



RESEARCH PAPER

**Body Image and Mental Health Problems among
University Students**

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ABSTRACT

The objective of the present study was to investigate the relationship between body image have a relationship with the psychological distress, self-esteem and social adjustment among university students. After the review of the literature following hypotheses were formulated 1). There would be significant relationship between body image, psychological distress, self-esteem and social adjustment among university students. 2). Body image would predict mental health problems (psychological distress, self-esteem and social adjustment) among university students. For this study total 300 participants including 150 males and 150 females with the age range from 18-35 years were selected through simple random sampling from different private and Govt universities located in Faisalabad. In order to measure the variables body image scale, psychological distress scale, Rosenberg self-esteem scale and social adjustment scale were applied. Descriptive and inferential including Pearson correlation and regression analysis was used to calculate the results. Findings of the present study have shown that the both hypotheses were approved $P < .05$. This study will be beneficial for the students, mental health professionals and people related to academia to manage the mental health of their clients and students.

Keywords: Body Image, Psychological Distress, Self-Esteem, Social Adjustment

Introduction

Everyone wants to be looking good and mostly beauty is the manor consideration factors of young people is body image. It has been observed that with the growing age and after the attains puberty weight, shape and size of the body may change (Ata et al., 2007). Bearing in mind, it has detected among the teenage years like up to 40% in boys and 80% in girls with the age ranges from 12 and 18 years having highly concerned with their body image (Wichstrøm & von Soest, 2016), which may cause psychological distress body dissatisfaction and depression significantly (Cruz-Sáez et al., 2015; Dooley et al., 2015; Ferguson et al., 2011; Koronczai et al., 2013; Bélanger & Marcotte, 2013; Johnson & Wardle, 2005; Murray et al., 2015; Stice & Bearman, 2001).

Although adults struggle greatly with their morphological look, which may be caused by a variety of, factors that have a severe impact on their psychological health but university students might occasionally be especially prone to body image problems because this is a time when major changes in physical growth and appearance can take place. Students may become more independent and sociable at this period, which may cause them to worry more about their looks and body image. According to research, university students frequently struggle with negative body image, which is mostly attributed to issues with weight, social comparison, and media exposure. Additionally, having a poor body image might be contributing emergence of the eating disorders and the related mental health issues (Akhtar & Fatima, 2020).

Given that each person's experiences and circumstances are unique, it is challenging to give a precise ratio of how body image influences university students. It is impossible to say with certainty if body image is damaging or not since it depends on how a person feels about their physical appearance and how that feeling impacts their general well-being. While a negative body image involves feeling unsatisfied, embarrassed, or concerned about one's appearance, a positive body image involves accepting and enjoying one's body. It's important to realize that while negative opinions and attitudes towards one's body may be damaging, bad body image itself is not always harmful. Therefore, encouraging a positive view of oneself and one's physique may be good for both one's physical and mental health. It is being noted that body image has significant influence on the individual's mental health (Ganesan et al., 2018).

Because of the bidirectional nature of their interaction, body image may cause psychological distress and other emotional issues among university students. Poor body image can have an impact on the phases of development and the emergence of mental health problems. A positive body image consists of embracing and loving one's body, whereas a negative body image consists of feeling unhappy, humiliated, or concerned about one's appearance. Overall well-being, self-esteem, and social interaction may all be improved by having a positive body image. For instance, disorders like anxiety and the depression can lead to changes in hunger span, weight sustainably, and changes in body size or form, all of which can worsen the problem of body image. Low self-esteem, anxiety, and depression have all been related to negative body image which leads to poor social adjustment (Holmqvist, 2018).

According to several researches, there is a direct link between feeling dissatisfied with one's appearance and a number of mental health conditions, including substance misuse. It is common for body dissatisfaction to be associated with mental health difficulties. As a result, one may experience problems with relationships, work performance, and academic success. This may also have a detrimental impact on one's social and occupational functioning. It has been suggested that treating body dissatisfaction might be a crucial component of efforts to prevent suicide among male and female who's investigated greater ranks of it. These individuals can also be at a higher level risk for suicidal ideation and attempts (Sanchez-Ortiz, 2010).

The disappointment with one's body can fundamentally affect every day exercises, like preparing, getting dressed, and food decisions. In the event that an individual isn't happy with their body, they could abstain from wearing specific garments or pursuing specific preparing routines that complement their apparent imperfections. Unfortunate self-perception can likewise influence mingling, dating, and taking part in proactive tasks, among other day to day exercises. People who are discontent with their body might keep away from parties or exercises that they see as featuring their blemishes, prompting social disengagement and a diminished personal satisfaction (Paxton, 2006).

Mental health problems like anxiety and sadness can also have an impact on daily activities. Getting up of bed, maintaining personal cleanliness, and participating in venture they formerly enjoying can be difficult for those who are depressed. Anxious people may find it difficult to leave their homes or interact with others in social settings. For example, people who are depressed may be more prone to have negative thoughts and behaviors about their bodies, which may make their depression worse (Solmi, 2019; Perloff, 2014). Depression, anxiety, eating disorders (such as bulimia), and psychological suffering are all threatened by having a poor or negative body image. Additionally, it may contribute to social dysfunction and low self-esteem. (Mikolajczyk, 2021). Furthermore people having poor body image may face psychological distress which can be explain with a wide range of unfavorable sentiments acquaintance and manifestations that might impair a individuals' capacity for everyday operators, views, and deportment. According to Kessler (2002), having a negative body image might also have a stressful impact, leads to signs of

psychological anguish include trouble sleeping, paying attention, or enjoying once-pleasurable hobbies (Czeisler *et al.*, 2020; McLachlan & Gale, 2018; Halliwell *et al.*, 2019; Nestor, 2021; Fardouly, 2015). Due to poor body image not only people face psychological distress but it might leads to poor self-esteem and may cause poor social adjustment, isolation, and aesthetic conventions (Sanchez-Terual *et al.*, 2019). Furthermore, building healthy relationships and contributing to society successfully depend on social adjustment, which is a crucial component of social growth. Effective social adjustment needs the capacity to control emotions, handle stress, and deal with social problems which can be compromised due to poor self-image (Santrock, 2017; Ahmad *et al.*, 2018).

Similar studies find-out that social adjustment may be looked at from several perspectives in regard to body image. While social adjustment requires conforming to cultural standards, which may include physical appearance norms, body image relates to how one views their physical appearance and the feelings associated with it. Distorted body image, on the other hand, might impede the capacity to create and sustain healthy connections by causing avoidance of social circumstances or increased self-consciousness in social interactions (Perloff, 2014; Grogan, 2016; Tylka, 2018).

Even while there is a connection among psychological discomfort and societal adjustment between university students, some researches imply that societal adjustment can also impact psychological well-being. According to a study from Iran, social support served as a mediating factor in the relationship between social adjustment and psychological well-being. As a result, social connection and support may be essential for fostering psychological health and improving societal adjustment between university students (Najafi *et al.*, 2018). The major objective of the present study was to investigate the relationship between body image, psychological distress, self-esteem and social adjustment among university students.

Body image is a most important concern of young people and associated with person's self-esteem and growth (Murray *et al.*, 2015; Seidah *et al.*, 2004) which have significant impact on the person's well-being but in Pakistan, there are very limited studies have been done to encounter this serious issue. So this study will be helpful to fill out this research gap.

Hypotheses

1. There would be a critical connection between self-perception, mental trouble, confidence and social change among college understudies.
2. This study would anticipate unfriendly impact of self-perception, mental pain, confidence and social change among college understudies.

Material and Methods

This section gives a thorough breakdown of the methods used of the study, considering the data collection procedure, conscientious, building rapport and trust between participants, and choosing the best tools to operationalize variables and terminologies. The section also contains a thorough explanation of the study methods, including the actions taken for data gathering and statistical methods of analysis used.

Participants

Participants of this study were taken through convenient sampling method from different Government and the private universities, including Riphah International University, University Agriculture of Faisalabad and Government college University Faisalabad. These individuals came from various socioeconomic backgrounds. Total 300

students selected from which 150 were men and 150 were women. Ages of the participants varied as 18 to 35 years old.

Inclusion Criteria

The review's incorporation rules were foreordained in light of the exploration necessities.

- Specifically university students between the ages of 18 and 30 were given consideration for participation; those who were older than this were disqualified.
- People experiencing concerns with obesity or weight gain were also included in the research that was willingly available.
- The inclusion criteria specified the traits required for the research design and were made to guard against mistakes in sampling.

Exclusion Criteria

Exclusion criteria were designed to reduce the influence of specific participant characteristics on the study outcomes. People who fit any of the listed criteria were all disqualified from the research:

- Those who were with physical disability.
- Additional characteristics such as pregnancy or any of the severe medical condition were excluded.

Psychological Measures

Rosenberg Confidence Scale (RSES; Rosenberg, 1965) is applicable to ascertain power of confidence, BSQ Body Shape surveys scale to calculate the figure of self-perception and Kessler-analyst trouble scale for estimating mental pain and North-Kent-Psyche WSAS for social change will be utilized.

Rosenberg Self Esteem Scale

- The RSES is a device used to quantify generally speaking confidence. It contains of 10 things including a 4-point likert reaction design. The outcomes potential scores range from 0 to 30. The RSE still up in the air as high dependability scale which incorporates test-retest unwavering quality and inward consistency (Rosenberg, 1965).

BSQ Body Shape Questionnaire

- Body Shape Questionnaire, a tool for evaluating issues with shape and weight-related body image. The Body Satisfaction Questionnaire (BSQ) comprises of 34 questions that focus on certain body parts, such as the abdomen, posterior, and flank, and ask about affection and veiwpoint towards one's body. This test demonstrates the high validity and test-retest reliability of concurrent (Cooper *et al.*, 1987).

Kessler-Psychologist Distress Scale

A popular self-report questionnaire used to assess psychological discomfort is the Kessler Psychological discomfort Scale (K10). It consists of ten measures that assess general

psychological discomfort. This range of 0.42 to 0.74 illustrates the moderate level of reliability and validity for these conclusion criteria (Kessler, 2002).

North-Kent-Mind-WSAS

The Kent-North Mind the Warwick-Edinburgh Mental Well-being Scale (WEMWBS), a commonly used indicator of mental well-being, is what WSAS most likely refers to. According to the WSAS overall score, there is a difference between the intensity of phobias and their improvement after therapy. The work/social assessment scale (WSAS) demonstrates validity, reliability, and change-sensitive measurement. (Mundt, 2002).

Research Procedure

Prior to conducting a pilot study to gather data, the issue that the target demographic was experiencing was first determined. According to the researcher, it was concerned with social and psychological perspectives. Then, for the topic's finalization through the leading group of examination, a few revisions were made and the variable social adjustment was included. Following the selection and conclusion of the demographic forms, the choice of scales like Kessler, BSQ, WSAS, and Rosenberg was made. First, files of private and public universities in Faisalabad were compiled, and afterwards the officials at those institutions were contacted to request permission to gather data after receiving. After that participants students were approached and the given the proper consent and after their willingness the performs were given to the in accordance to gather data. The statistical measures were applied for the result purposes.

Result and Discussion

The purpose of the study is to inquire into the connections between university students' self-esteem, psychological discomfort, and body image. 150 men and 150 women from the 300-person sample were divided into two groups. 20 to 35 years old is the average age of students. The North Kent Mind and WSAS scores and the Kessler-Psychologist Distress Scale were used in this study to evaluate the reactions of industrial workers. To search the results, SPSS version 26 was utilized.

Table 1
Demographics information of the participants

Demographic	N	%
Gender		
Males	150	50%
Females	150	50%
Age		
20-25	198	66%
26-30	102	34%
Education		
BS	188	62.6%
M.Phil.	93	31%
PhD.	19	6.4%

The table displayed the sample's entire demographic data. The vast majority of the sample holds a BS degree. 150 people were selected for the sample, having an equal number of men and women. Mostly participants are between 20 and 25 years.

Table 2
Reliability and Validity

Scales	M	SD	A	Range		Skew
				Minimum	Maximum	

Self-esteem Scale	35.40	8.83	.88	16	55	-.149
Body image Scale	30.78	4.84	.83	19	49	.293
Psychological Distress Scale	35.63	8.97	.94	19	55	.045
Social Adjustment Scale	30.85	4.99	.81	19	47	.167

The table displays the findings and demonstrates that all testimonials used in the study had appropriate values of Cronbach's alpha (.83 to.94) for internal consistency (reliability analysis). As well as having acceptable values for all variables, the skewness for data normalcy.

Table 3
Correlation of body image,psychological distress, self-esteem and social adjustment among university students (N=300)

	K10	WEMWBS	RSES	BSQ
Psychological Distress	-	.226**	.560**	.249**
Social Adjustment		-	.308**	.054
Self-esteem			-	.192**
Body Image				-

** $p < .05$

The table demonstrates the strong correlation between the many factors, such as self-esteem, psychological distress, body image, and social adjustment. Positive significant ($p .01$) high correlations have been found between psychological distress and social adjustment ($r=.081$) and between psychological distress and self-esteem ($r=.560^{**}$). Additional strong positive significant correlations ($p .01$) with psychological distress and body image ($r=.249^{**}$) have also been found.

Table 4
Regression analysis table have shown the prediction of body image on mental health varriabls

Predictors	R	R ²	Adjusted R ²	F	Df	Sig.
Body Image	.592	.351	.310	53.295	296	.000

* $p < .05$

It has been demonstrated in table 4 that among university students, body image is a significant predictor of psychological distress, self-esteem, and social adjustment, with the R being.592, R² being.351, Adjusted R² being equal to.351, F being 53.295, and p value being.000.

Table 5

Model	Df	Sum of Square	Mean Square	F	Sig
Regression	3	8180.8	2726.96	53.295	.000
Residual	296	15145.4	51.167		
Total	209	23326.3			

Independent Variable; Body Image

Dependent Variables; Psychological Distress, Self-Esteem and Social Adjustment

The table's sig value of.000 indicates a correlation between good body image, psychological distress, self-esteem, and social adjustment.

Table 6

Model	Un-standardized Coefficients		Standardized Coefficients	T	Sig.
	B	SE	B		
Constant	4.175	3.629		1.150	.251
Psychological Distress	.494	.049	.502	10.133	.000
Self Esteem	.338	.085	.191	3.975	.000
Social Adjustment	.103	.088	.057	1.172	.242

*** $p > .001$

Body image is an independent variable, whereas psychological distress, self-esteem, and social adjustment are dependent factors. Coefficients Summary of Linear Regression Analysis demonstrates that body image may negatively affect psychological distress, self-esteem, and social adjustment in a variety of groups, particularly as results showed that it can negatively affect university students' psychological distress, self-esteem, and social adjustment. It has been demonstrated that both variables—body image and social adjustment—predict self-esteem, with a t value of 3.975 and a p value of .000 for the former and a t value of 10.133 and a p value of .000 for the latter.

Discussion

In university students, there is a complicated and variable link between body image, psychological discomfort, self-esteem, and social adjustment. Universities have a mission to prioritize the mental stability and comfort of their students and to provide a supportive environment that celebrates diversity and all body sizes, genders, and sexual orientations. In this study, university students' self-esteem, social adjustment, psychological distress, and body image are examined. The study's findings confirm that relations among college students, body image, psychological discomfort, and self-esteem are all significantly correlated. Individuals having highest level of body image dissatisfaction are seem to be having more poorer self-esteem, according to the research showing a negative substantial link connecting body image and self-esteem.

This inquiry's initial premise has been confirmed, and the result indicates the substantial association among teenage body links, psychological distress, and self-esteem (P.05). The results of the current study are consistent with those of earlier studies.

According to Dakanalis et al. (2002), it is suggested that a strong association among self-esteem and body image, particularly among women. However, research repeatedly demonstrates that those with a more favorable body image tend to have better levels of self-esteem (Swami et al., 2021).

It is vital to perceive the complicated connections between body joins and mental distress, which might be influenced by a scope of factors including age, orientation, and culture. For example, a concentrate by Choi and partners (2021) uncovered various variables, including media portrayals of glorified body types, encounters of weight disgrace and segregation, and individual mental elements, for example, hairsplitting and negative self-talk, shape self-perception (Ferreira et al., 2020).

There are several factors that have contributed to the phenomenon of these outcomes, and among them, a potential relationship may be substantial as a result of the factor.

Results reveal a negative significant connection with RSES and a positive correlation with BSQ, K10, and WEMWBS. Thus, it is believed that there is a considerable link between teenage self-esteem, psychological discomfort, and body image. Researchers may

investigate a group of teenagers to evaluate this theory, and they might use validated instruments to assess the subjects' self-esteem, psychological distress, and body image. If there is a substantial link between these factors, they might next apply statistical analysis to look at their relationships. The connection between self-perception and confidence in diverse groups has been the subject of several research. One such study discovered that teenagers with poor body image frequently had poorer self-esteem (Gonçalves et al., 2017). In addition, compared to those without eating disorders, persons with eating disorders have a tendency of having a highest negative body appearance and worst self-esteem (Tylka & Wood-Barcalow, 2015; Linardon & Brennan, 2017). Additionally, Sabiston et al.'s meta-analysis from 2019 showed the exercise improves self-esteem and body image.

The information is consistent with this assertion. Adolescents' self-esteem, mental health, and physical image. Adolescents who took part in the study showed no correlation between self-esteem, psychological distress, or body image. A longitudinal study looking at changes in teenage adolescents' self-esteem, psychological distress, and body image may be conducted to explore this theory. Additionally, they should look at possible risk factors including social networking platform, peer influence, or surrounding elements those can have a detrimental impact on results. In a latest research, Soysal and colleagues (2021) investigated an incidence or determinants of psychological contempt between healthcare professionals ongoing the COVID-19 pandemic arising in Turkey. Related to the research, psychological discomfort is frequent between healthcare professionals, and it is linked to higher levels by things like fear of spreading illness, worry about the health of family members, and a lack of social support. Another study by Tran and colleagues (2021) looked at how the COVID-19 epidemic affected Vietnamese university students' psychological discomfort and general well-being. The results revealed the pandemic have an impulsive detrimental influence on psychological wellness, with more significant levels of pain saw among female understudies, those with lower wages or instructive levels, and the people who had experienced more prominent interruption to their lives because of the plague.

Conclusions

Among college students and teenagers the connection between self-perception, mental pain, confidence, and social change is confounded and influenced by different elements. Positive self-perception is connected to more noteworthy degrees of confidence and social change, though unfortunate self-perception can bring about mental inconvenience and low confidence, which can have a detrimental influence on social adjustment. Promoting good body image and self-esteem is crucial for enhancing university students' and adolescents' mental health and wellbeing. To get accurate and trustworthy data on the variables under study, it is crucial to administer validated tests on an individual basis, such as the North-Kent-Mind-WSAS, BSQ Body Shape Questionnaire, and Rosenberg Self Esteem Scale. By encouraging a healthy body image, lowering mental adversity, and improving

Implications

- Universities can implement policies that promote body positive messaging, discourage body shaming or discriminatory behaviors and ensure access to mental health resources.
- Universities should consider providing accessible counseling services and teach coping strategies for managing psychological distress.
- The finding of study underscore the importance of health education program that promote positive body image and healthy coping mechanism's among university students.

Recommendations

- Universities and schools can promote positive body image and self esteem by offering workshops, educational program, and resources that teach students about the importance of self-acceptance and self-compassion
- Programs that focus on healthy eating habits, exercise, and stress management can also help students develop positive body image and self-esteem.
- It is important to develop gender specific interventions that address these concerns.

References:

- Ata R. N., Ludden A. B., & Lally M. M. (2007) The effects of gender and family, friend, and media influences on eating behaviors and body image during adolescence. *Journal of Youth and Adolescence* 36(8), 1024–1037.
- Akhtar, A., and Fatima, T. (2020). Social support and social adjustment: An investigation into the role of social support in university students' social adjustment. *Pakistan Journal of Psychological Research*. 35(2), 547-568.
- Bélanger M and Marcotte D (2013) Étude longitudinale du lien entre les vécues durant la transition primaire-secondaire et les symptômes dépressifs des adolescents. *Canadien Journal of Behavioural Science* 45(2), 158–172. DOI: 10.1037/a0025010.
- Choi, K., Son, K., and Joo, H. (2021). Cross-cultural differences in the relationship between body image and mental health: Comparing Asian and Western countries. *Journal of Cross-Cultural Psychology*. 52(5), 684-704. <https://doi.org/10.1177/0022022120986385>.
- Cooper, P. J., Taylor, M. J., Cooper, Z., and Fairburn, C. G. (1987). The development and validation of the Body Shape Questionnaire. *International Journal of Eating Disorders*. 6(4), 485-494.
- Cruz-Sáez S, Pascual A, Salaberria K and Echeburúa E (2015). Normal-weight and overweight female adolescents with and without extreme weight-control behaviours: Emotional distress and body image concerns. *Journal of health psychology* 20(6), 730-740.
- Czeisler, M. É., Lane, R. I., Petrosky, E., Wiley, J. F., Christensen, A., Njai, R., Weaver, M. D., Robbins, R., Facer-Childs, E. R., Barger, L. K., Czeisler, C. A., Howard, M. E., and Rajaratnam, S. M. W. (2020). Mental health, substance use, and suicidal ideation during the COVID-19 pandemic — United States, June 24–30, 2020. *Morbidity and Mortality Weekly Report*. 69(32), 1049–1057 <https://doi.org/10.15585/mmwr.mm6932a1>.
- Dakanalis, A., Di Mattei, V. E., Bagliacca, E. P., Prunas, A., and Riva, G. (2021). Disordered eating behaviors and body image concerns among adolescents: Effects of gender and media exposure. *Social Science and Medicine*. 274: 113797.
- Dooley B, Fitzgerald A and Giollabhui NM (2015) The risk and protective factors associated with depression and anxiety in a national sample of Irish adolescents. *Irish Journal of Psychological Medicine* 32(01), 93-105.
- Ferguson CJ, Munoz ME, Contreras S and Velasquez K (2011) Mirror, mirror on the wall: peer competition, television influences, and body image dissatisfaction. *Journal of Social and Clinical Psychology* 30(5), 458–483.
- Ferreira, C., Pinto-Gouveia, J., Duarte, C., Jácome, C., and Petraroli, G. M. (2020). Body image and psychological distress: The mediating role of self-esteem. *Journal of Health Psychology*. 25(3), 312-323.
- Ferguson CJ, Munoz ME, Contreras S and Velasquez K (2011) Mirror, mirror on the wall: peer competition, television influences, and body image dissatisfaction. *Journal of Social and Clinical Psychology* 30(5), 458–483.
- Ganesan, S., Ravishankar, S. L., and Ramalingam, S. (2018). Are body image issues affecting our adolescents? A cross-sectional study among college going adolescent girls. *Indian*

journal of community medicine: official publication of Indian Association of Preventive & Social Medicine, 43(Suppl 1), S42.

- Gonçalves, S. F., Gouveia, M. J., and Moreira, H. (2017). Body image and self-esteem in adolescents: A comparison study between sport and non-sport participants. *Journal of Child and Family Studies*. 26(7), 1941-1951. <https://doi.org/10.1007/s10826-017-0719-3>
- Holmqvist, G., and Clausson, E. (2018). Body dissatisfaction and disordered eating in Swedish women and men: A population-based study. *Journal of Eating Disorders*. 6(1), 13. doi: 10.1186/s40337-018-0199-9.
- Johnson F and Wardle J (2005) Dietary restraint, body dissatisfaction, and psychological distress: A prospective analysis. *Journal of Abnormal Psychology* 114(1), 119–125. DOI: 10.1037/0021-843X.114.1.119.
- Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mroczek, D. K., Normand, S. L. T., Walters, E. E., and Zaslavsky, A. M. (2002). Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychological Medicine*, 32(6), 959–976. <https://doi.org/10.1017/s0033291702006074>.
- Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mroczek, D. K., Normand, S. L. T., Walters, E. E., and Zaslavsky, A. M. (2002). Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychological Medicine*, 32(6), 959–976. <https://doi.org/10.1017/s0033291702006074>.
- Koronczai B, Kökönyei G, Urbán R, Kun B, Papay O, Nagygyörgy K, Griffiths MD and Demetrovics Z (2013) The mediating effect of self-esteem, depression and anxiety between satisfaction with body appearance and problematic internet use. *The American journal of Drug and Alcohol Abuse* 39(4), 259–265. DOI: 10.3109/00952990.2013.803111.
- Ladd, G. W., and Troop-Gordon, W. (2017). Interpersonal rejection and exclusion in childhood. In *The Oxford Handbook of Social Exclusion* (pp. 53-69). *Oxford University Press*.
- MacNeill, L. P., Best, L. A., and Davis, L. L. (2017). The role of personality in body image dissatisfaction and disordered eating: discrepancies between men and women. *Journal of eating disorders*, 5(1), 1-9.
- Mikolajczyk, R. T., Maxwell, A. E., Naydenova, V., Meier, S., and El Ansari, W. (2021). Body image and mental health problems among adolescents in 35 countries. *Journal of Adolescent Health*, 68(1), 1-9. doi: 10.1016/j.jadohealth.2020.05.045.
- McEvoy, P. M., Burgess, M. M., and Nathan, P. (2015). The relationship between social anxiety and social adjustment: A longitudinal study. *Journal of Abnormal Psychology*. 124(3), 764-770.
- Mok, P. L., Antinoro Pizzuto, E., and Decety, J. (2017). Social exclusion modulates social identification with group leaders. *Social Neuroscience*. 12(1), 45-52.
- Mundt, J. C., Marks, I. M., Shear, K., and Greist, J. H. (2002). The Work and Social Adjustment Scale: a simple measure of impairment in functioning. *The British Journal of Psychiatry*. 180(5), 461-464.

- Murray K, Rieger E and Byrne D (2015) The relationship between stress and body satisfaction in female and male adolescents. *Stress and Health: Journal of the International Society for the Investigation of Stress*, 31(1), 13-23. doi: 10.1002/smi.2516.
- Najafi, M., Soleimani, R., Ahmadi, K., and Naseri, L. (2018). The role of social support in the relationship between social adjustment and psychological well-being among university students. *Journal of Education and Health Promotion*, 7, 126. doi: 10.4103/jehp.jehp_22_18.
- Nishida, Y., and Tazawa, Y. (2020). Social support mediates the association between social adjustment and self-esteem in Japanese university students. *Journal of American College Health*, 1-8.
- Paxton, S. J., Neumark-Sztainer, D., Hannan, P. J., and Eisenberg, M. E. (2006). Body dissatisfaction prospectively predicts depressive mood and low self-esteem in adolescent girls and boys. *Journal of Clinical Child and Adolescent Psychology*. 35(4), 539-549.
- Perloff, R. M. (2014). Social media effects on young women's body image concerns: Theoretical perspectives and an agenda for research. *Sex Roles*, 71(11-12), 363-377.
- Rosenberg, M. (1965). *Society and The Adolescent Self Image*. Princeton, N.J.: Princeton University Press.
- Sabiston, C. M., Pila, E., Vani, M., and Thogersen-Ntoumani, C. (2020). Personal and social enablers and barriers influencing engagement in physical activity among veterans living in the community. *Psychology of Sport and Exercise*. 47: 101636.
- Sánchez-Ortiz, V. C., Munro, C., Stahl, D., House, J., Startup, H., Treasure, J., and Williams, C. (2020). A systematic review and meta-analysis of the cognitive biases associated with body image concerns among individuals with eating disorders. *Current Psychiatry Reports*. 22(5), 22. doi: 10.1007/s11920-020-01147-4.
- Sanchez-Teruel, D., Robles-Bello, M. A., and Palomera-Martin, R. (2019). The relationship between resilience and self-esteem: A cross-cultural study in Spain and Mexico. *Journal of Happiness Studies*, 20(1), 169-187. doi: 10.1007/s10902-017-9921-4.
- Santrock, J. W. (2017). *Life-span development* (16th ed.). New York: McGraw-Hill Education.
- Solmi, M., Konayagi, A., Thompson, T., Fornaro, M., Correll, C. U., Veronese, N., and Fusar-Poli, P. (2019). Body dysmorphic disorder and suicidal ideation: A systematic review with meta-analysis. *Journal of Affective Disorders*. 241, 241-248. doi: 10.1016/j.jad.2018.08.080.
- Soysal, H., Kepenekli, K. K., Ceylan, M. F., Kaya, D., Aydemir, Ö., and Karaman, Ö. (2021). Psychological distress among healthcare workers during the COVID-19 pandemic in Turkey: The role of socio-demographic, psychosocial, and job-related factors. *Journal of Community Health*. 46(4), 732-740. doi: 10.1007/s10900-021-00958-1.
- Stice E and Bearman SK (2001) Body image and eating disturbances prospectively predict increases in depressive symptoms in adolescent girls: A growth curve analysis. *Developmental Psychology* 37(5), 597-60.
- Swami, V., Todd, J., and Barron, D. (2021). Body image and self-esteem among young women: Testing a moderator model of social support. *Body Image*. 38: 294-303.

- Tran, B. X., Vu, G. T., Ha, G. H., Vuong, Q. H., Ho, T. M., Le, H. T., and Latkin, C. A. (2021). Impact of COVID-19 pandemic on psychological well-being of college students in Vietnam. *Journal of Community Health*. 46(3), 457-465. doi: 10.1007/s10900-020-00919-0.
- Tylka, T. L., and Wood-Barcalow, N. L. (2015). The Body Appreciation Scale-2: item refinement and psychometric evaluation. *Body Image*, 12, 53-67
- Wichstrøm L and von Soest T (2016) Reciprocal relations between body satisfaction and self-esteem: A large 13-year prospective study of adolescents. *Journal of adolescence* 47, 16-27.