Analysis Report

This report is structured as follows.

Contents

Sample Characterization

This section presents descriptive statistics of the variables of interest. The table below shows the frequencies and percentages of social media use, per social media type.

Frequency Statistics

Social Media	Never		Less than 10 minutes per day		10–30 minutes per day		31–60 minutes per day		1–2 hours per day		2–3 hours per day		More than 3 hours per day	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Facebook	60	50.0%	41	34.2%	9	7.5%	5	4.2%	1	0.8%	3	2.5%	1	0.8%
WhatsApp	3	2.5%	6	5.0%	17	14.2%	23	19.2%	31	25.8%	21	17.5%	19	15.8%
Instagram	5	4.2%	5	4.2%	6	5.0%	23	19.2%	38	31.7%	27	22.5%	16	13.3%
Youtube	10	8.3%	24	20.0%	36	30.0%	15	12.5%	19	15.8%	8	6.7%	8	6.7%
Snapchat	52	43.3%	12	10.0%	19	15.8%	10	8.3%	13	10.8%	7	5.8%	7	5.8%
Twitter	66	55.0%	15	12.5%	18	15.0%	8	6.7%	5	4.2%	7	5.8%	1	0.8%
LinkedIn	47	39.2%	36	30.0%	23	19.2%	8	6.7%	5	4.2%	0	0.0%	1	0.8%
Twitch	113	94.2%	2	1.7%	5	4.2%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Tik Tok	74	61.7%	11	9.2%	2	1.7%	9	7.5%	11	9.2%	7	5.8%	6	5.0%

The mean age of participants is 25.71 (M = 25.71, SD = 9.05). The majority of the sample is White (83.5%) and from Turkey (58.9%). From the original 212 participants, 163 were kept after applying the inclusion criteria.

Construction of scales

The SATAQ scale was used as a measure of Thin-Ideal internalization. Its items were averaged and the resulting scale presented good reliability (α = .762). PACS-R was used for Appearance Comparison and also yielded good reliability (α = .953). Body satisfaction has shown good reliability for pre scores (α = .888) and post scores (α = .910). Subjects rated six different body images. The six scores were averaged to result on an overall score of 'Level of Attractiveness', which also had good reliability (α = .820). The items of Body Satisfaction were summed, while the rest of the scales were averaged. 'Body Satisfaction (Change)' was calculated by subtracting pre scores from the post scores of body satisfaction, so it reflects the gain/loss of body satisfaction after the exposure to the picture.

The table below shows the descriptive statistics for all scores.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Thin-ideal Internalisation	112	1.00	4.80	2.980	0.927
Physical Appearance Comparison	113	0.00	4.00	1.502	0.962
Level of Attractiveness	112	1.50	6.50	3.910	0.981
Body Satisfaction (Pre)	112	27.00	300.00	192.607	69.110
Body Satisfaction (Post)	108	20.00	300.00	199.833	66.507
Body Satisfaction (Change)	108	-57.00	126.00	7.185	27.501
Valid N (listwise)	108				

Normality

One of the assumptions that mixed ANOVA models have is that variables' scores follow a normal distribution. One of the methods to examine normality is to look at values of skewness and kurtosis. Both values should remain between -1 and 1 to indicate normality (Pallant, 2010). The values of were outside this range for change on body satisfaction, particularly kurtosis (table below). This, however, does not impede the analysis to take place, since ANOVA models are known to be quite robust against non-normality (Hair et al., 2014).

Descriptive Statistics

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Thin-ideal Internalisation	112	-0.215	0.228	-0.676	0.453
Physical Appearance Comparison	113	0.469	0.227	-0.509	0.451
Level of Attractiveness	112	-0.302	0.228	-0.019	0.453
Body Satisfaction (Pre)	112	-0.514	0.228	-0.745	0.453
Body Satisfaction (Post)	108	-0.466	0.233	-0.490	0.461
Body Satisfaction (Change)	108	-1.174	0.233	3.792	0.461
Valid N (listwise)	108				

Two-way ANOVA

Analysis of variance is so called because it compares the variance (variability in scores) between the different groups (believed to be due to the independent variable) with the variability within each of the groups (believed to be due to chance). An F ratio is calculated, which represents the variance between the groups divided by the variance within the groups. A large F ratio indicates that there is more variability between the groups (caused by the independent variable) than there is within each group (referred to as the error term). A significant F test indicates that we can reject the null hypothesis, which states that the population means are equal. It does not, however, tell us which of the groups differ. Post-hoc tests are conducted for this (Pallant, 2010).

Two-way means that there are two independent variables, and between-groups indicates that different people are in each of the groups. This technique allows us to look at the individual and joint effect of

two independent variables on one dependent variable. This test was used here to examine the effect of levels of appearance comparison or thin-ideal idealization on body satisfaction change, as well as the effect of different body conditions on this change. Since there are three levels of body conditions and two levels of appearance comparison or thin-ideal idealization, the test is called 3x2 ANOVA.

Participants who scored more than 2.5 on each scale (scale's middle-point) were categorized as 'High', while the rest was labelled as 'low'. 79 participants (70.5%) were included on the 'High' category of thin-ideal internalization and 92 of participants (81.4%) were labelled as 'Low' for Appearance Comparison.

Not only 'main effects' for each independent variable are assessed in two-way ANOVAs, but also the 'interaction effect' between independent variables (groups). An interaction effect occurs when the effect of one independent variable on the dependent variable depends on the level of a second independent variable (moderation) (Pallant, 2010).

The effect of Photo Type and Appearance Comparison on Body Satisfaction Change

A Levene's test indicated that variances are equal among groups ($p > .01$), thus the assumption of homogeneity of variances was not violated. The table below shows the mean values of body satisfaction change for each category under study.

Descriptive Statistics

Appearance_Comparison	Photo Type	Mean	Std. Deviation	N
Low	Average	-2.821	21.489	28
	Overweight	11.400	20.053	30
	Thin	10.633	28.427	30
	Total	6.614	24.266	88
High	Average	8.833	33.879	6
	Overweight	26.429	50.099	7
	Thin	-6.286	28.837	7
	Total	9.700	39.430	20
Total	Average	-0.765	23.918	34
	Overweight	14.243	27.890	37
	Thin	7.432	28.891	37
	Total	7.185	27.501	108

If a 90% confidence level is considered ($p = .01$), there was a significant main effect of Photo Condition on Body Satisfaction Change, $F(2, 108) = 2.756$, $p = .068$, $\eta^2_p = .051$. A post-hoc test (Tukey's test) indicated a significant difference between the average and overweight conditions ($p = .053$). There was a significant interaction effect, $F(2, 108) = 2.394$, $p = .096$, $\eta^2_p = .045$, meaning that

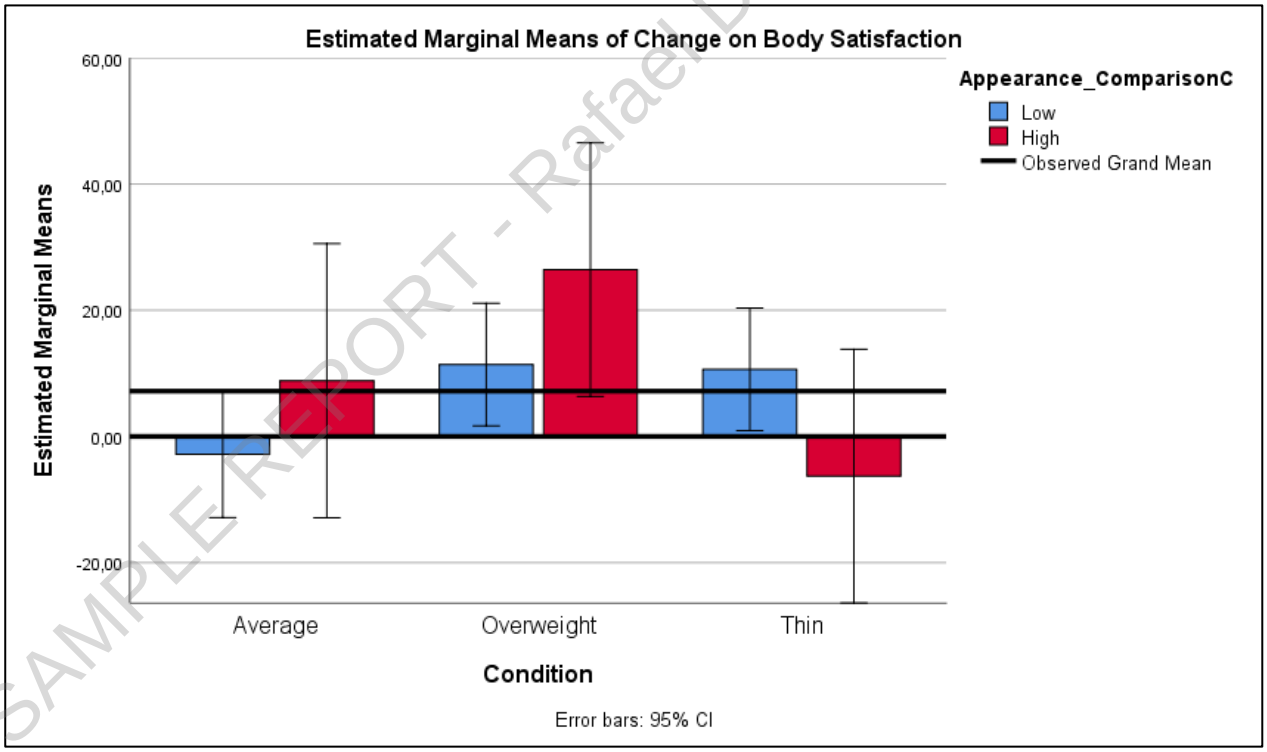
the effect of photo type on body satisfaction change is not constant across different levels of appearance comparison (table below).

Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	7572.046[a]	5	1514.409	2.106	0.071	0.094
Intercept	4185.746	1	4185.746	5.820	0.018	0.054
Appearance_Comparison	171.860	1	171.860	0.239	0.626	0.002
Condition	3963.622	2	1981.811	2.756	0.068	0.051
Appearance_Comparison * Condition	3442.991	2	1721.496	2.394	0.096	0.045
Error	73352.250	102	719.140			
Total	86500.000	108				
Corrected Total	80924.296	107				

a. R Squared = .094

The following figure was generated to visualize where the significant differences reside. The grand mean was also plotted, along with 95% mean confidence intervals.



The graph shows that body satisfaction increased for people who saw the 'thin' body and had low appearance comparison scores, while for the high comparison scores who also got the 'thin' photos, the satisfaction actually decreased. This pattern is quite different for the other photo types. The

graph also shows that the increase on body satisfaction is quite more substantial among the people from the 'overweight' group.

The effect of Photo Type and Thin-Ideal Idealization on Body Satisfaction Change

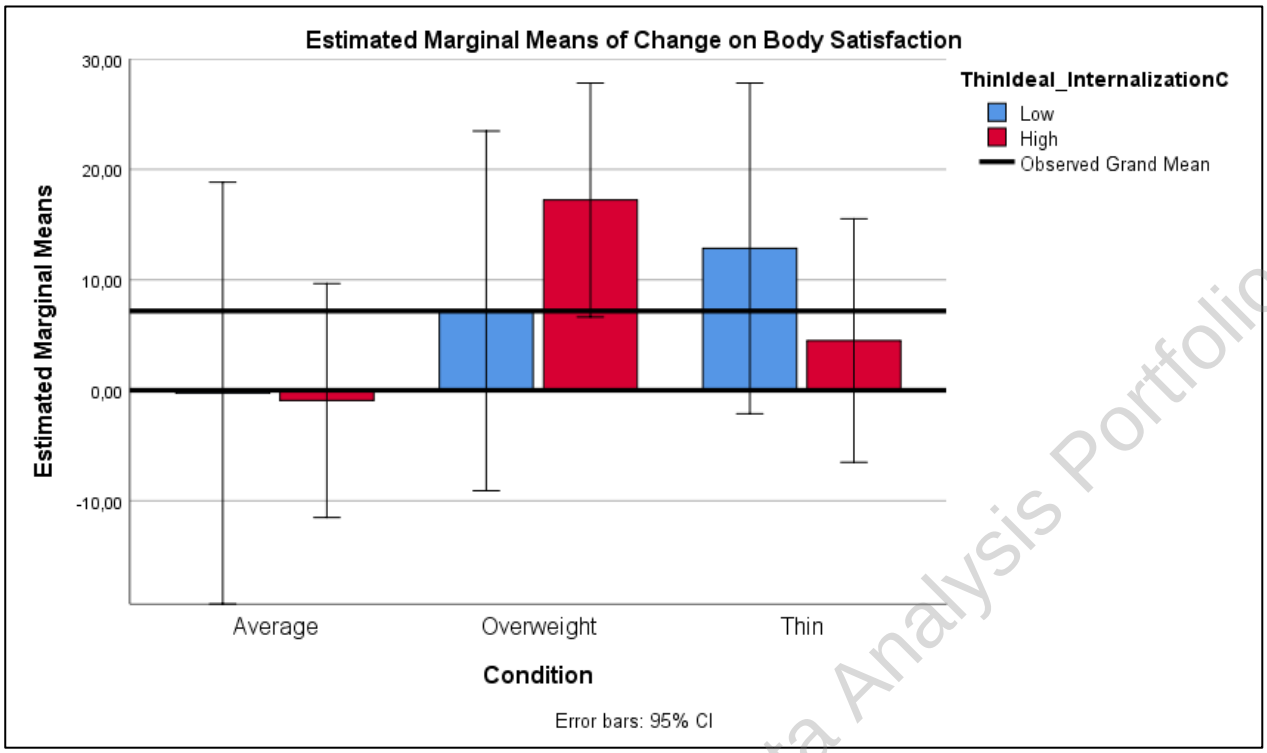
Levene's test indicated no violation of assumptions (p = .885). There was no significant main effect of Photo Condition on Body Satisfaction change when Thin-ideal internalization is also present in the model, F(2, 108) = 1.572, p = .213, η^2_p = .030. Similarly, no significant interaction effect is present, F(2, 108) = .925, p = .400, η^2_p = .018 (table below).

Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	5365.006[a]	5	1073.001	1.448	0.213	0.066
Intercept	4003.667	1	4003.667	5.405	0.022	0.050
Condition	2329.590	2	1164.795	1.572	0.213	0.030
ThinIdeal_Internalization	2.577	1	2.577	0.003	0.953	0.000
Condition * ThinIdeal_Internalization	1370.266	2	685.133	0.925	0.400	0.018
Error	75559.290	102	740.777			
Total	86500.000	108				
Corrected Total	80924.296	107				

a. R Squared = .066

Even though results were not significant, the plot of mean scores of body satisfaction was generated (figure below).



The graph shows that Body Satisfaction increases on the 'overweight' and the 'thin' groups. The 'average' group shows no substantial change for both 'high' and 'low' groups of thin-ideal internalization. On the overweight group, people with high internalization show a stronger increase compared to low internalization. The 'thin' group shows the opposite pattern, those with low internalization show a more substantial increase in satisfaction than the 'high' group.

The effect of photo exposure on levels of body satisfaction

A paired-samples t-test is appropriate for this section, as two sets of observations coming from the same entities are compared (Pallant, 2010). The mean scores of body satisfaction were compared separately for the three groups (Thin, Average and Overweight).

The results of the T-tests showed a significant increase on body satisfaction levels for the Overweight group, $t(37) = -3.106$, $p = .004$, D = .511. The effect size according to Cohen's D is large (Cohen, 1960). The differences were not significant for the 'Thin', $t(37) = -1.565$, $p = .126$, D = .257, and 'Average' groups, $t(34) = .186$, $p = .853$, D = .032 (table below).

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean	t	p	Cohen's D
Thin	Body Satisfaction (Pre)	184.649	37	73.908	12.150	-1.565	0.126	0.257
	Body Satisfaction (Post)	192.081	37	73.225	12.038			
Average	Body Satisfaction (Pre)	187.706	34	64.533	11.067	0.186	0.853	0.032
	Body Satisfaction (Post)	186.941	34	59.212	10.155			
Overweight	Body Satisfaction (Pre)	205.189	37	68.187	11.210	-3.106	0.004	0.511
	Body Satisfaction (Post)	219.432	37	62.905	10.342			

References

Cohen, J., 1960. A coefficient of agreement for nominal scales. Educ. Psychol. Meas. 20, 37-46 ST-A coefficient of agreement for nominal.

Hair, J.F., Black, W., Babin, B., Anderson, R., 2014. Multivariate data analysis, Seventh. ed. Pearson Education, Inc., Edinburgh.

Pallant, J., 2010. SPSS Survival Manual, 4th ed. McGraw-Hill, Berkshire, England.