



## The factors that influence body image perceptions among adolescents

Tripti Agarwal

Department of Economics, Dr. B. R. Ambedkar School of Economics University, Bangalore, Karnataka, India

### Abstract

The study aims to analyze the various factors that have an impact on the body image perceptions of individuals, particularly adolescents. The variables considered for the study include parental attitude, the peer influence, the BMI, and the time spent on social media. Body image perception is an issue of great concern in the present day and age. A negative perception can give rise to lower self-esteem, chances of anxiety, depression, eating disorders and others. In this study, a survey was conducted by using a sample of adolescents, to shed light on the influence of the aforementioned factors. It was found that a higher BMI and peer influence were associated with a more negative self-perception, while a positive parental attitude had a positive impact on the body image. Time spent on social media was shown to be an insignificant variable. These findings suggest that adolescents are extremely sensitive to the social atmosphere around them and these affect their self-perception. This study underscores the need for targeted interventions in schools and peer-based communities; it also highlights the need to educate parents and spread social media literacy, while putting in place certain social media regulations. Mental health facilities for adolescents will also go a long way.

**Keywords:** BMI, Body image perception, parental attitude, peer influence

### Introduction

"Body image is not simply a reflection in the mirror, but a deeply ingrained narrative shaped by social, cultural, and media influences." — Thomas F. Cash

Body image perception has become an issue of great concern in the current times. The society we live in forces us to form certain perceptions about our body. This is prevalent among adolescents, whose perception is shaped by social, familial and social media influences. They are particularly prone to being impacted by body image concerns owing to the burden of social acceptance, rapidly developing bodies, and increasing social media exposure. The importance of body image perception is not just linked to self esteem but also a negative outlook can even lead to anxiety, depression and eating disorders in the long-run scheme of things.

This study aims to analyze how certain factors influence body image perceptions by adolescents, these factors include- parental attitude, peer influence, Body Mass Index (BMI), and the time spent on social media. Parental attitude has been selected as one of the variables as these are crucial in shaping a child's self-perception in the early phases of his life. They can either foster a positive outlook or contribute to low self-esteem and discontentment. Similarly, peer influence gains more relevance each day for adolescents as they tend to seek social acceptance and validation. Comparisons also influence how a person looks at himself. BMI has been considered since body weight and shape have a direct impact on these concerns. Social media too has been considered to check for how it influences these perceptions, considering that it often tends to portray idealized body notions, which might lead to dissatisfaction. By examining these variables, the study aims to examine the dynamics of body image perceptions among adolescents. Insights from this can be instrumental in understanding how a positive body image can be advocated and help mitigate the negative impact of societal pressure on young individuals.

According to this study, the null hypothesis says that these variables have no significant effect on body image perception. While the alternative hypothesis suggests that these variables have a significant impact on it. This has been proven by means of the Ordinary Least Squares Model and the simple linear regression method. These offer statistical insights into how each variable impacts the dependent variable.

**H<sub>0</sub>:** Variables in the model have no significant impact on body image perception

**H<sub>a</sub>:** Variables in the model affect body image perception significantly

While the impact of these variables has been tested in isolation, this study aims to understand the collective impact of these four independent variables. So, this is a comprehensive study of the simultaneous impact of these variables. Along with this, the focus has been placed specifically on adolescents who in contemporary times suffer from questions of self-doubt and self-worth about their appearance.

### Literature Review

Adolescent body image perceptions are influenced by a number of factors which may be social or personal; these have been observed to have a significant impact on their mental well-being. This literature review examines past work on four such crucial variables: parental attitudes, peer influence, Body Mass Index (BMI), and time spent on social media. These directly or indirectly impact how adolescents look at their body.

#### 1. Parental attitudes

Parental attitudes hold great sway in how adolescents perceive themselves. Negative parental attitudes, in the form of appearance-related teasing or commentary, can cause individuals to further harshly perceive their bodies. Webb *et*

al. (2017) <sup>[16]</sup> introduced the concept of “Pretty Pressure,” which describes the effect of parental appearance-related teasing on adolescents' sensitivity to rejection based on appearance. This in turn increased the dissatisfaction adolescents associate with their body image.

The impact of parental commentary on adolescent body image is further supported by Schwartz *et al.* (1999) <sup>[12]</sup>, whose study was published in *The International Journal of Eating Disorders*. This study highlighted that adolescents whose parents commented about their body, particularly the weight, were likely to negatively perceive themselves and adopt harmful behaviors like extreme dieting. This can even shape their behaviors in their adult life, and shape their entire approach to self-esteem and self-worth.

## 2. Peer influence

Peers strongly impact body image perceptions, especially in adolescents, where they seek social validation and often compare with their peers. In a study titled *Peer Influences on Adolescent Body Image: Friends or Foes?*, Kenny *et al.* (2017) <sup>[7]</sup> found that peers significantly impact adolescents' perceptions of body image by establishing certain idealized notions for a body image that they feel pressured to meet. This can drive them towards setting unrealistic standards and suffering from greater dissatisfaction.

According to Carlson Jones (2012), peer influence leads to a more dissatisfied body image perception. Social interactions like friendships, peer-pressure, popular groups, etc., exacerbate negative perceptions and contribute to body image concerns. This establishes a cycle of criticism, comparison and dissatisfaction.

## 3. Body Mass Index (BMI)

BMI has been consistently linked to body image perceptions, and it has been found that a higher BMI is associated with a more negative perception than a lower value for the same (Ballarin, 2024). Around 84.6% adolescents who are obese according to the BMI index suffer from a negative body image perception simultaneously. This shows how physical characteristics like height or weight influence how one perceives one's body.

Certain other studies provided further evidence for this negative correlation. Adolescents with a higher BMI were observed to be more likely to suffer from depression and adopt measures like extreme dieting. They were also more likely to suffer from eating disorders (Pimenta, 2021).

## 4. Time spent on social media

The influence of social media is crucial in contemporary times as adolescents tend to spend an increasingly high amount of time here. Marengo *et al.* (2018) <sup>[9]</sup> found that adolescents who spend more than two hours per day on any social media platform experience greater body image concerns, primarily owing to the frequent exposure to idealized and often unrealistic body types and shapes. This further exacerbates insecurities and dissatisfaction.

Works by Jovana Trajković *et al.* (2005) and Renee Engeln *et al.* (2020) <sup>[5]</sup>, suggest that platforms like Instagram and Facebook negatively impact how adolescents perceive their body image. They have also shown that Instagram has a more adverse impact than facebook (now Meta). These

platforms set up unrealistic beauty standards and contribute to dissatisfaction.

## 5. Conclusion and research gap

The existing literature demonstrates that parental attitudes, peer influence, BMI, and social media exposure significantly shape adolescent body image perceptions. While existing studies have talked about these factors in isolation, this paper aims to understand how these variables simultaneously impact body image perceptions. Along with this, it also gives insights into how to promote a more positive perception and ensure mental well-being.

## Data and Methodology

The study has made use of primary data that was collected by means of a survey. The participants of the survey were adolescents aged 10-19. To increase diversity among the participants, the data for the survey has been collected from different demographics and from a total of 53 participants.

The paper uses a data set called ‘metrics’ and takes body image perception as its dependent variable. The values of this variable range from 1 to 10, with 1 being ‘very dissatisfied’ and 10 being ‘completely satisfied’. This scale measures adolescents' perception of themselves. There are four independent variables in the model. The first one being parental attitude. This has also been measured on a scale of 1 to 10, 1 indicating a very negative attitude towards the child's body image, while 10 indicating a very positive one. The peer influence has also been measured on a scale of 1 to 10, along with the BMI of individuals, since it has a direct relation with how individuals look at their bodies. Along with this, the time an adolescent spends on social media per day has been considered as the 4th independent variable in this study.

The study makes use of an OLS simple regression model in order to analyze how the aforesaid variables impact the body image perception of adolescents.

The regression function is,

$$\text{perception} = \beta_0 + \beta_1 \text{parents} + \beta_2 \text{peers} + \beta_3 \text{bmi} + \beta_4 \text{time}$$

where,

- Perception= self-perceived body image on a scale of 1 to 10
- Parents= parental attitude towards body image
- Peers= how much peers and friends influence body image perception
- BMI= the BMI of the people who participated in the study
- Time= the time an individual spends on social media each day.

## Testing the CLRM assumptions

To run the OLS model, the CLRM assumptions need to be satisfied. The Classical Linear Regression Model has certain assumptions; these include the linearity of parameters, no autocorrelation, no significant multicollinearity, homoscedasticity, number of observations > number of parameters. And all the values of the independent variables should not be the same.

The dataset used in this study must satisfy all the assumptions, only then the OLS regression model can be used.

**1. No Heteroskedasticity**

Heteroskedasticity indicates that the variances of the errors are not constant. First the dataset was tested for heteroskedasticity.

**H0:** There is homoscedasticity  
**Ha:** There is heteroskedasticity

The Breush Pagan test and Goldfeld Quandt were used to prove this assumption. Codes were executed in R to obtain these results.

```
library(lmtest)
modell<-lm (perception~bmi+peers+parents+time, data=
metrics)
bptest(modell)
gqtest(modell)
```

The results obtained are-

**BP = 5.1788, df = 4, p-value = 0.2694**  
**GQ = 1.4662, df1 = 22, df2 = 21, p-value = 0.1923**

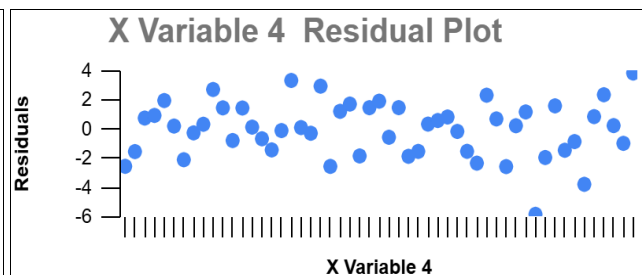
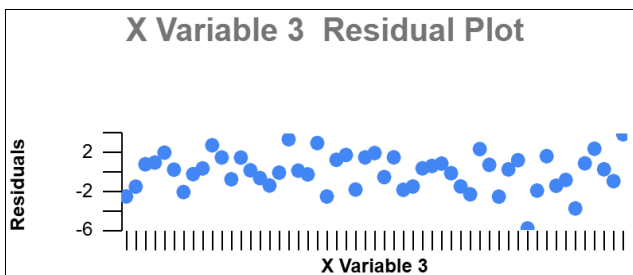
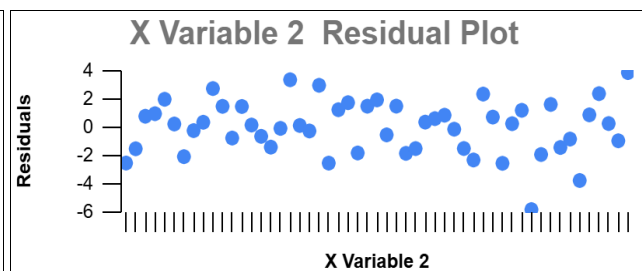
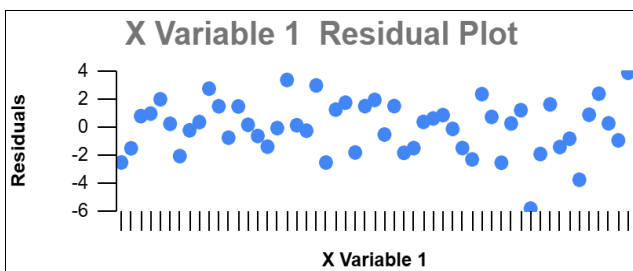
In both the cases, p-value is greater than 0.05, indicating that the null hypothesis cannot be rejected. This proves that homoskedasticity exists in the data.

Along with this, residual plotting, which is a graphical method, was also used to indicate that the data had no heteroskedasticity. This was performed on Excel.

The summary was obtained-

**Table 1**

Regression Statistics	
Multiple R	0.5291216742
R Square	0.2799697461
Adjusted R Square	0.2199672249
Standard Error	1.95457136
Observations	53



The residual plots also show that no direct pattern or relation exists between the variances of the subsequent residuals and therefore, there is no heteroskedasticity.

**2. No Multicollinearity**

Multicollinearity indicates that the variables in the model are very strongly related to each other. The data must also

be free from any significant values of multicollinearity to be used for OLS regression.

```
library(car)
modell<-lm (perception~bmi+peers+parents+time, data=
metrics)
model2<- metrics [1:53, c ("perception", "bmi", "peers",
"parents", "time")]
cor(model2)
```

**Table 2**

	perception	peers	parents	time	bmi
perception	1.0000000	-0.25832656	0.37378683	-0.1061633	-0.2836328
peers	-0.2583266	1.0000000	-0.07611953	0.1594869	-0.2141443
parents	0.3737868	-0.07611953	1.0000000	-0.1980918	-0.1513211
time	-0.1061633	0.15948690	-0.19809176	1.0000000	-0.1765381
bmi	-0.2836328	-0.21414428	-0.15132110	-0.1765381	1.0000000

**Tabel 3: vif(modell)**

peers	parents	time	bmi
1.073088	1.089239	1.102312	1.118865

The correlation matrix indicates that none of the variables are very strongly related to each other. This belief is also reinforced with the help of Variance Inflation Factor or VIF

test. The VIF test values for each of the variables is below 5, indicating that the multicollinearity is extremely small and will not impact the model.

**3. No autocorrelation**

Autocorrelation implies that the subsequent errors share a kind of relation, this impacts the model and the results that will be obtained.

The data should also not suffer from autocorrelation for OLS regression to be done.

`dwtest(modell)`

**DW = 1.9701, p-value = 0.4118**

Here the DW value is 1.9701. When the DW value is in the range of  $2 \pm 0.2$ , the autocorrelation is said to be minimum, satisfying the assumption of CLRM.

Hence, the dataset satisfies the assumption.

**Results and Discussions**

Analyzing the model and the available data, certain conclusions can be drawn which have been discussed in this section.

**1. Descriptive Statistics**

In this section, a summary of the central tendencies, variability, and distributions of the key variables is discussed. Descriptive statistics allow us to understand the properties of each of the variables considered, which is essential for interpreting the relationships between these variables in the econometric model.

The code used in R is as follows:

```
library(psych)
describe(metrics)
```

**Table 4**

Variable	Mean	Median	Std. Error	Maximum	Minimum
perception	6.396	7	0.30	10	1
parents	6.755	7	0.36	10	1
peers	4.434	5	0.36	10	1
bmi	23.35	23.88	0.47	31.22	16.53
time	3.142	3.5	0.14	4.5	0.5

It also demonstrates that the data does not suffer from any discrepancies or any outliers that would affect the efficiency of the model and impact the results.

In all the data values here the mean and the median are quite close to each other, indicating that skewness in the data is not a concern. The standard errors are also observed to be relatively small for all the variables further adding to the strength of the model. The maximum and minimum values are also spread over a reasonable range and allow for variability too.

**2. The Model Summaries**

To understand the relationship between the dependent and the independent variables, a step-wise approach has been adopted to build the model. This allows us to understand the impact of each individual independent variable on body image perception, as well as the combined impact.

**Model 1: Body image perception and BMI index values**

Summary (lm (perception~bmi, data= metrics))

Coefficients:

```
Estimate Std. Error t value Pr(>|t|)
(Intercept) 10.63819 2.02969 5.241 3.07e-06 ***
bmi -0.18168 0.08601 -2.112 0.0396 * ---
```

**Multiple R-squared:** 0.08045, **Adjusted R-squared:** 0.06242

**F-statistic:** 4.462 on 1 and 51 DF, p-value: 0.03958

Calculating the summary of the model with just one independent variable- BMI- an R square value of 8% is obtained. This implies that 8% of the body image perception of adolescents is explained by changes in the BMI values. The relation is negative in nature, indicating that higher BMI values are associated with lower scores on body image scales or a more negative self-perception. This is consistent with the established observations, where people with a higher BMI face psychological and societal pressures. They have certain socially accepted idealized notions of beauty that can contribute to a negative self-perception.

The variable is significant for the model as the p-value<0.05.

**Here the H0:** The variable has significance

**Ha:** The variable has no significance.

The H0 could not be rejected and hence the variable holds significance and is marked with an asterisk.

**Model 2: Body image perception with BMI index values and Peer influence**

Summary (lm (perception~bmi+peers, data= metrics))

Coefficients:

```
Estimate Std. Error t value Pr(>|t|)
(Intercept) 12.95798 2.12942 6.085 1.61e-07 ***
bmi -0.22755 0.08361 -2.722 0.00892 **
peers -0.28165 0.10994 -2.562 0.01347 *
---
```

**Multiple R-squared:** 0.1871, **Adjusted R-squared:** 0.1546

**F-statistic:** 5.756 on 2 and 50 DF, p-value: 0.005628

So now, in the second model, a second independent variable that is peer influence has also been added. This leads to an increase in the value of R square from 8% to 18%, which is a significant jump. In this new model, both the independent variables are significant (p-value <0.05) indicating that they influence the value of the dependent variable. So, the second model is a better model, as the variable ‘peers’ also has some explanatory power in the model.

The influence of peers and body image perception have a negative influence. This implies that the greater the influence of friends and peers, the worse will be the body image perception among adolescents. Plausible reasons for the same could be the elements of comparison that adolescents fall victims to, the pressure to stick to the physical standards of the group and the burden to be able to ‘belong’. Adolescents also fear rejection or judgment and often seek social validation and acceptance. They may face bullying, teasing or even taunting, which has been shown to have an extremely negative psychological impact.

**Model 3: Body Image Perception with BMI, Peer Influence and Parental Influence**

Summary (lm (perception~bmi+peers+parents, data= metrics))

Coefficients:

```
Estimate Std. Error t value Pr(>|t|)
(Intercept) 10.29085 2.29821 4.478 4.51e-05 ***
```

bmi -0.19319 0.08086 -2.389 0.0208 \*  
 peers -0.25240 0.10540 -2.395 0.0205 \*  
 parents 0.25689 0.10404 2.469 0.0171 \*  
 ---

**Multiple R-squared:** 0.2771, Adjusted R-squared: 0.2328

**F-statistic:** 6.26 on 3 and 49 DF, p-value: 0.001105

Here, when three independent variables are considered in the model, the value of R square rises from the previous 18% to 27%, which is a big leap. This shows that model 3 is a further enhanced version of the older models, and that it is able to explain the dependent variables to a greater extent. The three independent variables in collaboration have a meaningful impact on the self-perceived body image.

All the 3 variables are shown to be significant as they have a p-value below 0.05, due to which the H0 cannot be rejected. Here the relation between parental attitude and body image perception is positive in nature. This implies that if the parental attitude towards an adolescent's body image is positive (higher value on the scale), then the child's perception is also positive (higher value on scale) and vice versa.

Hence, the parental attitude is also shown to have an additional impact on the dependent variable.

#### **Model 4: Body Image Perception with BMI, Peer Influence, Parental Attitude and Time Spent on Social Media**

Summary (lm (perception~bmi+friends+parents+time, data=insta))

Coefficients:

Estimate Std. Error t value Pr(>|t|)  
 (Intercept) 10.88129 2.68050 4.059 0.000181 \*\*\*  
 bmi -0.19996 0.08298 -2.410 0.019850 \*  
 friends -0.24752 0.10686 -2.316 0.024854 \*  
 parents 0.24652 0.10754 2.292 0.026315 \*  
 time -0.12218 0.27877 -0.438 0.663139  
 ---

**Multiple R-squared:** 0.28, Adjusted R-squared: 0.22

**F-statistic:** 4.666 on 4 and 48 DF, p-value: 0.002911

In the final model, all the four independent variables are taken into consideration. The R square value has now increased to 28%, hence each variable has added to the explanation of the dependent variable. Here, however, though all the previous three variables hold significance, the new variable 'time' is shown to be insignificant.

The p-value is greater than 0.05, rejecting the H0, making time spent on social media insignificant to the model; in other words it does not have a meaningful impact on the body image perception.

A plausible reason could be the kind of content that is consumed on social media. Beauty or fitness related content might have a more negative influence on the body image perception when compared to other kinds of content. However, this is beyond the ambit of this study.

So, overall it is observed that the 4th model is the best model, and it is therefore considered for the study, as it explains a larger percentage of the dependent variable.

### **Policy Implications**

Based on the results obtained from the OLS regression, certain policy conclusions can be drawn to encourage a more positive body image perception among adolescents; this can also help reduce the probability of anxiety, depression, dissatisfaction and the prevalence of eating disorders.

#### **1. Education programs in schools**

Implementing body image education and workshops in schools can help address the challenge of a negative body image from a young age itself, and help individuals gain confidence, self-esteem and acceptance. Schools could also engage in activities that encourage body diversity and talk about self-worth (Thábyta Silva de Araújo *et al.*, 2018).

For instance, 'The Butterfly Foundation' of Australia has partnered with schools and educational institutions to deliver talks on body positivity and mental health. Along with this, the 'Be Real Campaign' of the UK also aims to combat false idealized notions of appearance and irrational beauty standards (T. Lancet *et al.*, 2017) <sup>[18]</sup>.

#### **2. Parental education initiatives**

Developing programs to increase parental awareness about how their body image perception impacts adolescents, and helping them encourage body positivity, while using supportive language and breaking the stigma of the perfect body. These could help parents become more sensitive to the psychological effects of what they say and help them talk about health-related problems more effectively.

The National Eating Disorders Association of the US aims to educate parents about the impacts of a negative perception of one's body image on their eating habits and hence their underlying health and well-being. Disorders like anorexia and extreme dieting might see a spike if these issues are not addressed (*Body image and Eating disorders, NEDA*). The Health Promotion Model in Norway also aims to equip parents to promote a more positive body image in the minds of their adolescents (C. Sundgot-Borgen *et al.*, 2020) <sup>[13]</sup>.

#### **3. Peer and influencer led support programs**

Peer-led programs can help combat the negative relation between peer influence and body image perception and help individuals questioning their self-worth. This approach can be particularly benefitting as adolescents would be more open to accepting guidance from their own contemporaries. Along with this, social media content creators and influencers can also help promote body positivity. They can encourage body diversity and promote inclusivity as well.

Examples include the *Youthline*, a peer-run program in New Zealand, that focuses on body positivity and self-esteem, along with a multitude of subjects. This creates an open and safe space for adolescents (*YouthLine, Your Body, Body Image*). Girls Inc., US and Girlguiding UK (*Tackle the Body Image Myth, not your Body*), aim to promote confidence in young girls and adolescents, they encourage body positivity, and help teenagers navigate the impact of negative peer influence and social media.

#### **4. Social media literacy and regulatory practices**

Social media literacy programs can be launched to help adolescents deal with the negative impact of idealized body

notions. Policymakers can also advocate for regulatory measures that require social media platforms and media houses to disclose image modifications, filters or edits, in the form of disclaimers. This will avoid setting up irrational body image standards (Julie L. Andsager *et al.*, 2014) <sup>[1]</sup>.

### 5. Reducing the stigma surrounding body weight

It is now required that the focus is on good health, both physical and mental, rather than just weight of the body. There should be a greater emphasis on holistic health measures rather than a BMI-centric approach.

For instance, the Netherlands' 'Youth at a Healthy Weight' program talks about promoting a balanced diet and physical exercise without creating a stigma around body weight as the primary measure in this regard (JOGG, *The Netherlands, Youth Health Community*). Canada's 'Food Guide' program follows the same approach and advocates for healthy eating habits, without the onus being primarily on weight of the person (N. Mathe *et al.*, 2016) <sup>[10]</sup>.

### 6. Mental health support

Mental health and counseling support must be offered to adolescents in schools, colleges, etc. This would ensure that a safe space is created where adolescents can focus on body positivity, and deal with the anxiety, negativity and depression that can often accompany comparison (Meghan M. Gillen, 2016) <sup>[11]</sup>.

Japan's *Tokyo Mental Health program* is a good example in this regard. It creates a safe space where adolescents can talk about their self-esteem and body image related concerns (*Body Image and how it Relates to Mental Health, 2016*) <sup>[3]</sup>. By implementing these policies a positive body image perception can be created while working on the needs of good health and a balanced diet. These policies will help tackle negative peer influence, empower positive parental attitudes, and help policy makers create an environment that fosters a healthy body image perception and helps address questions of self-esteem and self-worth.

### Conclusion

The model that has been used in the study has proven to be significant and sheds light on the multifaceted factors influencing an adolescent's body image perception. The study primarily focused on the BMI, parental attitude and peer comparison and influence. The results obtained indicated a negative relation between perception and BMI, suggesting that a higher BMI is associated with a more negative self-perception. Similarly, the results also suggested that a higher peer influence leads to more dissatisfaction about the image, while a positive parental attitude leads to a positive self-perception by adolescents as well.

These results indicate the need to focus on health-based indicators, and not just BMI, while proving that a supportive family helps strengthen self-esteem and body positivity. The need to ensure positive peer interactions has also been brought to light. Addressing these concerns holistically is the way to go. By the means of school literacy workshops, parent awareness programs, peer-based communities, social media literacy, regulations, and mental health programs, body positivity can be encouraged, and self-esteem issues can be combated.

While this study has shed light on a major problem in the current day and age, and provided certain policy

implications, there are certain limitations in the study. This study has used self-reported data for many variables and approximate values for weight and height and hence, there might be discrepancies in this data and BMI calculations. Participants may have recall biases, or they might have underreported or exaggerated their perceptions. The study did not take into consideration the kind of content that was consumed by adolescents on various social media platforms, this could have provided more insights into the relationship between the variables.

### References

1. Andsager J. Research Directions in Social Media and Body Image. *Sex Roles*, 2014;71:407-413. <https://doi.org/10.1007/S11199-014-0430-4>.
2. Body image and Eating disorders, NEDA, <https://nationaleatingdisorders.org/body-image-and-eating-disorders/>
3. Body Image and how it Relates to Mental Health, 2016, Tokyo Mental Health. <https://www.tokyomentalhealth.com/body-image-and-how-it-relates-to-mental-health/>
4. Darimont T, Karavasiloglou N, Hysaj O, Richard A, Rohrmann S. Body weight and self-perception are associated with depression: Results from the National Health and Nutrition Examination Survey (NHANES) 2005-2016. *Journal of affective disorders*, 2020;274:929-934. <https://doi.org/10.1016/j.jad.2020.05.130>.
5. Engeln R, Loach R, Imundo M, Zola A. Compared to Facebook, Instagram use causes more appearance comparison and lower body satisfaction in college women.. *Body image*, 2020;34:38-45. <https://doi.org/10.1016/j.bodyim.2020.04.007>.
6. JOGG, The Netherlands, Youth Health Community, <https://youthhealthcommunity.com/meet-our-community/cursus-vehicula-quam>
7. Kenny U, O'Malley-Keighran M, Molcho M, Kelly C. Peer Influences on Adolescent Body Image: Friends or Foes?. *Journal of Adolescent Research*, 2017;32:768 - 799. <https://doi.org/10.1177/0743558416665478>.
8. Lancet T. Cosmetic procedures: a cause for concern. *The Lancet*, 2017, 390. [https://doi.org/10.1016/S0140-6736\(17\)31752-X](https://doi.org/10.1016/S0140-6736(17)31752-X).
9. Marengo D, Longobardi C, Fabris M, Settanni M. Highly-visual social media and internalizing symptoms in adolescence: The mediating role of body image concerns. *Comput. Hum. Behav.*, 2018;82:63-69. <https://doi.org/10.1016/j.chb.2018.01.003>.
10. Mathe N, Agborsangaya C, Loitz C, Johnson J, Johnson S. Health Behaviours and Awareness of Canada's Food Guide: A Population-based Study. *Canadian journal of dietetic practice and research: a publication of Dietitians of Canada = Revue canadienne de la pratique et de la recherche en dietetique: une publication des Dietetistes du Canada*, 2016;77(2):66-71. <https://doi.org/10.3148/cjdpr-2015-044>.
11. Meghan M, Gillen, Charlotte N, Markey. 10. Body Image and Mental Health, 2016. doi: 10.1016/B978-0-12-397045-9.00058-6
12. Schwartz D, Phares V, Tantleff-Dunn S, Thompson J. Body image, psychological functioning, and parental feedback regarding physical appearance. *The International journal of eating*

- disorders,1999:25(3),339-43. 3.0.CO;2-V" target="\_blank">[https://doi.org/10.1002/\(SICI\)1098-108X\(199904\)25:3<339:AID-EAT13>3.0.CO;2-V](https://doi.org/10.1002/(SICI)1098-108X(199904)25:3<339:AID-EAT13>3.0.CO;2-V).
13. Sundgot-Borgen C, Stenling A, Rosenvinge J, Pettersen G, Friborg O, Sundgot-Borgen J, *et al.* The Norwegian healthy body image intervention promotes positive embodiment through improved self-esteem. *Body image*,2020:35:84-95.  
<https://doi.org/10.1016/j.bodyim.2020.08.014>.
  14. Tackle the Body Image Myth, Not your Body, <https://www.girlguiding.org.uk/what-we-do/blog/tackle-the-body-image-myth-not-your-body/>
  15. Trajković J. Social media and body image. *Media studies and applied ethics*, 2022.  
<https://doi.org/10.46630/msae.2.2022.07>.
  16. Webb H, Zimmer-Gembeck M, Waters A, Farrell L, Nesdale D, Downey G. “Pretty Pressure” From Peers, Parents, and the Media: A Longitudinal Study of Appearance-Based Rejection Sensitivity. *Journal of Research on Adolescence*,2017:27:718–735.  
<https://doi.org/10.1111/jora.12310>.
  17. Youth Line, Your Body, Body Image, <https://archive.youthline.co.nz/info-zone/your-body/body-image/>