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Body Surveillance, Perceived Stress and Global Self-esteem among Obese Individuals.

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Abstract

This study examined the relationships between body surveillance, perceived stress, and global self-esteem among obese individuals. A correlational research design was used, with a total sample size of *N*=150 obese individuals, including (n=99) women and (n=51) men. Data was gathered from different gyms and residential area of Dera Ismail Khan using purposive sampling techniques. The Rosenberg Self-Esteem Scale, Perceived Stress Scale, and Objectified Body Consciousness Scales were used. The Pearson correlational coefficient, simple linear regression, and independent sample t-tests were used to assess the hypotheses. The results showed that there was a significant and positive correlation between body surveillance and perceived stress, as well as a significant negative correlation between body surveillance and global self-esteem. Furthermore, simple linear regression analysis revealed that body surveillance predicted 18% of the variance in perceived stress and 28% of the variance in global self-esteem. However, an independent-sample t-test revealed that married obese individuals reported significantly higher levels of body surveillance compared to those who were unmarried. The study has important practical implications, suggesting that treatment approaches for obese individuals should incorporate interventions for obese individuals should move beyond weight loss to include body neutrality and self-compassion training to mitigate the psychological impact of constant body surveillance.

Keywords: Body surveillance, perceived stress, global self-esteem, body image, Obesity

Introduction

People who are obese can face stigma associated with their weight, challenges in finding suitable clothing, and unfavorable social perceptions, all of which lead to emotional anguish and social disengagement. These encounters frequently make obese people feel more stressed, make them more susceptible to body surveillance and lower their overall self-esteem. This psychological state is often manifested through body surveillance, is to hold bodies to false beauty standards, focusing on body image rather than functionality (Milan & Perez, 2021), whereas it more specifically refers to chronic body monitoring, which entails adopting the viewpoint of an external observer, and continuous thinking (Cannavò et al., 2024). Along with body surveillance, perceived stress also plays a crucial role in the lives of obese individuals. Indeed Perceived stress is an individual's subjective assessment of life

stress, focused on how a person perceives their life as unpredictable, unmanageable, and overwhelming, rather than objective measures of stressful life events (Szalo et al., 2025) while referring to their subjective judgment of an ongoing circumstance (even if the event is not very stressful), and is strongly related to anxiety (Mirhosseini et al., 2025). In the same way that body surveillance and perceived stress have an impact on psychological functioning, global self-esteem provides a more thorough viewpoint for evaluating their combined impacts, Global Self-esteem, defined as a person's overall assessment of their own worth, is inextricably linked to body image (Abdoli et al., 2025) while Global self-esteem is typically characterized as how people perceive their own worth, value, or relevance (Koek & Chen, 2025).

Recent empirical studies have further clarified the role of psychological factors, including body monitoring and perceived stress, on body image dissatisfaction and general self-worth among obese people. Building on this, research questions about the connection between minority stress and body image, particularly for LGBTQ+ people, were investigated in a systematic screening that looked at 2148 records and the entire texts of 73 reports. The findings indicated that body surveillance and self-esteem were important mediating factors and that minority stress was often associated with body image problems, such as discontent and embarrassment. These findings emphasize the need of comprehending how identity-specific stressors and cultural beauty standards consistently exacerbate psychological traits and body image issues (Santoniccolo et al., 2025).

In order to demonstrate how institutional contexts function as social surveillance zones, another qualitative study used a picture elicitation research design to look at the perspectives of four LGBT+ professors. Participants pointed out particular locations where they felt insecure, proving that this kind of surveillance increases minority stress and internalizes unfavorable social beliefs. These results provide a conceptual connection between stress and surveillance that is relevant to comprehending comparable psychological processes in other populations (Brett, 2025).

Furthermore, a study conducted in the local Pakistani context examined the correlation between objectified body consciousness, self-esteem, and self-it is behavior among young Pakistani women pursuing undergraduate degrees in colleges. A sample of 233 female students aged 18-25 ($M = 21.51$, $SD = 1.79$) engaged in self-it is behavior, as established by the demographic sheet. The sample was drawn from many universities in Lahore, Pakistan, using convenient sampling methods. Participants filled out the Objectified Body Consciousness Scale (OBC), Self-it is Behavior, and Self-Esteem Scales. The study found a positive correlation between OBC and self-it is behavior, but no relationship between self-esteem and these factors (Shakil et al., 2025).

Complementing the findings on self-it is behavior, another empirical study with 339 female teenagers examined whether body surveillance mediated the relationship between social comparison and selfie practices. The results showed that self-esteem moderated and lessened the strength of this relationship, while body surveillance acted as a mediator between upward physical appearance comparison and selfie-taking behaviors. These findings suggest that selfies represent a contemporary form of body monitoring and physical appearance comparison among youth (Lyu et al., 2025).

Expanding on those psychological dynamics while most participants reported medium to high levels of stress and self-esteem, factors like comprehensibility and manageability acted as partial mediators between these variables, according to another empirical study involving 176 Polish nurses that looked at the mediating role of a sense of coherence in the relationship between global self-esteem and perceived stress (Kupcewicz, 2022).

Similarly, regarding the impact on self-perception exercise addiction is linked to lower self-esteem, with cognitive patterns like Over-Vigilance and Inhibition fully mediating this relationship, according to a non-experimental correlational study involving 788 university women (M = 20.39) that examined how early maladaptive schemas affect this relationship (Olave et al., 2025).

Beyond individuals psychological traits, research has also explored, a dyadic study involving 219 heterosexual couples further examined the effects of media beauty standards and body surveillance on relationship satisfaction, building on the knowledge of how external validation affects psychological well-being. The findings showed that partner body surveillance is inversely correlated with relationship happiness and that internalization of media standards is significantly associated with increased body surveillance in both genders (Rollero, 2022).

Three theoretical frameworks offer helpful insights into the psychological processes associated with perceived stress and body surveillance. According to Objectification Theory, women are conditioned to prioritize their appearance and see themselves as external observers; this process is called self-objectification, and it results in heightened body surveillance (Fredrickson & Roberts, 1997). In addition, the Transactional Model of Stress and Coping emphasizes the primary evaluation of stressors and secondary evaluation of available resources, defining stress as the outcome of dynamic interactions between people and their surroundings (Lazarus & Folkman, 1984). According to Festinger's (1954) Social Comparison Theory, people are naturally motivated to assess their own appearance by contrasting it with that of others. Constant exposure to idealised photographs on social media sites like Instagram causes "upward comparisons," in which users think their friends and influencers are more appealing. Due to the relatability of peers and the regular, measurable response (like "likes") common in social media, these comparisons have greater impact than traditional media. According to research, this process is a crucial mediator that connects social media use to higher levels of body dissatisfaction and noticeably poorer self-esteem.

Rationale of the study

Obesity is a significant public health concern, and it is frequently associated with social stigma, discrimination, and bad body image, all of which can contribute to increased psychological stress. While previous research has looked at body surveillance, self-esteem, and stress in a variety of populations, little is known about how these variables interact in the context of obesity. This study is significant because it seeks to investigate the combined effect of body Surveillance, perceived stress and global self-esteem, thereby revealing insights into the psychological mechanisms that affect this population. Understanding these associations can help develop tailored interventions to improve obese people's mental health and well-being, reduce appearance-related stress, and boost their self-esteem. Furthermore, the findings may have practical consequences for healthcare providers, psychologists, and legislators by providing guidance on measures for reducing weight-related stigma and promoting supportive environments that promote good body image and self-esteem.

Research Objectives

1. To identify the association between body surveillance and perceived stress among obese individuals.
2. To determine the influence of body surveillance on global self-esteem within this population.

3. To find out the role of body surveillance in the relationship between perceived stress and global self-esteem.
4. To examine the difference in body surveillance based on marital status among obese individuals.

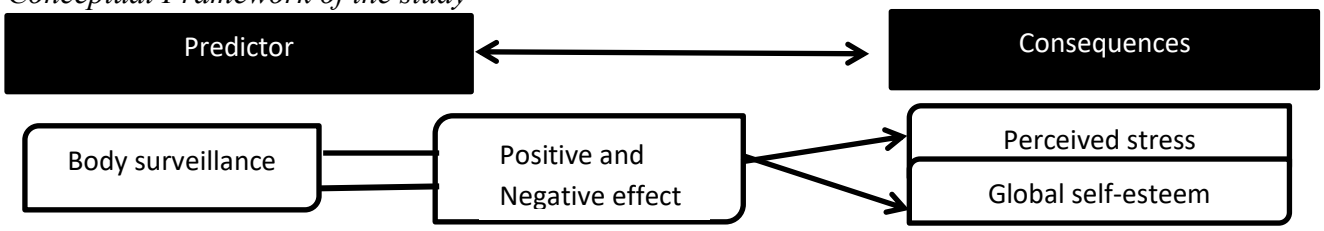
Research Hypothesis

1. There would be likely a negative correlation between body surveillance and global self-esteem among obese individuals.
2. There would likely be a positive correlation between body surveillance and perceived stress among obese individuals.
3. Body surveillance would be likely positive correlation with perceived stress and would be negative correlation with global self-esteem.
4. Married people with obesity report more body surveillance than unmarried.

Conceptual Framework

Figure 1:

Conceptual Framework of the study



Research Methodology

The study used a correlational research design to investigate the relationships between body surveillance, perceived stress and global self-esteem among obese individuals. Moreover, the sample consisted of 150 participants (N=150) from different gyms and residential area of Dera Ismail Khan, who were chosen by purposive sampling. Regarding the inclusion criteria, only those individuals categorized as obese using standard BMI norms were eligible to take part. Participants in the research ranged in age from 18 to 60 years. On the other hand, for exclusion, participants who were below 18 or above 60 years of age were excluded. Individuals who did not meet the BMI criteria for obesity or those who were unwilling to provide informed consent were also excluded from the research.

Table 1:

Socio-Demographic Characteristics of Obese People

Characteristics	Category	N	%
Gender	Male	51	34.0%
	Female	99	66.0%
Age	18-30	75	50.0%
	31-45	49	32.7%
	46-60	26	17.3%
Residence	City	145	96.7%
	Village	5	3.3%
Education	Secondary	5	3.3%

	Higher Secondary	16	10.7%
	Undergraduate	48	32.0%
	Graduate	33	22.0%
	Postgraduate	48	32.0%
Socioeconomic status	Lower	3	2.0%
	Middle	137	91.3%
	High	10	6.7%
Marital Status	Married	85	56.0%
	Unmarried	65	44.0%

Table 1 shows the socio-demographic characteristics of the N=150 obese patients involved in the current study. The majority of participants (66.0%) were women, while 34.0% were men. Half of participants (50.0.0%) were between the ages of 18 and 30, followed by 31 to 45 (32.7%) and 46 to 60 (17.3%). The great majority of people (96.7%) resided in urban areas. In terms of education, 32.0% had postgraduate degrees and 32.0% were undergraduates. 91.3% of the participants were from middle-class socioeconomic backgrounds. Additionally, 43.3% of the individuals were unmarried and 56.7% were married.

Research Instruments

Body Surveillance Scale

Body surveillance was measured using the Body Surveillance subscale of the Objectified Body Consciousness Scale, developed by McKinley and Hyde in 1996. This measure is widely used to gauge how frequently people analyze how their bodies appear to an observer. Eight measurements make up the Body Surveillance Scale, which looks at the ongoing observation of body size, form, and physical appearance. A 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree), is used by participants to score each issue. Greater levels of body surveillance are indicated by higher scores on the scale. The scale showed strong internal consistency in earlier research, with Cronbach's α coefficients ranging from.70 to.85.

Perceived Stress Scale

The Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983) is intent to examine how people perceive stressful, uncertain, and overwhelming circumstances in their lives. Ten items make up the PSS, which evaluates sensations and ideas regarding stress experienced in the previous month. On a 5-point Likert scale, ranging from 0 (never) to 4 (very often), participants rate each item. Increased felt stress is indicated by higher scores on the measure. Previous research indicates that the scale has strong psychometric properties, with Cronbach's α coefficients typically reported between.78 and.91.

Rosenberg Self-Esteem Scale

The subjects' general self-esteem was measured using Rosenberg's Self-Esteem Scale (RSES), which was developed in 1965. The scale is designed to assess a person's general assessment of their own value and acceptance. Ten items, including both positively and negatively written statements, make up the RSES. A 4-point Likert scale, ranging from 1 (strongly disagree) to 4 (strongly agree), is used to rate responses. Increased global self-esteem is implied by higher overall scores. Strong internal consistency is indicated by Cronbach's **α** coefficients for this scale, which are typically reported to be between.77 and.88.

Data collection strategies

Standard psychometric tools and a quantitative research approach were used in investigation. Purposive sampling was employed to gather data from participants meeting the criteria for obesity. Data were collected using paper-pencil surveys as well as online Google forms, depending on the participants' accessibility and convenience. To make participants feel at ease and secure, data collection was collected in a discreet and secure setting. Participants were given through explanations of all processes, and assistance was offered if they experienced any emotional discomfort during or after the evaluation.

Procedure

The original authors granted permission for the questionnaires to be used in the study once they were selected from the internet. Additionally, formal approval was sought from Gomal University's Department of Psychology to ensure the researcher's institutional connection. The data for this study were gathered by a field-based survey method. To collect information from obese people, the researcher personally visited various communal settings, such as gyms and residential areas in the chosen city. Participants were approached personally, and the study's goal, which was to investigate body surveillance, perceived stress, and global self-esteem in obese persons, was explicitly described. Prior to data collection, approval was acquired from the study supervisor and, when needed, the institutional review board. After outlining the aims and guaranteeing anonymity, each participant provided informed consent. To ensure clarity and accuracy, standardized measures for body surveillance, perceived stress, and global self-esteem, as well as a demographic information form, were administered in person. Participants were given between 10 and 20 minutes to complete the surveys. Those who felt uncomfortable during the procedure were comforted and advised that they could withdraw at any time without consequence. The completed surveys were collected, thoroughly categorized, and entered into SPSS for statistical analysis. To ensure the accuracy and reliability of the results, questionnaires that were incomplete or poorly completed were eliminated from the final analysis.

Data analysis

SPSS (The statistical Package for the Social Sciences) Version 26 was used to analyze the information gathered from the body surveillance scale, the perceived stress scale, and the global self-esteem scale. The demographic traits and total scores on every scale were described using descriptive statistics like mean, standard deviation, and frequency. Cronbach's α was used to determine the internal consistency of the measurement scales. The associations between body surveillance, perceived stress and global self-esteem were investigated using Pearson product-moment correlation analysis. Furthermore, the predictive function of body surveillance and perceived stress on global self-esteem was evaluated using simple regression analysis. An independent t-test was performed to investigate the differences in variables based on marital status.

Ethical Considerations

The current study followed strong ethical rules to guarantee the rights, dignity, and well-being of all participants. Each participant provided informed consent before data collection began. Participants were properly informed about the study's goal, the procedures involved, and their opportunity to withdraw at any time without penalty. Participants' confidentiality and anonymity were rigorously protected. Personal information was not shared, and all data were retained securely and utilized only for research reasons. Participation in the study was fully voluntary, and no pressure or force was used. Given the sensitivity of topics such as body image, perceived stress, and self-esteem, particular care was taken to avoid any

potential psychological or emotional distress. If participants experienced any distress during the trial, they were given appropriate support and guidance. Overall, the study met the highest ethical criteria for psychological research, balancing scientific objectives with human rights and participant well-being.

Results

Table 2

Pearson Correlation between Body Surveillance, Perceived Stress, and Global Self-esteem among obese individuals (N=150)

Variables	1	2	3
Body Surveillance	1		
Perceived stress	.430**	1	
Global Self-Esteem	-.230**	-.530**	1

*p <.05, **p <.01

The correlation body surveillance and perceived stress, global self-esteem were examined using Pearson correlation analysis. Higher levels of body surveillance are associated with higher levels of perceived stress, according to a study of 150 participants that indicated a strong positive correlation (r =.43, p <.01) between experienced stress and body surveillance. Furthermore, a robust and negative correlation between body surveillance and global self-esteem was found (r = -.23, p <.01), indicating that those with higher levels of body surveillance are likely to report lower levels of global self-esteem. Similarly, global self-esteem and Perceived stress were significantly negative correlated (r = -.53, p <.01).

Table 3

Regression Coefficient of Body Surveillance on Perceived Stress (N=150)

Variable	B	*β*	SE
Constant	10.67***		2.46
Body surveillance	0.13*	0.43	0.02
R2	0.18		

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

Table 3 illustrates how body surveillance affects obese individuals' perceptions of stress. Body surveillance and Perceived stress were shown to be significantly positively correlated (B = 0.13, β = 0.43, t (148) = 5.80, p <.001). This suggests that increased body surveillance is linked to increased stress perception. The total regression model was statistically significant (F(1, 148) = 33.66, p <.001), and body surveillance accounted for almost 18% of the variance in felt stress (R^2 =.18). These results imply that among obese people, body surveillance is a strong positive predictor of reported stress.

Table 4

Regression Coefficient of Body Surveillance on Global Self Esteem (N=150)

Variable	B	*β*	SE
Constant	35.61***		1.70
Body surveillance	-0.51***	-0.53	0.06
R2	0.28		

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

Table 4 illustrates body surveillance affects obese individuals' overall self-esteem. Body surveillance and global self-esteem were shown to be significantly correlated negatively (B = -0.51 β= -0.53, t (148) = -7.60, p <.001). This suggests that lower overall self-esteem is linked to higher body surveillance. The total regression model was statistically significant (F (1, 148) = 57.79, p <.001), and body surveillance accounted for almost 28% of the variance in global self-esteem (R^2=.28). These results imply that among obese people, body surveillance is a strong negative predictor of overall self-esteem.

Table 5

Independent Samples t-test Comparing Body Surveillance by Marital Status among Obese individuals (N=150)

	Married		Unmarried				
Variable	M	SD	M	SD	t(df)	p	Cohen's d
Body Surveillance	108.39	12.98	102.5625	17.388	2.34(146)	.021	0.38

Table 5 showed a significant mean difference in body surveillance between married and single people. With t (146) = 2.34, p <.05. According to the results, married people scored far higher on body surveillance (M = 108.39, SD = 12.98) than single people (M = 102.56, SD = 17.39). A minor to medium influence is indicated by the effect size, Cohen's d = 0.38.

Discussion

The current study set out to investigate how body surveillance effect perceived stress and people's overall self-esteem. To test the research hypothesis, the first hypothesis stated that there is a significant positive correlation between body surveillance and perceived stress among obese people. The findings demonstrated a significant positive correlation between body surveillance and perceived stress, indicating that those who experience higher levels of body surveillance also typically report higher levels of psychological distress. This conclusion was also supported by earlier studies, such the one conducted by Brett (2025), these findings imply that environmental and social forms of surveillance may have significant psychological effects, establishing a conceptual link between surveillance and stress that is relevant to understanding similar mechanisms in other populations, such as body surveillance and perceived stress in obese people Furthermore, Transactional Model of Stress and Coping (TMSC) also supported these finding by suggesting that stress as the outcome of dynamic interactions between people and their surroundings. This model suggests that when obese people constantly check their bodies, they view this surveillance as a continual stressor that outweighs their coping mechanisms, which raises their perceived stress levels.

In relation to second hypothesis, that there is negative correlation between body surveillance and global self-esteem among obese people. The findings demonstrated a significant negative correlation between body surveillance and global self-esteem, indicating that individuals who feel more body surveillance typically have lower self-esteem. These results are consistent with earlier studies, such as the one conducted by Santoniccolo et al. (2025), which identified Internalization of cultural beauty standards, self-esteem, and body surveillance were among

the mediating factors. These findings imply that minority stress tends to continuously increase body image problems, influencing various psychological features like self-worth.. Furthermore, Objectification Theory also supports these findings by suggesting that low self-esteem is a result of an overemphasis on outward appearance and a decreased emphasis on internal qualities

The third hypothesis examined a positive correlation between body surveillance and perceived stress and a negative correlation with global self-esteem among obese people. The result of regression analysis significantly supported this hypothesis, showing that body surveillance is a significant predictor of perceived stress and that perceived stress is a significant predictor of a decline in global self-esteem. These findings are consistent with previous research such as the study by Lyu et al. (2025), which found that body surveillance serves as a psychological mechanism that raises anxiety and suffering associated to appearance. Furthermore, Social Comparison Theory also supported these findings by suggesting that people often compare themselves to others in order to assess their own skills and attitudes. Chronic body monitoring in obese people frequently entails "upward social comparison" with idealized conventional beauty standards, which serves as a major source of stress and lowers self-worth persistent self-monitoring raises evaluative stress levels, which in turn lowers internal self-worth.

The fourth hypothesis stated that there would be likely be a significant difference in body surveillance between married and unmarried obese people. The results revealed a statistically significant difference, indicating that married people often report higher levels of body monitoring than unmarried people ($t(146) = 2.34$, $p < .05$). Specifically married individuals scored higher than unmarried individuals ($M = 102.56$, $SD = 17.39$) on body surveillance ($M = 108.39$, $SD = 12.98$). These findings are consistent with earlier studies, such as the study by Rollero (2022), and khalon and klein (2025), which together highlighted that being in a committed love relationship frequently increases the emphasis on physical beauty as people internalize social standards to sustain relationship pleasure. These results are further supported by the perspective of Social Presence Theory, the results of the current study on marital status can be thoroughly comprehended. This social presence frequently exacerbates "public self-consciousness," in which the obese person becomes highly aware of their physical self as an object in their partner's eyes. Married people live in a continual interpersonal setting where their physical appearance is tied to relational maintenance, in contrast to unmarried people who might have greater "privacy" from such constant evaluative presence.

Implications

The findings of this study have significant implications for mental health practitioners and caregivers working with obese individuals, since body surveillance is linked to higher stress and lower self-esteem, clinical interventions such as for mental health practitioners, caregivers, and legislators who interact with fat people, the current study has numerous important practical consequences. Additionally, through adaptive self-evaluation, mindfulness-based techniques and psycho-educational programs can assist people in controlling self-objectifying thoughts and enhancing stress management. Couple-based therapy may be helpful in managing interpersonal expectations and relationship-related body stress because married people reported higher levels of body monitoring. In order to enable early and focused intervention, it is recommended that routine psychological examinations at health facilities incorporate tests for perceived stress and body surveillance. Psycho educational programs should have modules to assist people in identifying and controlling

self-objectifying thoughts as well as learning adaptive self-evaluation techniques, as body surveillance has been proven to be negatively correlated with global self-esteem.

Limitations and suggestions

The validity and generalizability of this study may be affected by several constraints. The study's sample consisted of 150 obese individuals from a specific locale, which limits the findings' generalizability to other populations or cultural contexts. Other relevant characteristics that might have acted as confounding factors were not considered, such as media exposure, physical health issues, or social support. It is challenging to definitively establish a connection between psychological outcomes and body surveillance due to the study's correlational technique. To guarantee a more comprehensive representation, future researchers should strive to gather data from various urban and rural areas throughout Pakistan. To gain deeper psychological insights, a mixed-methods strategy combining quantitative measures and qualitative in-depth interviews is advised. Future studies should address social support and physical health in order to better distinguish the relationships between body monitoring and mental well-being. Lastly, to determine the direction of causality, a longitudinal research is advised.

Conclusion of the Present Research

The purpose of the current study was to look at how body surveillance affected obese people's overall self-esteem and felt stress. A number of statistical studies were carried out to look at the correlations between the variables based on the information gathered from the participants. The results demonstrated that body surveillance considerably lowers overall self-esteem and raises perceived stress. The findings show that body surveillance is a major predictor of psychological well-being, suggesting that people who believe they are being watched more frequently have higher stress levels and poorer self-esteem. These results are in line with earlier studies that show that long-term body surveillance is a major risk factor for obese people dealing with internalized weight stigma and societal beauty standards. The findings also indicated that those who constantly assess their bodies are more susceptible to negative self-perceptions, which reduces their emotional stability in general. The study looked at gender and marital differences in addition to testing the main hypothesis. The findings indicated that married people reported more body surveillance than single people. This implies that certain evaluative pressures that exacerbate appearance-related worries may be introduced by the marital setting and the presence of a significant other. These results highlight the need of focusing on body surveillance in psychological therapies. In order to encourage better self-evaluation and lessen the psychological impact of stress in obese populations, it is imperative to address these monitoring practices.

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