FACTA UNIVERSITATIS
Series: **Philosophy, Sociology, Psychology and History** Vol. 22, Nº1, 2023, pp. 29 - 42
https://doi.org/10.22190/FUPSPH2301029J

Original Scientific Paper

SOME PREDICTORS OF ANTI-FAT PREJUDICES: JOINT ROLE OF GENDER, BODY SELF-CONFIDENCE, AND BMI

UDC 316.647.8:613.25

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Abstract. *The main aim of this study was to check the role of Gender, BMI, and Body self-esteem in the prediction of anti-fat prejudices. The sample was a convenience one and included 311 members of the student population, both sexes, with an average age of 20 years (M = 20.39, SD = 2.58). There were 122 men (39.2%) and 189 women (60.8%). The following instruments were used: Explicit Anti-Fat Attitudes (AFA; Crandall, 1994) and the Body Esteem Scale for Adolescents and Adults (BESAA; Mendelson et al., 2001). The Body mass index (BMI) was operationalized by asking respondents for data on their height and weight and calculating their BMI. The data were analyzed using JAMOVI and linear regression. The gender of the respondents, their BMI, and Body self-esteem were predictors, while dimensions of anti-fat prejudices (Dislike, Fear of fat, and Willpower) were criterion variables. The results show that all three regression models were statistically significant. The explained percentage of variance for Dislike was 13.8%, for Fear of fat 18.4%, and for Willpower 19.7%. The results suggest that women are more afraid of gaining weight, while men tend to have higher scores on Dislike towards individuals suffering from obesity and are more prone to believing that individuals suffering from obesity do not have enough Willpower to change. BMI is also a significant predictor, but Body self-esteem is more important than BMI, and Attribution is the only dimension of Body self-esteem whose higher scores are connected to higher levels of prejudices.*

Key words: *Anti-fat prejudices, Gender, BMI, Body self-esteem*

Received April 13, 2023 / Accepted April 24, 2023
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1. INTRODUCTION

Prejudices are vast and various attitudes, which sometimes lead to highly discriminating behavior. Some of the most widespread prejudices are those towards individuals suffering from obesity - and those are the ones we intend to examine in this paper. Prejudices towards individuals are quite an issue, especially when we consider the growing rates of obesity in the modern world (Puhl & Brownell 2001). Nowadays in the Western world, we have criteria for beauty and accepted weight (weight bias).

There are numerous definitions of prejudices. In this paper, we will be led by the one given by Rot (1972), describing ethnic and racial prejudices. He described prejudices as logically unbiased, inflexible attitudes, without proneness to change. Anti-fat prejudices actually seem to behave like symbolic racism, but with much less social desirability pressure (c, 1994).

The question is how society sees individuals suffering from obesity, and this question can shed some light on the reasons behind such discrimination. Individuals suffering from obesity are often seen as not pleasant to look at (Wooley & Wooley 1979), generally unattractive (Harris et al. 1982), morally (Hoverd & Sibley 2007; Keys 1955) and emotionally impaired (Keys 1955). Even medical staff have prejudices against them. Physicians describe them as weak-willed individuals (Monello & Mayer 1963). These attitudes are problematic on their own, but not just that, these attitudes lead to discriminating behavior.

There are numerous studies examining how individuals suffering from obesity are being discriminated against. For example, one group of researchers conducted an experiment in which the respondents viewed obese individuals applying for a job (Pingitore et al. 1994). Their task was to choose an applicant to employ. The results of this experiment showed that respondents chose obese individuals at a lesser rate in comparison to individuals of average weight. Further, among the obese individuals chosen for a job there was a higher percentage of males, meaning that females suffering from obesity are even more exposed to discriminating behavior. Another study confirms these results (Flint et al. 2016), showing again that individuals suffering from obesity are less likely to obtain a job, and females suffering from obesity even more than males. Adolescents suffering from obesity have lower-quality relationships with their peers (Troop-Gordon & Ladd 2005) and are often victims of bullying (Griffiths & Page 2008). Prejudices of medical staff can pose a real risk to the treatment of these patients (FitzGerald & Hurst 2017). Another study showed that implicit attitudes toward individuals suffering from obesity predicted how far from that person a respondent will sit (Bessenoff & Sherman 2000). All of this suggests lower quality of interpersonal relationships, career problems, and generally lower life quality among individuals suffering from obesity due to the discrimination against them.

One of the factors found to be important in anti-fat prejudices is body self-esteem. One study showed that body self-esteem was the more important mediator between continuousness about stigma and perceived competence for physical activity in comparison with BMI (Schmalz, 2010). Other studies also show a constant relationship between attitudes toward individuals suffering from obesity and body image (Lewis et al. 1997; O'Brien et al. 2007). Individuals who obtain higher scores on stigmatization also have lower satisfaction with their own bodies (Vartanian & Novak 2011). The association between physical appearance and anti-fat prejudices seem to be more closely connected in women, but anti-fat prejudices are generally more pronounced in men (O'Brien et al. 2013). This connection was also shown in a sample of 10-year-old children. Perception of one's own

body is more important for attitudes toward obesity in comparison to the real obesity of the perceiver (Hansson & Rasmussen 2010).

The results of previous studies also include gender as an important variable. Crandall (1994) shows that females are more afraid of gaining weight. Further, females are more likely to be on restrictive diets and show higher body dissatisfaction (Aruguete et al. 2006). The same study also shows that males show a greater dislike of individuals suffering from obesity (Aruguete et al. 2006).

Previous studies, as we can see, suggest the urge to further explore anti-fat prejudices. They also suggest some positive important factors which could account for such attitudes as gender, BMI, and body self-confidence. On the other hand, we lack studies examining all three above-mentioned variables in one study. Therefore, the aim of this study is to examine the joint role of gender, BMI, and body self-confidence in anti-fat prejudices.

2. METHOD

2.1. Sample

The sample was a convenience sample and included 311 members of the student population, both sexes, with an average age of 20 years (M = 20.39, SD = 2.58). There were 122 men (39.2%) and 189 women (60.8%) in the sample. At the time of the study, all the respondents were students at one of the faculties of the University of Niš.

2.2. Instruments

Explicit Anti-Fat Attitudes (AFA; Crandall, 1994) was used to measure prejudice against obese people. The instrument contains three measurement subjects: (1) Fear of fat, (2) Dislike, and (3) Willpower, which refers to the respondent's belief that obese people are obese only through their own fault and that they do not have the willpower needed to solve their weight problem. The internal consistency reliability of this questionnaire during its validation is adequate for the first two measurement items (Fear of obesity α=.79 and Dislike α=.84) and relatively satisfactory for the third measurement item (Willpower, α=.66). The questionnaire has 13 items, and the answering format is a 10-point Likert-type scale, where 0 means "very strongly disagree" and 9 "very strongly agree".

The Body mass index (BMI) was operationalized by asking the respondents for data on their height and weight and then calculating its value using a specific formula. The body mass index is obtained when the weight in kilograms is divided by the height in meters squared and multiplied by 100 (Kg/M2 * 100). According to the World Health Organization, a BMI below 18.5 indicates malnutrition, from 18.5 to 24.9 normal weight, from 25 to 29.9 obesity, from 30 to 34.9 class I obesity, from 35 to 39.9 class II obesity, and over 40 obesity class III.

Body Esteem Scale for Adolescents and Adults (BESAA; Mendelson et al., 2001). This scale has 23 items and three measurement items: (1) Appearance (general feelings about appearance; α=.92), (2) Weight (weight satisfaction; α=.94), (3) Attribution (others' evaluations about one's body and appearance; α=.81). As we can see, the internal consistency reliability of the normative sample of this questionnaire was satisfactory. The response format for the items in this scale is a 5-point Likert-type scale ranging from 0 to 4, and the respondents are asked to indicate how often each of the statements listed in this questionnaire applies to them, where 0 indicates "Never" and 4 "Always".

2.3. Data Analysis

The data were analyzed using JAMOVI software through linear regression, where dimensions of prejudices were criterion variables, while gender, body self-confidence, and BMI were predictors.

3. RESULTS

We will present the results of the linear regression analysis, including an analysis of individual predictors, as well as their interactions.

Table 1 Multiple regression: predicting Dislike

R	R^2	*Adjusted* R^2	*F*	*df1*	*df2*	*p*
0.374	0.140	0.138	57.1	12	4211	< .001

From Table 1 we can see that the model is statistically significant, meaning that body self-esteem, BMI, and gender can predict Dislike. The model accounts for 13.8% of the total variance of Dislike.

Table 2 Coefficients from the multiple regression: predicting Dislike

Predictor	Estimate	SE	t	p
Gender	-3.31790	0.45635	-7.271	< .001
BMI	-0.12109	0.03511	-3.449	< .001
Appearance	-1.23693	0.36775	-3.364	< .001
Weight	-0.54005	0.27159	-1.988	0.047
Attribution	0.95249	0.29811	3.195	0.001
Gender ✻ BMI	0.05692	0.01486	3.831	< .001
Gender ✻ Appearance	0.38899	0.10220	3.806	< .001
BMI ✻ Appearance	-0.00752	0.01233	-0.610	0.542
Gender ✻ Weight	0.23342	0.08441	2.765	0.006
BMI ✻ Weight	0.01999	0.00780	2.564	0.010
Gender ✻ Attribution	-0.10631	0.06577	-1.616	0.106
BMI ✻ Attribution	-0.01598	0.01132	-1.411	0.158

From Table 2 we can see that all the predictors are significant. All predictors except for Attribution have a negative relationship with Dislike. In the case of Gender, since the male respondents were coded with the lower value, the results suggest that men show higher Dislike toward obese individuals.

Most of the interactions are also statistically significant: Gender and BMI, Gender and Appearance, Gender and Weight, and BMI and Gender.

Interactions are shown in Figure 1 and Figure 2.

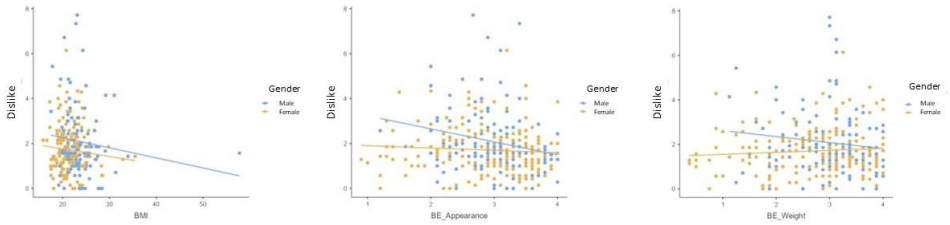

Fig. 1 Interactions between Gender and BMI, Appearance and Weight

From Figure 1 we can see that in the case of interaction between BMI and Gender, in cases of both genders, the higher the BMI, the lower the Dislike. However, this is more pronounced in men, who generally have higher Dislike scores.

In the case of interaction between Gender and Appearance, the females show a somewhat straight line when it comes to changes in Dislike due to scores on Appearance. Men show lower Dislike with higher scores on Appearance.

In the case of Weight, men show the same regularity as they do for Appearance, but females show different results. Females show higher Dislike with higher scores on Weight.

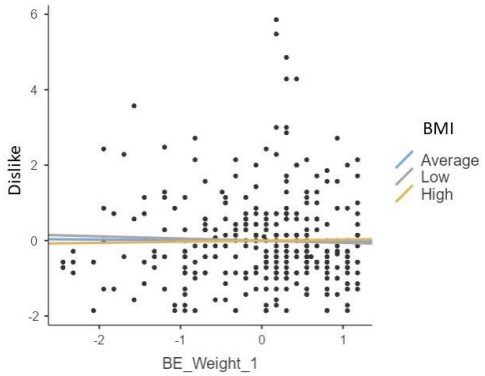

Fig. 2 Interaction between BMI and Weight

From Figure 2 we can see that individuals with an average BMI do not show changes in Dislike, as with higher scores on Weight. Individuals with low BMI show lower Dislike with higher scores on Weight, while individuals with high scores on BMI show higher scores on Dislike with higher scores on Weight. These differences are not so pronounced, but the interaction is statistically significant.

Table 3 Multiple regression: predicting Fear of fat

R	R^2	*Adjusted* R^2	*F*	*df1*	*df2*	*p*
0.432	0.187	0.184	80.5	12	4211	< .001

From Table 3 we can see that the regression model is significant, meaning that we can predict Fear of fat based on the given predictors. The model accounts for 18.4% of the total variance of Fear of fat.

Table 4 Coefficients from the multiple regression: predicting Fear of fat

Predictor	Estimate	SE	t	p
Appearance	-0.8785	0.7222	-1.22	0.224
Attribution	-2.1583	0.5855	-3.69	< .001
Weight	2.8658	0.5334	5.37	< .001
BMI	0.3512	0.0692	5.08	< .001
Gender	3.1666	0.9011	3.51	< .001
Appearance ✻ BMI	-0.0746	0.0243	-3.07	0.002
Attribution ✻ BMI	0.1378	0.0222	6.19	< .001
Weight ✻ BMI	-0.0767	0.0153	-5.01	< .001
Appearance ✻ Gender	0.7748	0.2025	3.83	< .001
Attribution ✻ Gender	-0.2632	0.1296	-2.03	0.042
Weight ✻ Gender	-0.6718	0.1659	-4.05	< .001
BMI ✻ Gender	-0.0926	0.0292	-3.17	0.002

From Table 4 we can see that nearly all predictors are statistically significant, except for Appearance. Out of the statistically significant predictors, Attribution has a negative correlation with the Fear of fat, while the rest of them have a positive correlation with the criterion variable. Gender also has a positive relationship with Fear of fat, which suggest that females (since they are coded with a higher number) have a higher Fear of fat.

When it comes to interactions, all of them are statistically significant. There is the interaction between Gender and Appearance, Gender and Attribution, Gender and Weight, Gender and BMI, BMI and Appearance, BMI and Attribution, and BMI and Weight.

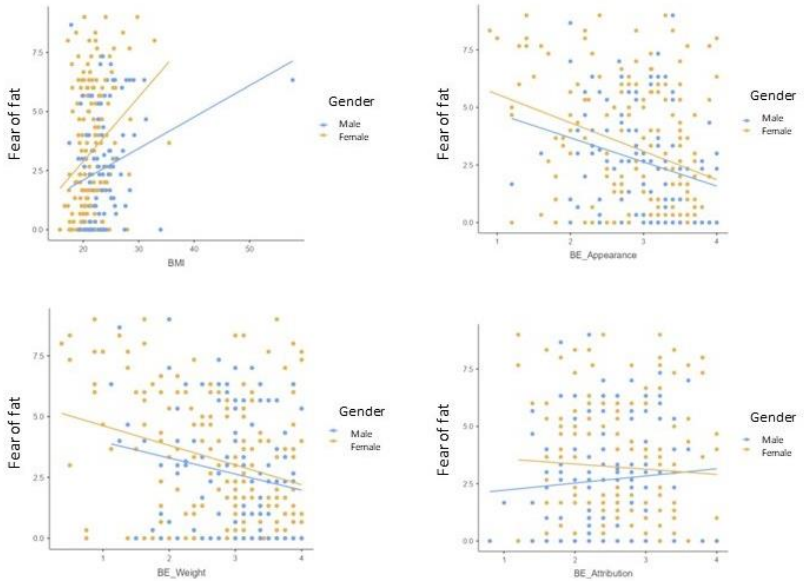

Fig. 3 Interactions between Gender and BMI, Appearance, Weight, and Attribution

From Figure 3 we can see the nature of the interactions between Gender and BMI as well as with dimensions of Body self-esteem (Appearance, Attribution, and Weight).

The interaction between Gender and BMI suggests that as BMI grows, so does Fear of fat, but this is not the same for both genders. This regularity is more pronounced in females, who generally show higher Fear of fat. Further, among the female respondents, Fear of fat grows more rapidly with a larger BMI.

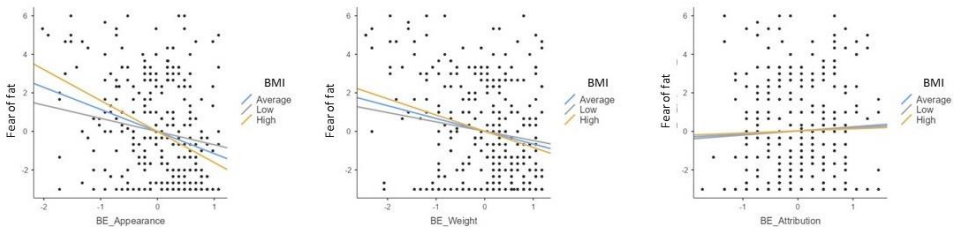

Fig. 4 Interaction between BMI and Appearance, Weight, and Attribution

From Figure 4 we can see the nature of the interactions including BMI. When it comes to the interaction between Appearance and BMI, lower scores on Appearance are connected to higher scores on Fear of fat for all three categories of BMI (Average, Low, and High). The same regularity can be seen in the interaction between BMI and Weight. In contrast to the previous two interactions, an inverse one can be seen for the interaction between Attribution and BMI. Higher scores on Attribution are connected to higher scores on Fear of fat, which is most pronounced among individuals with low BMI.

Table 5 Multiple regression: predicting Willpower

R	R^2	*Adjusted* R^2	*F*	*df1*	*df2*	*p*
0.443	0.197	0.194	84.9	12	4163	< .001

Table 6 Coefficients from the multiple regression: predicting Willpower

Predictor	Estimate	SE	t	p
Appearance	-1.91690	0.5910	-3.243	0.001
Attribution	-0.20975	0.4791	-0.438	0.662
Weight	-0.73337	0.4365	-1.680	0.093
BMI	-0.22904	0.0566	-4.047	< .001
Gender	-4.20579	0.7374	-5.704	< .001
Appearance ✻ BMI	0.09312	0.0199	4.686	< .001
Attribution ✻ BMI	0.00829	0.0182	0.455	0.649
Weight ✻ BMI	-0.01893	0.0125	-1.511	0.131
Appearance ✻ Gender	-0.45285	0.1657	-2.733	0.006
Attribution ✻ Gender	0.56180	0.1061	5.297	< .001
Weight ✻ Gender	0.79526	0.1358	5.856	< .001
BMI ✻ Gender	0.02076	0.0239	0.870	0.385

From Table 5 we can see that this regression model is also significant, which suggests that we can predict perceived Willpower based on Body self-esteem, BMI, and gender. The model accounts for 19.7% of the total variance of Willpower.

From Table 6 we can see that significant predictors of Willpower are Appearance, BMI, and Gender. All three have a negative correlation with the criterion variable.

Nearly all the interactions are also statistically significant. A significant interaction exists between Appearance and BMI, Appearance and Gender, Attribution and Gender, and between Weight and Gender. Interactions will be shown in Figure 5 and Figure 6.

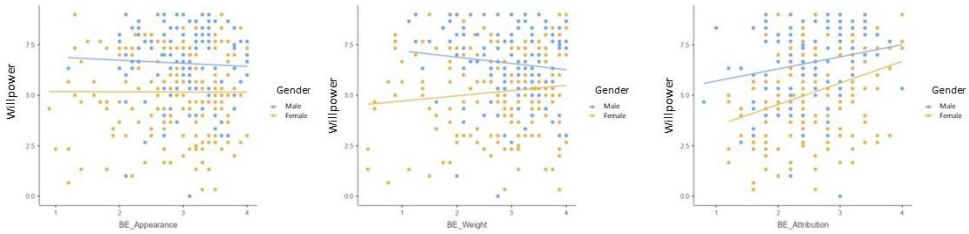

Fig. 5 Interactions between Gender and BMI, Appearance, Weight, and Attribution

Figure 5 shows the interactions between Gender and Appearance, Weight and Attribution.

The interaction between Gender and Appearance suggests that male respondents generally have higher scores on Willpower. Further, slightly lower scores of the male respondents on Appearance are seen for slightly higher scores on Willpower. When it comes to female respondents, their scores on Willpower and Appearance are the same for all scores on Appearance. The female respondents generally have lower scores on Willpower in comparison to the men.

The interaction between Weight and Gender for Willpower suggests that men generally have higher scores on Willpower. Female respondents with higher scores on Weight also have higher scores on Willpower. On the subsample of male respondents, those respondents who have higher scores on Weight have lower scores on Willpower and vice versa.

Finally, when it comes to the interaction between Attribution and Gender, we can see once again that the male respondents generally have higher scores on Willpower. All the respondents, both male and female, have higher scores on Willpower if they have higher scores on Attribution, but the change is slightly more pronounced for the female respondents.

From Figure 6 we can see that individuals with a low BMI have higher scores on Willpower when they also have low scores on Appearance, while they have lower scores on Willpower when they have higher scores on Appearance. Vice versa, results can be seen in the case of individuals with high scores on BMI. Among individuals with an average BMI, we can see a nearly strait line, meaning that in the case of such individuals the relationship between Appearance and Willpower is constant.

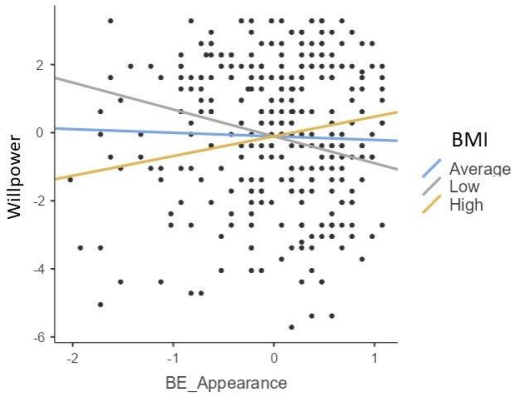

Fig. 6 Interaction between BMI and Appearance

4. DISCUSSION

The main aim of this study was to examine the role of Gender, BMI, and Body self-esteem in the prediction of anti-fat prejudices.

The results for the first dimension of anti-fat prejudices – Dislike, suggest that all the predictors are significant. All the predictors except for Attribution have a negative relationship with Dislike. Other predictors – Gender, BMI, and the two remaining dimensions of Body self-esteem (Appearance and Weight) have a negative relationship with Dislike.

In the case of Gender, since the male respondents were coded with a lower value, the results suggest that men show higher Dislike toward obese individuals. This is in accordance with the previous studies which suggest that men show greater dislike toward individuals suffering from obesity (Aruguete et al. 2006).

Results regarding BMI suggest that a higher BMI is connected to lower Dislike, suggesting that there is no inter-group stereotyping. Individuals who have high BMI and problems regarding weight themselves do not tend to Dislike other members of their group. This is contrary to some other studies suggesting that overweight individuals show significant anti-fat bias (Wang et al. 2004). On the other hand, the previous study we mentioned included only overweight individuals and not the whole spectrum of BMI index individuals. Connecting previous results with the ones obtained here, we can hypothesize that individuals who suffer from obesity also have negative attitudes towards obesity, but a more positive one in comparison to individuals who do not suffer from it. Further, previous studies suggest that labeling obesity as a heredity issue and illness predicted less stigmatization (Hilbert et al. 2008). These findings are important because we can assume that individuals who suffer from obesity have more knowledge about obesity, including the knowledge that obesity is an illness. This is something that should be further examined in future studies. Another possible explanation that can be found in this study is the role of Body self-esteem. Namely, the results of interaction show that individuals with an average BMI do not show changes in Dislike as with higher scores on Weight. Individuals with low BMI show lower Dislike with higher scores on Weight, while individuals with high scores on BMI show higher scores on Dislike with higher scores on Weight. These differences are not so pronounced, but the interaction is statistically significant. This is in accordance with

the previous studies suggesting that Body self-esteem is more important than BMI in anti-fat research (Schmalz 2010; Hansson, & Rasmussen 2010).

Further, all three dimensions of Body self-esteem were significant predictors of Dislike. Two of them predicted Dislike with a negative correlation – Appearance and Weight. This is in accordance with previous studies. They suggest that individuals who obtain higher scores on stigmatization also have lower satisfaction with their own bodies (Vartanian & Novak 2011). Further, another study showed that lower Body self-esteem is connected to higher implicit anti-fat bias (O'Brien et al. 2007). On the other hand, there is something new in our study which was not shown before – Attribution had a positive relationship with Dislike, suggesting that higher scores on Attribution are connected to higher scores on Dislike and vice versa. We could argue that this is due to the content of Attribution as a dimension. In particular, the other two dimensions of Body self-esteem refer to the self-assessment of own's own Body self-esteem. Attribution, on the other hand, refers to one's beliefs about what other people think of his/her body. We could mention the locus of control at this point, and previous studies suggest that health locus of control which refers to powerful others had a positive correlation with anti-fat attitudes (Kelly & Stapleton 2015). We mention locus of control at this point since Attribution as a dimension of Body self-esteem has in its description an external locus of control. Hence locus of control should be added as a variable to be examined in future research to check this assumption.

Most of the interactions are also statistically significant: Gender and BMI, Gender and Appearance, Gender and Weight, and BMI and Gender. The interaction between BMI and Gender, in cases of both genders, is that the higher the BMI, the lower the Dislike. However, this is more pronounced among the men, who generally have higher Dislike scores. In the case of interaction between Gender and Appearance, the females show a somewhat straight line when it comes to changes in Dislike due to scores on Appearance. Men show lower Dislike with higher scores on Appearance. Both these interactions are completely in accordance with the previous studies regarding the role of Gender in anti-fat attitudes (Aruguete et al. 2006).

In the case of Weight, the men show the same regularity as they do for Appearance, but the females show different results. They show higher Dislike with higher scores on Weight. Here we see that females who are more confident about their weight show a higher dislike of individuals suffering from obesity. Here we can mention studies examining the role of body image in anti-fat attitudes. A study conducted on sports students (Langdon et al. 2016) showed that they have internalized the ideal of the athletic self, which predicted negative attitudes toward individuals suffering from obesity. So taking this into account, one possible confounding variable here is physical activity and the internalized athletic self, hence these two variables should be included in future studies of this issue.

The second dimension of anti-fat prejudices we predicted in this study was Fear of fat. All the predictors except for Appearance were statistically significant.

Gender had a positive correlation with Fear of fat, which is in accordance with previous studies suggesting that females have a more pronounced fear of gaining weight than men (Crandall 1994).

BMI has a positive relationship with the Fear of fat. Now this is a different result in comparison to Dislike. One possible explanation for this is that individuals with higher BMI are aware of discrimination against individuals suffering from obesity and are afraid of these consequences. This is something that can be further explored in future studies.

The results for predicting Fear of fat and Body self-esteem are the same as for Dislike and can be explained in the same way. There is one difference when it comes to Fear of fat and Body self-esteem compared to Dislike – Appearance is not a significant predictor. This suggests that not all aspects of Body self-esteem are equally important in all aspects of anti-fat prejudices.

Interaction between Gender and BMI suggests that as BMI grows, so does Fear of fat, but this is not the same for both genders. This regularity is more pronounced among the females, who generally show a higher Fear of fat. Further, among the female respondents, Fear of fat grows more rapidly with a larger BMI. This is also in accordance with studies suggesting that females are more likely to be afraid of gaining weight (Crandall 1994).

When it comes to the interaction between Appearance and BMI, lower scores on Appearance are connected to higher scores on Fear of fat for all three categories of BMI (Average, Low, and High). But, with lower scores on Appearance, respondents with high BMI show the highest Fear of fat, while when scores on Appearance are high, those who have low BMI show the highest Fear of fat. The same regularity can be seen in the interaction between BMI and Weight. This interaction is in accordance with the finding suggesting that higher body self-esteem is connected to lower prejudices (O'Brien et al. 2007; Vartanian & Novak 2011). Since higher scores on the dimension of Body self-esteem are in all cases connected to lower Fear of fat, this is also in accordance with the studies suggesting that Body self-esteem is more important for prejudices in comparison to BMI (Schmalz 2010; Hansson, & Rasmussen 2010). But these results show that this differs among respondents with different BMI values.

In contrast to the previous two interactions, an inverse one can be seen for the interaction between Attribution and BMI. Higher scores on Attribution are connected to higher scores on Fear of fat. This is most pronounced among individuals with low BMI. We see here that the relationship between Attribution and Fear of fat is of a similar nature as the one between Fear of fat and Dislike. These results confirm that not all dimensions of Body self-esteem are connected to anti-fat prejudices in the same manner.

Significant predictors of Willpower are Appearance, BMI, and Gender. All three have a negative correlation with the criterion variable. Lower scores on Appearance are connected to higher scores on Willpower, which is in accordance with previous findings (O'Brien et al. 2007; Vartanian & Novak 2011). This means that individuals who are more confident in regard to their Appearance have a less pronounced belief that individuals suffering from obesity do not have enough willpower to change their appearance, and thus that their obese state is not entirely their fault. Further, a higher BMI is also connected to lower scores on Willpower, which is understandable since those who have higher BMI understand that sometimes although they have the willpower to change their state, this is difficult. A negative correlation between Gender and Willpower suggests that men are more prone to believing that individuals suffering from obesity are in their state due to a lack of willpower, which is in accordance with previous studies suggesting that men have more pronounced anti-fat prejudices (Aruguete et al. 2006).

The interaction between Gender and Appearance suggests that the male respondents generally have higher scores on Willpower. Further, slightly lower scores for the male respondents on Appearance are seen for slightly higher scores on Willpower. This suggests that although men generally have higher scores on Willpower, when they are more confident in regard to their Appearance, their prejudices are lower, which is in accordance with previous studies about a relationship between Body self-esteem and anti-fat attitudes (O'Brien et al.

2007; Vartanian & Novak 2011). When it comes to the female respondents, their scores on Willpower and Appearance are the same for all scores on Appearance. The female respondents generally have lower scores on Willpower in comparison to men.

The interaction between Weight and Gender for Willpower suggests that men generally have higher scores on Willpower. The female respondents with higher scores on Weight also have higher scores on Willpower. On the subsample of male respondents, those respondents who have higher scores on Weight have lower scores on Willpower and vice versa. These findings are also in accordance with previous studies on the relationship between Body self-esteem and anti-fat attitudes (O'Brien et al. 2007; Vartanian & Novak 2011).

Finally, when it comes to the interaction between Attribution and Gender, we can see once again that male respondents generally have higher scores on Willpower. All the respondents, both male, and female, have higher scores on Willpower if they have higher scores on Attribution, but the change is slightly more pronounced for the female respondents. These results again confirm that different dimensions of Body self-esteem have different outcomes for anti-fat prejudices.

Individuals with low BMI have higher scores on Willpower when they also have low scores on Appearance, while they have lower scores on Willpower when they have higher scores on Appearance. Vice versa, inverse results can be seen in the case of individuals with high scores on BMI. Among individuals with an average BMI, we can see a nearly straight line, meaning that in the case of such individuals the relationship between Appearance and Willpower is constant. These results again confirm that although BMI has some effects on anti-fat attitudes, Body self-esteem is indeed a more important predictor (Schmalz 2010; Hansson, & Rasmussen 2010).

5. Conclusion

The main aim of this study was to check the role of Gender, BMI, and Body self-esteem in the prediction of anti-fat prejudices.

The results of this study suggest that all three predictors are important for explaining anti-fat prejudices. When it comes to Gender, women are more afraid of gaining weight, while men tend to have higher scores on Dislike towards individuals suffering from obesity and are more prone to believing that individuals suffering from obesity do not have enough Willpower to change.

The results suggest that BMI is also a significant predictor, but that Body self-esteem is more important than BMI. Further, not all dimensions of Body self-esteem have a positive effect on anti-fat attitudes. Namely, this study shows that Attribution is connected to higher levels of prejudices.

These results have both theoretical and practical implications. The theoretical implication is a deeper understanding of the variables behind anti-fat prejudices. The practical implication is that these results can be used in programs aimed at lowering such attitudes.

This study also has its limitations. One of the limitations is that we did not include groups of individuals of different obesity statuses, so for future research, we suggest the inclusion of an equal number of respondents for each group regarding BMI (including a category of underfed individuals). Further, for future research, we suggest the inclusion of other personality-related variables, such as locus of control.

REFERENCES

Aruguete, Mara S., Alayne Yates, and Jeanne Edman. "Gender differences in attitudes about fat". *North American Journal of Psychology* 8, 1 (2006): 183–183. https://link.gale.com/apps/doc/A159922630/AONE?u=anon~7f9a73b6&sid=googleScholar&xid=5397a4e5

Bessenoff, Gayle R., and Jeffrey W. Sherman. "Automatic and controlled components of prejudice toward fat people: Evaluation versus stereotype activation". *Social Cognition* 18, 4 (2000): 329–353. https://doi.org/10.1521/soco.2000.18.4.329

Crandall, Christian S. "Prejudice against fat people: ideology and self-interest". *Journal of Personality and Social Psychology* 66, 5 (1994): 882.

FitzGerald, Chloë, and Samia Hurst. "Implicit bias in healthcare professionals: a systematic review". *BMC Medical Ethics* 18, 1 (2017): 1–18. https://doi.org/10.1186/s12910-017-0179-8

Flint, Stuart W., Martin Čadek, Sonia C. Codreanu, Vanja Ivić, Colene Zomer, and Amalia Gomoiu. "Obesity discrimination in the recruitment process: "You're not hired!"". *Frontiers in Psychology* 7 (2016): 647. https://doi.org/10.3389/fpsyg.2016.00647

Griffiths, Lucy J., and Angie S. Page. "The impact of weight-related victimization on peer relationships: The female adolescent perspective". *Obesity* 16, S2 (2008): S39–S45. https://doi.org/10.1038/oby.2008.449

Hansson, Lena M., and Finn Rasmussen. "Predictors of 10-year-olds' obesity stereotypes: A population-based study". *International Journal of Pediatric Obesity* 5, 1 (2010): 25–33.

Harris, Mary B., Richard J. Harris, and Stephen Bochner. "Fat, four-eyed, and female: Stereotypes of obesity, glasses, and gender 1". *Journal of Applied Social Psychology* 12, 6 (1982): 503–516. https://doi.org/10.1111/j.1559-1816.1982.tb00882.x

Hilbert, Anja, Winfried Rief, and Elmar Braehler. "Stigmatizing attitudes toward obesity in a representative population-based sample". *Obesity* 16, 7 (2008): 1529–1534. https://doi.org/10.1038/oby.2008.263

Hoverd, William James, and Chris G. Sibley. "Immoral bodies: the implicit association between moral discourse and the body". *Journal for the Scientific Study of Religion* 46, 3 (2007): 391–403. https://doi.org/10.1111/j.1468-5906.2007.00365.x

Kelly, Joanna, and Peta Stapleton. "What is more likely to predict prejudicial attitudes towards over-weight individuals: Gender, locus of control, or social dominance orientation". *Journal of Psychological Behavior Science* 24 (2015): 33–42. https://core.ac.uk/download/pdf/196604276.pdf

Keys, Ancel. "Obesity and heart disease". *Journal of Chronic Diseases* 1, 4 (1955): 458–461.

Mendelson, Beverley K., Morton J. Mendelson, and Donna R. White. "Body-esteem scale for adolescents and adults". *Journal of Personality Assessment* 76, 1 (2001): 90–106. https://doi.org/10.1207/S15327752JPA7601_6

Monello, Lenore F., and Jean Mayer. "Obese adolescent girls: An unrecognized "minority" group?". *The American Journal of Clinical Nutrition* 13, 1 (1963): 35–39. https://doi.org/10.1093/ajcn/13.1.35

O'Brien, Kerry S., Sigrún Daníelsdóttir, Ragnar P. Ólafsson, Ingunn Hansdóttir, Thorarna G. Fridjónsdóttir, and Halla Jónsdóttir. "The relationship between physical appearance concerns, disgust, and anti-fat prejudice". *Body Image* 10, 4 (2013): 619–623.

O'Brien, Kerry S., John A. Hunter, and Mike Banks. "Implicit anti-fat bias in physical educators: Physical attributes, ideology and socialization". *International Journal of Obesity* 31, 2 (2007): 308–314. https://doi.org/10.1038/sj.ijo.0803398

Pingitore, Regina, Bonnie Spring, and David Garfieldt. "Gender differences in body satisfaction". *Obesity Research* 5, 5 (1997): 402–409. https://doi.org/10.1002/j.1550-8528.1997.tb00662.x

Puhl, Rebecca M., and Chelsea A. Heuer. "The stigma of obesity: A review and update". *Obesity* 17, 5 (2009): 941.

Rot, Nikola. *Osnovi socijalne psihologije: socijalizacija*. Beograd: Zavod za udžbenike i nastavna sredstva Srbije, 1972.

Schmalz, Dorothy L. "'I Feel Fat': Weight-Related Stigma, Body Esteem, and BMI as Predictors of Perceived Competence in Physical Activity". *Obesity Facts* 3, 1 (2010): 15–21. https://doi.org/10.1159/000273210

Spears Brown, Christia, and Rebecca S. Bigler. "Children's perceptions of discrimination: A developmental model". *Child Development* 76, 3 (2005): 533–553. https://doi.org/10.1111/j.1467-8624.2005.00862.x

Vartanian, Lenny R., and Sarah A. Novak. "Internalized societal attitudes moderate the impact of weight stigma on avoidance of exercise". *Obesity* 19, 4 (2011): 757–762. https://doi.org/10.1038/oby.2010.234

Wang, Shirley S., Kelly D. Brownell, and Thomas A. Wadden. "The influence of the stigma of obesity on overweight individuals". *International Journal of Obesity* 28, 10 (2004): 1333–1337. https://doi.org/10.1038/sj.ijo.0802730

Wooley, Susan C., and Orland W. Wooley. "Obesity and women — I. A closer look at the facts". *Women's Studies International Quarterly* 2, 1 (1979): 69–79. https://doi.org/10.1016/S0148-0685(79)93074-4

NEKI PREDIKTORI PREDRASUDA PROTIV GOJAZNIH OSOBA: ULOGA POLA, TELESNOG SAMOPOUZDANJA I BMI

Glavni cilj ove studije bio je da se proveri uloga pola, BMI i telesnog samopouzdanja u predviđanju predrasuda protiv gojaznih osoba. Uzorak je bio prigodan i obuhvatao je 311 pripadnika studentske populacije, oba pola, prosečne starosti od 20 godina (M = 20,39, SD = 2,58). U uzorku je bilo 122 (39,2%) muškaraca i 189 (60,8%) žena. Korišćeni su sledeći instrumenti: Upitnik ekspicitnih stavova prema gojaznosti (AFA; Crandall, 1994) i Skala telesnog samopouzdanja za adolescente i odrasle (BESAA; Mendelson et al., 2001). Indeks telesne mase (BMI u daljem tekstu) operacionalizovan je tako što je od ispitanika traženo da daju podatke o svojoj visini i težini i izračunali njihov BMI. Podaci su analizirani korišćenjem JAMOVI-a i linearne regresije. Pol ispitanika, BMI i telesno samopouzdanje bili su prediktori, dok su dimenzije predrasuda protiv masti (Nesviđanje, Strah od gojaznosti i Snaga volje) bile kriterijumske varijable. Rezultati pokazuju da su sva tri regresiona modela bila statistički značajna. Objašnjeni procenat varijanse za Nesviđanje je 13,8%, za Strah od gojaznosti 18,4%, a za Snagu volje 19,7%. Rezultati sugerišu da se žene više plaše dobijanja na težini, dok muškarci obično imaju više skorove na Nesviđanju prema pojedincima koji pate od gojaznosti i skloniji su verovanju da pojedinci koji pate od gojaznosti nemaju dovoljno snage volje da se promene. BMI je takođe značajan prediktor, ali samopoštovanje tela je važnije od BMI, a atribucija je jedina dimenzija telesnog samopoštovanja gde su njeni viši rezultati povezani sa višim nivoima predrasuda.

Ključne reči: *Predrasude prema gojaznima, Pol, BMI, Telesno samopouzdanje*