study. After such scrutiny in studies, it has been founded a significant relationship between sleep and anxiety. For instance, it has been founded that the patients having complaints of insomnia and lack of energy has significantly higher scores in generalized anxiety disorders, social phobia patients, as compared to the patients having psychiatric disorders excluding major depression (Stein, Chartier & Walker, 1993). Generalized anxiety disorder having diagnostic criteria including symptoms related to sleep, Particularly, generalized anxiety disorder’s diagnostic criteria include problems staying or falling asleep; restless, unsettled sleeps at night and exhaustion during the day (American Psychiatric Association, 2000).

Another concern issue named as social anxiety that also plays a role in sleep disturbance, people having lesser social issues have lesser rest problems. Many people having different social problems also face restlessness. There are number of variables related with the social uneasiness, these elements might be joblessness, absence of consideration from loved ones, no sentimental relationship, and different connections like no companions or terrible associations with the relatives (Schneier et al., 1994). Another factor that bothers rest is nervousness which is regularly associated with a sleeping disorder, there may likewise be different issues like resting in daytimes, having bad dreams and extremely low quality of rest (Hasler et al., 2005). In an examination 30 to 40 percent of individuals announced having unpredictable or manifestations like limited capacity to focus on sleep, in which 10 to 15 percent individuals were analyzed having continuous sleep disorder, tension, state of mind issue, and other problems which suggests that there is a tenacious difference in inclination of individuals confronting a sleep disorder and other related issues with rest (Roth and& Roehrs, 2003).

**Obesity and Sleep Disturbance**

Researchers have suggested that the other likely part of obesity is sleep disturbance. An investigation uncovered that long working hours and restlessness influence eating patterns as well as weight of individuals (Leger, 2000). Studies have also given an insight that teens are also facing the issue, an examination clarified that rate of lack of sleep in teenagers is higher than grown-ups and youthful kids (Mantz et al., 2000). At that point primary reason of lack of sleep in youths are "sitting in front of the TV, school plans, later check in time, working hours, and different exercises which affect their sleep wake cycle, Where youngsters used to rest in late night and awaked in early morning (Wolfson & Carskadon, 1998). It has been evaluated in the current investigations that since 1980 overall prevalence of obesity has been doubled. This obesity problem has been paralleled in present day society by a pattern of sleep disturbance. The poor rest quality, which is regularly connected with the general rest problem, has additionally turned into a successive objection. Lack of rest makes hormonal changes it has several hormones involved in this which are highly regulated by the sleep-wake cycle during 24 hours a day, some neurotransmitters are highly responsible for it, For example, serotonin discharge during the sleep (Bourgin et al., 2000). It has been also watched that sleep disturbance is a problem that happens because of the impacts of digestion. Serotonin plays an important role in this regard, Generally the level of serotonin is substituted all through sleep duration so sleep disturbance and rest unsettling could be due to the lower efficiency and its extension could be the reason of sound sleep. Sleep disturbance may play an important role in obesity (Wurtman and& Wurtman, 1995).

Different studies have demonstrated the effect of sleep disturbance on obesity and suggested that sleep disturbance could play a role in the prevalence of obesity, which have been centering upon the investigations in the grown-ups. Different studies have discovered that there could be several reasons of obesity and it has been multiplied since 1980. In 2008, 1 out of 10 grown-ups were watched examined, which gave the results that women are more likely to get obesity than men, which was paralleled by a pattern of sleep disturbance. Both experimental and survey researches have been done to investigate the role of sleep disturbance in the prevalence of obesity. It is watched that sleep is a vital modulator of the neuro endocrine capacity and the glucose digestion and sleep disturbance which has been indicated bringing about the metabolic and an endocrine adjustment, including the diminished glucose resistance and modification of the craving managing hormone, which suggests that the connection between sleep disturbance and obesity (Sabrara& Allen, 2009).

**Association between Anxiety and Body Mass Index**

Obesity, anxiety, and social uneasiness has solid affiliation. The general population having higher weight turn into the probability of tension and social anxiety. The normal estimation of BMI (Body Mass Index) is under twenty five. Individuals having 30 or 30+ BMI sentered into the range of obesity . (add citation refrence of above statement) These individuals pronounced as obese, on the grounds that their overweight make issues to keep up the connections with others in the society. These individuals ordinarily neglected to keep up their companionship, adoring and hint connections. Their sexual life additionally harms because of neglecting behavior by the others. At first this examination directed on kids and demonstrated the outcomes that higher weight file have larger amount of social anxiety. Later on comparative investigation led on the grown-ups and comparative outcomes established (Rofey et al., 2009). Moreover, it is also possible that there could be other several reasons which could take part in obesity and the increment of BMI there could be different factors which could be the reason of the affiliation of both BMI and social anxiety, For example, earlier examinations have demonstrated a relationship among backwards influences and issue with grown-up's indulging. While excessive eating is connected with the weight, so it is an exceptionally natural reason for overweighting or BMI (Jansen et al., 2008).

As concerned with others reason and factors some studies have been done in this regard to establish the results ab(?) out calorie gain and the increment of the BMI which directed an examination and established the outcomes in a relationship between less physical movement and higher BMI for pre-adult young ladies and young men. In this examination an uncommon point raised about the calories enhancement and the level of BMI (Aronne, Mackintosh, Rosenbaum, Leibel, & Hirsch,1997).

The concept of weight management is important to keep control of so that the body can achieve and maintain good health. In today’s society, people have created an ideal sense of beauty and body image that is difficult to maintain. Women are especially prone to feeling dissatisfied with their body shape and feel pressured to stay thin. Comparisons of body weight, family and friend influence, environmental changes, food availability, and doctoral advice all affect body shape. Various shapes and sizes can form a healthy body, but exercise, rest, and nutritious food items must be part of the daily routine (Fox,& Hillsdon, 2007).

**Rationale**

For a long time it has been considered that the basic reason of sleep disturbance is due to depression and anxiety. Obesity is such a syndrome that is highly created by the synergy of a combination of the genital, a nutritious, the style of living & some contingent factors**.** In presenting research the level of sleep disturbance social interaction anxiety and body shape among obese have been examined**.** In this study it has been elaborated the association between general sleep disturbance & social interaction anxiety on the implications of body mass index**.** Purpose of the research was to check the relationship of general sleep disturbance and social interaction anxiety, and also to check the mediating effect of body shape.

(add indeginous study as well)

(add recent studies in introduction of recent back five years)

**(Mentioned objective and hypotheses of the study)**

**Methods**

**Participant**

In order to obtain a sample for current research, sample consisting of total 211 males and females (separate the number of gender and mean age of the participant) of age range 20 to 55 years. Questionnaires were administered on the obese individuals of southern Punjab.(inclusion exculsion criteria of the participant). All contributors were well informed about the purpose of the study and were insured about the confidentiality of information. Purposive Convenient sampling was used for collection of data.

**Instruments**

**General Sleep Disturbance Scale (GSDS)**

Kate Willkinson, &ShaiMarcu(year is missing) originated general sleep disturbance scale. That scale consisted on twenty one items which measures the frequency and problems in sleep. GSD questionnaire was recommended in studies and identifies the problem of a person regarding sleep. Participants indicate how much they agree or disagree with each of the 21 items using a 7 point scale that ranges from 0 to 7.(write detail of questionair)

**Social Interaction Anxiety Scale (SIAS)**

Mattick & Clarke(year is missing) formulated Social Interaction Anxiety Scale. The SIAS is a 20 item scale, Which check the level of social interaction anxiety in obese. In this scale we measured all the scores from none to higher level. (Explain the scoring criteria of questionair in detail)

**Body Shape Questionnaire (BSQ)**

Body shape scale was developed by Cooper, Taylor, Cooper, & Fairburn, (1987). Body shape scale was designed to assess the perception of men and women about their bodies. This scale consisted of 34 different questions which focused on problems related to image of the body and effects on the body after quitting foods. This is 6 point scale that ranges from Never to Always. (Explain the scoring criteria of questionair in detail)

**Procedure**

The sample of this research was taken from obesed individuals of southern Punjab. The 211 adults participated in this study. Permission from the higher authorities was granted to conduct this investigation. Purpose of this research was explained to them. After getting permission their privacy and confidentiality would be maintained. Participants completed the demographic information which included information related to age, gender, education, marital status, relationship status, No. of children, height, weight and all three questionnaires were completed by the participants. Each of the participants took 10 to 15 minutes for the completion of the questionnaires. After completion of all questionnaires the data was statistically analyzed and results were concluded.

**Results**

All the responses from the participants were analyzed using SPSS, frequencies and demographics of the data were measured, reliabilities of the scales were checked, furthermore, mediation analysis was run on smart PLS software. (don’t include above statement)

***Table 1***

*Frequencies of demographic variables (N=211).*

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| *Gender* | 98 | 46.4 |
| Male | 113 | 53.6 |
| Female |  |  |
| *Marital Status* |  |  |
| Married | 137 | 64.9 |
| Unmarried | 74 | 35.1 |
|  |  |  |
| *No. of Child* |  |  |
| No Child | 84 | 39.8 |
| One Child | 16 | 7.6 |
| Two Child | 34 | 16.1 |
| Three Child | 31 | 14.7 |
| Four Child | 26 | 12.3 |
| Five Child | 16 | 7.6 |
| Six Child | 4 | 1.9 |
| *Age* |  |  |
| Between 20 to 30 Years | 98 | 46.4 |
| Between 31 to 40 Years | 82 | 38.9 |
| Between 41 to 50 Years | 31 | 14.7 |
| Total | 211 | 100 |

Table 1 showed the frequencies of demographic variables which are age, gender, marital status, and no. of children. This table explained all the frequencies of both main and sub categories of these variables and also showed the percentage of these.

***Table 2***

*Frequencies of subscales of Social Interaction Anxiety Scale*

|  |  |  |  |
| --- | --- | --- | --- |
| SIAS | | Frequency | Percent |
|  | Social Anxiety | 105 | 49.8 |
| Social Phobia | 106 | 50.2 |
| Total | 211 | 100.0 |

Table 2 showed frequencies of subscales of Social interaction anxiety scale, which showed two type of social interaction, social anxiety and social phobia. Social anxiety was 105 (49.8%) and social phobia was 106 (50.2%) which are approximately same among respondents.

***Table 3***

*Frequencies of all groups of Body Mass Index (BMI) of the Respondents*

|  |  |  |  |
| --- | --- | --- | --- |
|  | | Frequency | Percent |
|  | Moderately Obese | 55 | 26.1 |
| Morbidly Obese | 29 | 13.7 |
|  |  |  |
| Overweight | 96 | 45.5 |
| Severely Obese | 30 | 14.2 |
| Underweight | 1 | 0.5 |
| Total | 211 | 100.0 |

Table 3 represented the frequencies of all groups of body mass index BMI of the respondents. Five categories has been observed by using BMI. 55 (26.1%) respondents belong to moderately obese, 29 (13.7%) respondents belong to morbidly obese, more respondents have overweight i.e. 96 (45.5%), 30 (14.2%) respondents belong to severely obese and only 1 (0.5%) respondent has underweight.

***Table 4***

*Gender Difference of GSDS, BSS and SIAS*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Variables | Gender | N | Mean | SD | t-statistic | p-value |
| GSDS | Male | 98 | 3.260 | 0.640 | 6.851 | 0.000.001\*\*\* |
| Female | 113 | 3.935 | 0.784 |
| BSS | Male | 98 | 3.656 | 0.448 | 7.947 | 0..001\*\*\* |
| Female | 113 | 4.170 | 0.491 |
| SIAS | Male | 98 | 42.174 | 7.343 | 3.429 | 0.001\*\* |
| Female | 113 | 46.097 | 9.206 |

Note: \*p<.05, \*\*p<.01, \*\*\*p<.001

Note (ititalic): GSDS= General Sleep Disturbance Scale, SIAS= Social Interaction Anxiety Scale, BSS= Body Shape Scale

Table 4 indicates the gender difference of general sleep disturbance scale (GSDS), body shape scale (BSS) and social interaction anxiety scale (SIAS). Significant gender difference has been found among all the variables. In GSDS, female average GSDS score (3.935) is higher as compare to male average GSDS score (3.260). Highly significant gender difference has been found in GSDS . In BSS, female average BSS score (4.170) is higher as compare to male average BSS score (3.656). Highly significant gender difference has been found in BSS S. In SIAS, female average SIAS score (42.174) is higher as compare to male average SIAS score (46.097). Highly significant gender difference has been found in SIAS. Thus, all results of GSDS, BSS and SIAS supported to our study hypothesis.

***Table 5***

*Marital Status (MS) Difference of GSDS, BSS and SIAS*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Variables | MS | N | Mean | SD | t-statistic | p-value |
| GSDS | Married | 137 | 3.219 | 0.687 | 2.26 | 0.025(two digits)\* |
| Unmarried | 74 | 3.451 | 0.760 |
| BSS | Married | 137 | 3.650 | 0.407 | 3.146 | 0.002(two digits)\*\* |
| Unmarried | 74 | 3.885 | 0.571 |
| SIAS | Married | 137 | 42.365 | 8.577 | 2.328 | 0.021\* |
| Unmarried | 74 | 43.930 | 7.045 |

Note: \*p<.05, \*\*p<.01, \*\*\*p<.001

Note(italic): GSDS= General Sleep Disturbance Scale, SIAS= Social Interaction Anxiety Scale, BSS= Body Shape Scale

Table 5 showed the marital status (MS) difference of general sleep disturbance scale (GSDS), body shape scale (BSS) and social interaction anxiety scale (SIAS). Significant gender difference has been found among all the variables. In GSDS, unmarried average GSDS score (3.451) is higher as compare to married average GSDS score (3.219). Highly significant marital status difference has been found in GSDS (t=2.260, p=0.025). In BSS, unmarried average BSS score (3.885) is higher as compare to married average BSS score (3.650). Significant marital status difference has been found in BSS (t=3.14,p=0.002). In SIAS, unmarried average SIAS score (43.930) is higher as compare to married average SIAS score (42.365). Significant marital status difference has been found in SIAS (t=2.238, p=0.021). Thus, all results of GSDS, BSS and SIAS supported to our study hypothesis.

***Table 6***

*Descriptive Statistics of GSDS, BSS and SIAS among age groups*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Variables Age in  years | | N | Mean | SD | 95% Confidence Interval for Mean | |
| Lower Bound | Upper Bound |
| GSDS | Between 20 to 30 | 98 | 3.4072 | .72827 | 3.2612 | 3.5532 |
| Between 31 to 40 | 82 | 3.2207 | .67121 | 3.0732 | 3.3682 |
| Between 41 to 50 | 31 | 3.1720 | .79021 | 2.8822 | 3.4619 |
| BSS | Between 20 to 30 | 98 | 3.6501 | .47761 | 3.5543 | 3.7458 |
| Between 31 to 40 | 82 | 3.6478 | .44932 | 3.5490 | 3.7465 |
| Between 41 to 50 | 31 | 3.7467 | .50606 | 3.5611 | 3.9323 |
| SIAS | Between 20 to 30 | 98 | 42.6837 | 8.93573 | 40.8922 | 44.4752 |
| Between 31 to 40 | 82 | 42.9512 | 7.71867 | 41.2552 | 44.6472 |
| Between 41 to 50 | 31 | 41.8710 | 8.50389 | 38.7517 | 44.9902 |

Note (note word italic): GSDS= General Sleep Disturbance Scale, SIAS= Social Interaction Anxiety Scale, BSS= Body Shape Scale

Table 6 showed the descriptive statistics of GSDS, BSS and SIAS for different age groups. We use three categories of age groups namely, between 20 to 30 years, between 31 to 40 years and between 41 to 50 years. Table shows the sample size (N) mean, standard deviation (SD) and 95% confidence interval lower and upper boundaries. GSDS score higher among those respondents who have age between 20 to 30 years as well as no massive difference exist among age groups in GSDS. BSS score higher among those respondents who have age between 41 to 50 years. SIAS score approximately same among all age category and no massive difference exist here. Thus, mean score in all variable lies between 95% confidence interval boundaries.

***Table 7***

*Analysis of variance (ANOVA) of GSDS, BSS and SIAS among age groups*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | Sum of Squares | df | Mean Square | F | p-value |
| GSDS | Between Groups | 2.150 | 2 | 1.075 | 2.096 | .126 |
| Within Groups | 106.672 | 208 | 0.513 |  |  |
| Total | 108.822 | 210 |  |  |  |
| BSS | Between Groups | 0.252 | 2 | 0.126 | 0.569 | .567 |
| Within Groups | 46.163 | 208 | 0.222 |  |  |
| Total | 46.415 | 210 |  |  |  |
| SIAS | Between Groups | 26.295 | 2 | 13.147 | 0.186 | .831 |
| Within Groups | 14740.483 | 208 | 70.868 |  |  |
| Total | 14766.777 | 210 |  |  |  |

Note(italic): GSDS= General Sleep Disturbance Scale, SIAS= Social Interaction Anxiety Scale, BSS= Body Shape Scale

Table 7 represented the analysis of variance for GSDS, BSS and SIAS variables among age groups. In GSDS, no significant age difference found (F=2.096, p=0.126). It means GSDS score is same in all age groups because p-value provides the evident against our hypothesis. Furthermore, in BSS, no significant age difference was found (F=0.569, p=0.567). It means BSS score is same in all age groups because p-value provides the evident against our hypothesis. Finally, in SIAS variable no significant difference was found (F=0.186, p=0.831). It means SIAS score is same in all age groups because p-value provides the evident against our hypothesis. Thus, we conclude that this study provide the evidence for significant age groups difference exist in GSDS, BSS and SIAS scale. Therefore, the effect of GSDS, BSS and SIAS is same in all categories of age.

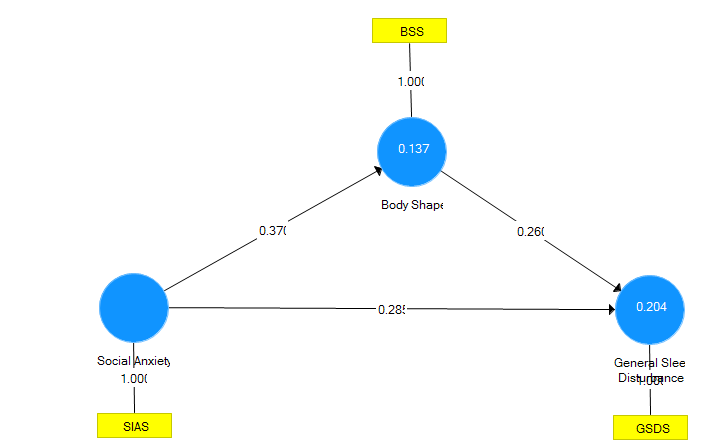


Figure 1: General Model-I for Mediation of Body Shape

Figure 1 represented the conceptual model of study in which body shape scale (BSS) played as mediating role, social interaction anxiety scale (SIAS) used as predictor and general sleep disturbance scale (GSDS) used as dependent variable. This path coefficient analyzed through Smart PLS-SEM software. SIAS has showed positive impact (0.370) on BSS, BSS has showed positive impact (0.260) on GSDS. SIAS has showed direct positive impact (0.285) on GSDS. When SIAS is used directly as a predicator variable on GSDS with coefficient of determination (R2 = 0.204). When SIAS is used as indirect via mediating with coefficient of determination (R2 = 0.137).

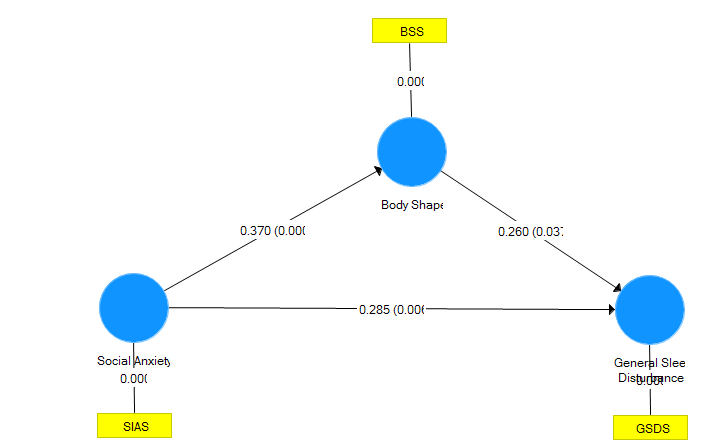


Figure 2: Bootstrapping Model-II for Mediation of Body Shape scale

Figure 2 displayed the Bootstrapping Model-II for Mediation of Body Shape scale. In which path coefficients and p-value are displayed, p-value showed in parenthesis. SIAS showed positive impact 0.037, (0.000) on BSS; BSS showed positive impact 0.260, (0.037) on GSDS. SIAS showed direct positive impact 0.285, (0.006) on GSDS.

**Table 8**

Hypothesis Path coefficients for Mediation Analysis

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Hypothesis | Coefficients | SD | t-statistic | p-values |
| Body Shape -> General Sleep Disturbance | 0.260 | 0.125 | 2.091 | 0.037\* |
| Social Anxiety ->Body Shape | 0.370 | 0.103 | 3.604 | 0.~~000~~\*\*Add two digits |
| Social Anxiety -> General Sleep Disturbance | 0.285 | 0.104 | 2.750 | 0.006\*\* |

Note: \*p<.05, \*\*p<.01, \*\*\*p<.001

The partial least square structural equation modeling (PLS-SEM) results are shown in Model-I and Model-II. SIAS has shown positive impact on BSS as well as on GSDS and the direct positive impact of SIAS on GSDS as shown in Model-1. Moreover, BSS played significant mediating role as displayed in Model-II and it also displayed through hypothesis testing given in Table 8. While, SIAS has shown positive impact on BSS, BSS has positive impact on GSDS and the direct positive impact of SIAS on GSDS shown in Model 2. Moreover, BSS plays significant mediating role display in Model 2 and it also displayed through hypothesis testing given in Table 3.8. The coefficient of determination (R2) was significant in both models. Table 8 displayed the hypothesis in which SIAS shown significant impact on BSS is (β=0.370,t=3.604, p<0.01), SIAS shown significant impact on GSDS is (β=0.285,t=2.750, p<0.01), BSS showed significant mediating impact on GSDS is (β=0.260,t=2.091, p<0.05) and the results are supported to the hypothesis of our study.

***Table 9***

*Correlation Matrix between SIAS and GSDS*

|  |  |  |  |
| --- | --- | --- | --- |
|  | | General Sleep Disturbance Scale | Social Interaction Anxiety Scale |
| GSDS |  | 1 | 0.381\*\* |
| SIAS |  | 0.381\*\* | 1 |

\*p<.05, \*\*p<.01, \*\*\*p<.001

Note (italic) GSDS= General Sleep Disturbance Scale, SIAS= Social Interaction Anxiety Scale

Table 9 displayed the correlation between GSDS and SIAS. Significant positive correlation has been found. GSDS significantly positively correlated to SIAS. Thus, if GSDS score increase then SIAS score will also increase tremendously. It showed significant positive correlation between GSDS and SIAS.

**Discussion**

Several researches have been conducted on general sleep disturbance social interaction anxiety and body shape relation in different ways, in-relation with different variables. But very few researches have been found on obese population, the current study has been done to explore the effect of general sleep disturbance social interaction anxiety and body shape among obese obesity on these variables and the results revealed that most of the hypothesis of the study were accepted.

The hypothesis was that sleep disturbance is high among female obese as compared to male. Researchers suggested that Gender is the main factor in sleep disturbance and many studies have revealed that the level of sleep disturbance is high in female than male (Ford and& Kamerow, 1989). Results of the presented study have revealed the same so, the hypothesis is accepted. The hypothesis was that male are more conscious about their body image than female but results of the presented study revealed that female have showed higher score on BSS than male which rejected the hypothesis. There could be several reasons for the rejection of the hypothesis like the sample size could be more large or the culture or other factors could have affected the results.

It was hypothesized that Social interaction anxiety is high among female as compared to male few researches have also suggested the same (Romero-Corral A, 2008). Results revealed that female feel difficulty in interaction with other as compared to male. While, Male are more comfortable to interact with others. This difficulty leads females towards anxiety. So, females try to avoid others to avoid that difficulty. Hence~~, the hypothesis was~~ accepted (don’t use such words such as accepted). Hypothesis was that Marital status effect General Sleep Disturbance, body shape, and social interaction anxiety. Previous research suggested that obesity, gender, age and marital status affect these variables (McAllister et al. 2009). Results revealed that married and unmarried have showed significant mean difference in which unmarried showed higher level with all three variables which means hypothesis was accepted.

It was hypothesized that young obese have less sleep disturbance, are more concerned with body image, and have more social interaction anxiety than late adults. In previous researches both sided reviews have been found regarding this hypothesis some have said that young adults and teenagers have more sleep disturbance (Mantz et al., 2000). While others have said that late adults have more sleep problems (Wolfson and& Carskadon, 1998). Findings revealed that youngsters have more sleep disturbance higher level of consciousness about body image and are less socially interacted which means they have more social interaction anxiety, which means the hypothesis was partially accepted.

It was hypothesized that that body shape plays a mediating role for general sleep disturbance and social interaction anxiety, and there is positive relationship of general sleep disturbance and social interaction anxiety. Results showed that body shape played mediating role and it has positive impact on general sleep disturbance and the direct positive impact on social interaction anxiety results also revealed that there is a significant positive relationship of general sleep disturbance and social interaction anxiety which means the hypothesis was completely accepted.

**Limitations and Suggestions**

The main limitation of the study was criterion social interaction anxiety for which the participants were asked to reveals their honest information hence, it was a self-report measure so, it could have been done in experimental settings. Other demographics variables could have been examined like parenting styles could play a vital role in social interaction anxiety. Body mass index was also self-reported the participant could have under-estimated their weight and age while over-estimated their height so, these could have been checked manually by the researcher. Since, the study has been done on obese; all other weight categories have also been examined.

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