



Instagram



Facebook

Does A Brief Exposure to Thin and Attractive Images Impact Young Women's Body Appreciation?

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Introduction

Methods

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Limitation

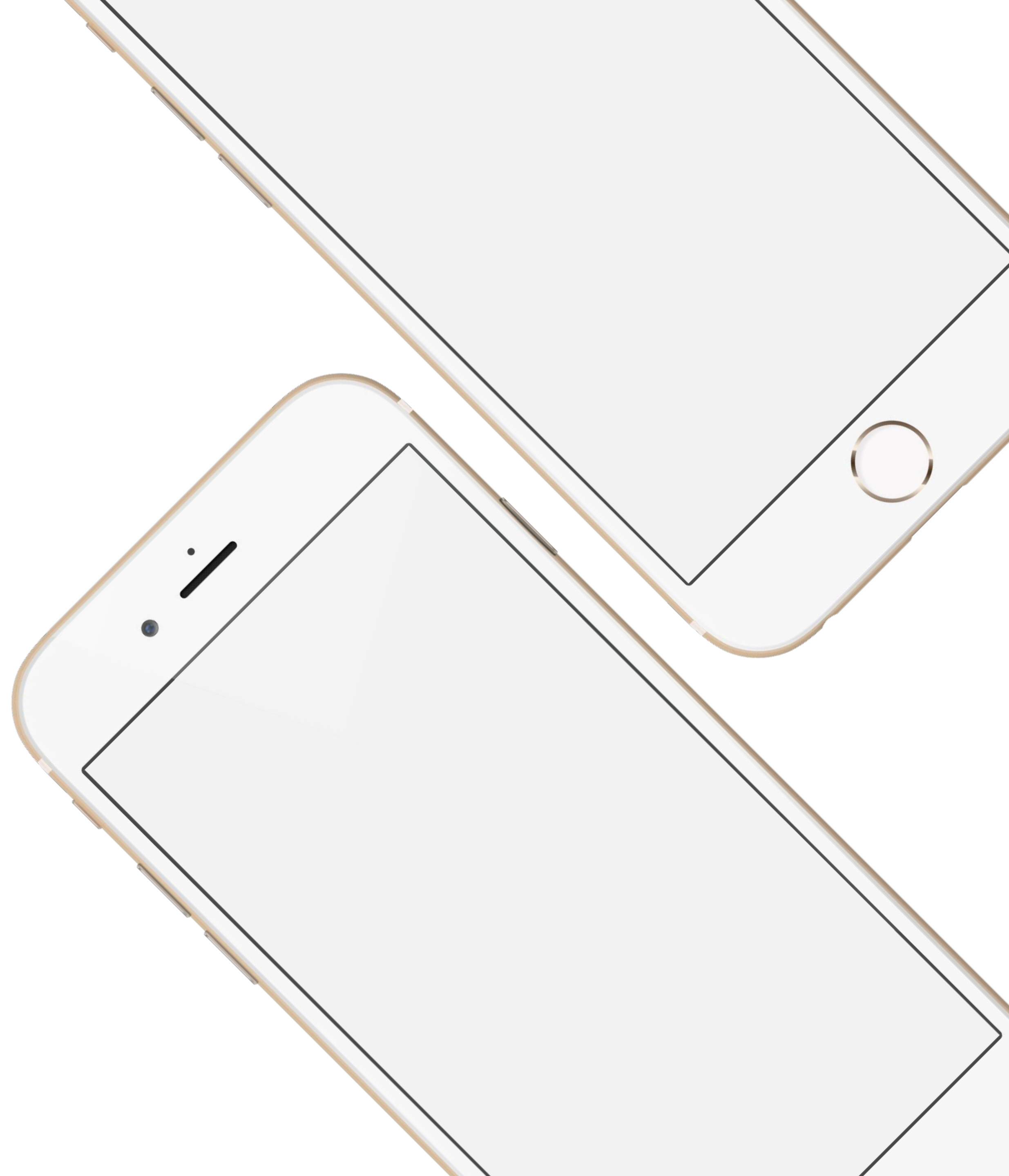
Conclusion



Social Network



Introduction

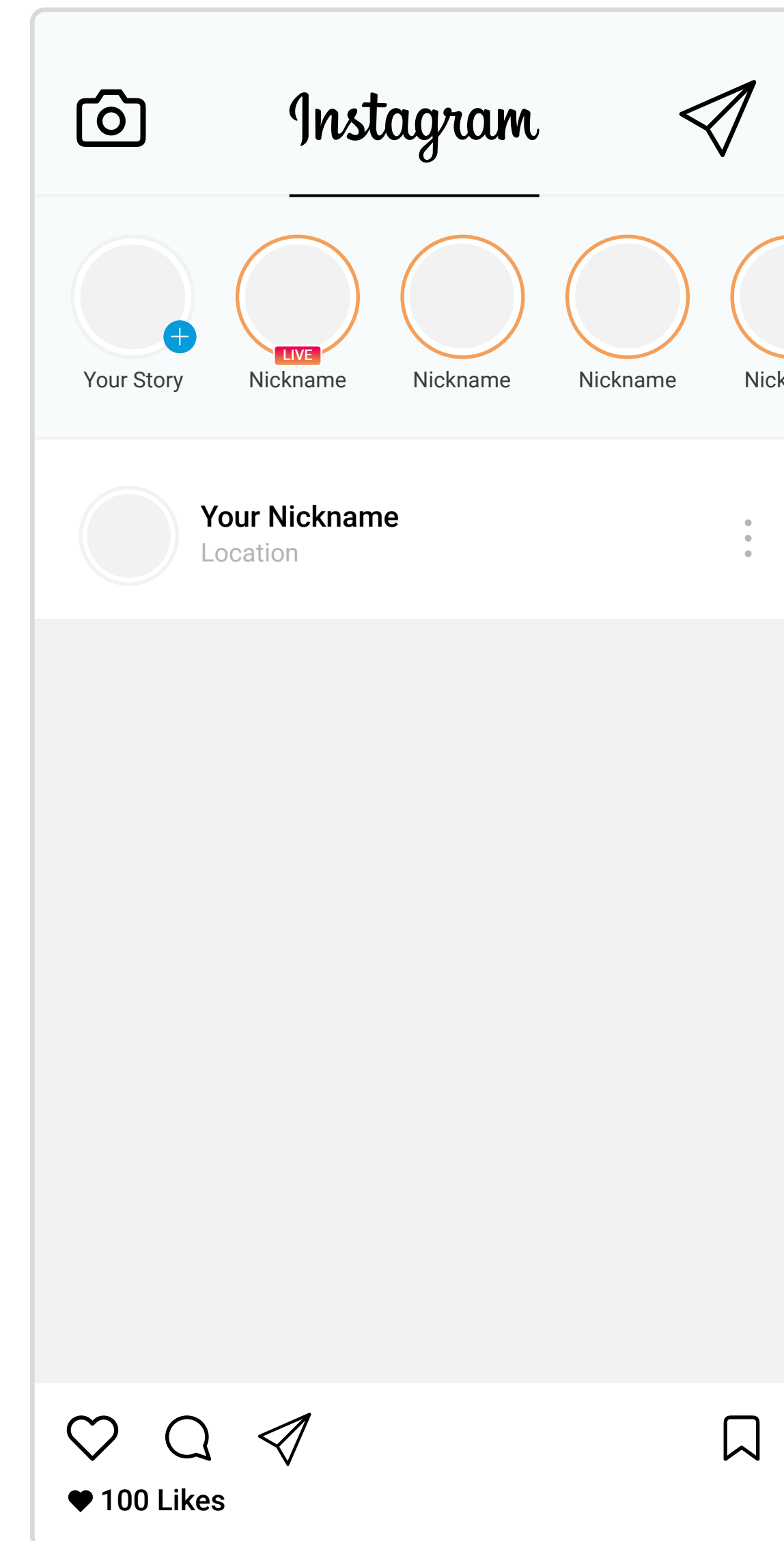


Background & Introduction

- Social networking services have become popular nowadays and they provide aesthetic environment to promote self-expression.
- Previous research studies indicate that exposure to thin and attractive body images may increase negative emotions and body dissatisfaction among women.
- **Our study aims to experimentally investigate whether *only a brief exposure* to such photos would negatively impact young women's body image.**

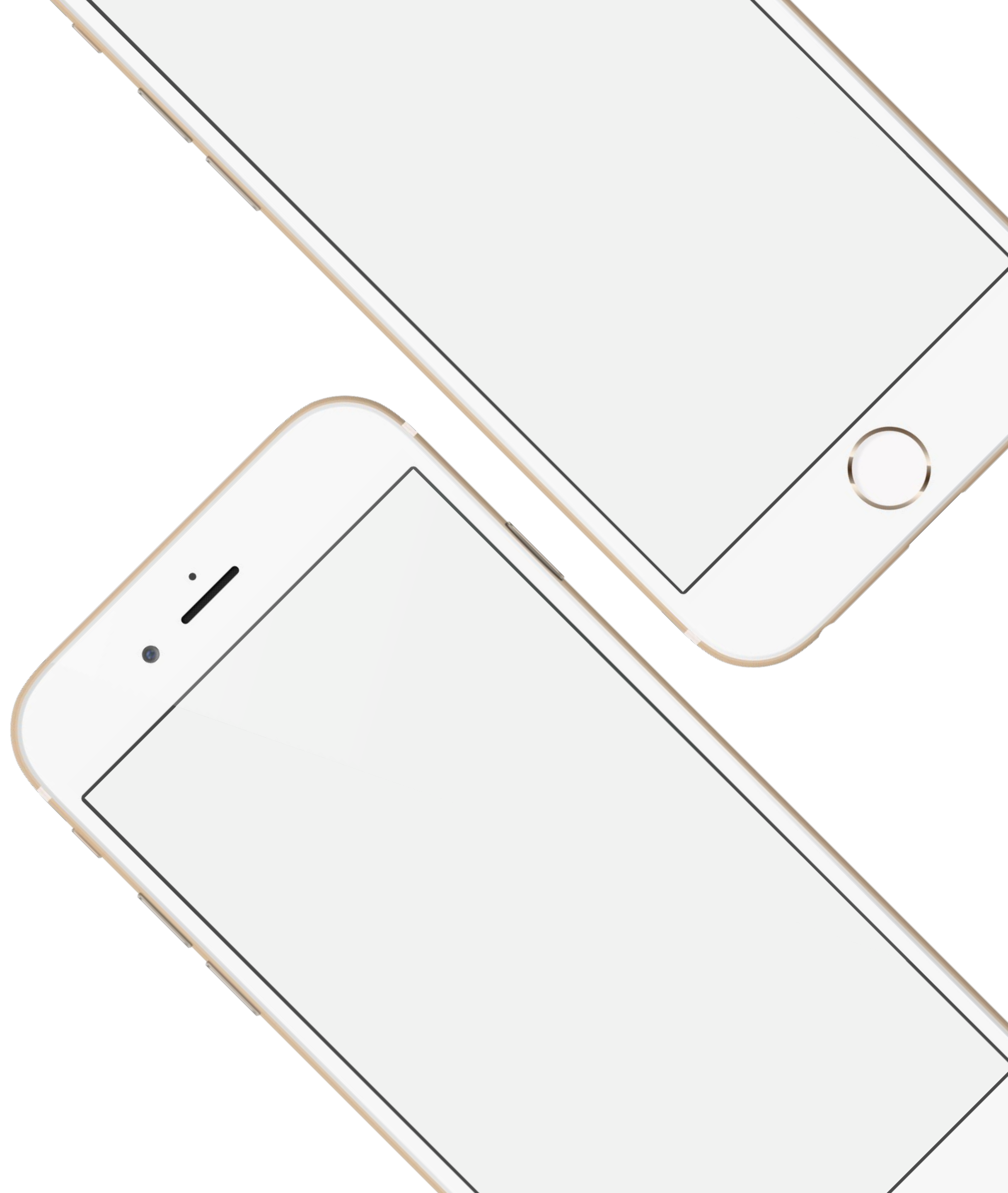


Social Network



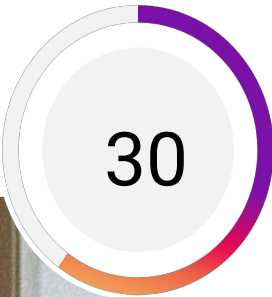


Method



Attractive Body Post with unknown identity

Treatment group 1

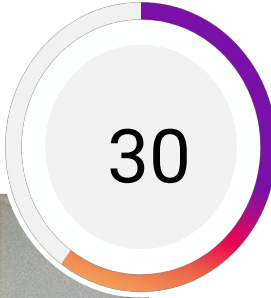


♥ 100 Likes 💬 25 Comments



Attractive Body image of Celebrities

Treatment group 2



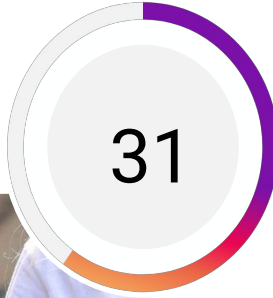
♥ 209,424 Likes 💬 1150 Comments

VS

VS

Normal Image Post

Control Group



♥ 100 Likes 💬 25 Comments



Božana Abrlić

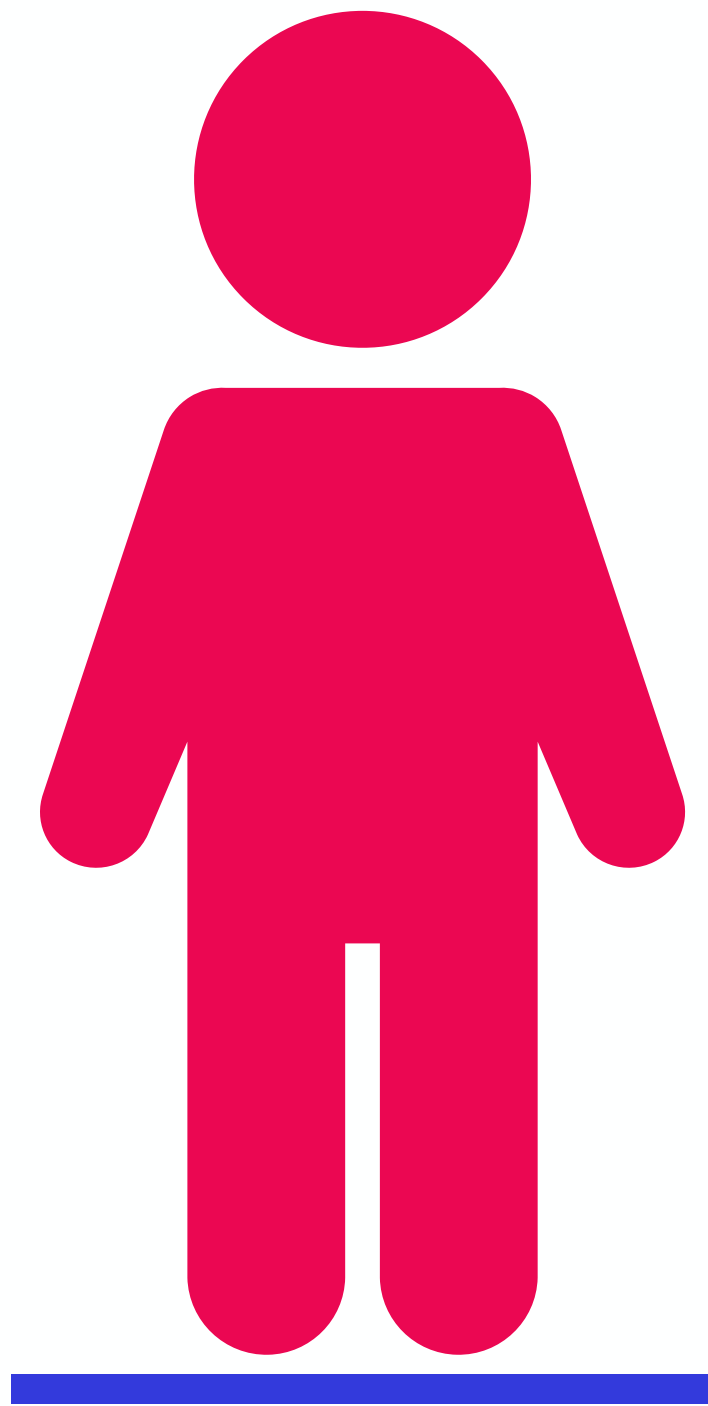
_missbo

What's ur fave song rn?

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Since | 2014 |
| Followers | 2.9M |
| Total posts | 906 |
| Maximum likes* | 300,264 |
| Thematic tags | |
| beauty , travel , mypets , newyear , xmas , sales , lovedesign | |
| *last year | |



Demographic Information about the Participants



Young Women

**Between the ages of 18
and 34**



Social Network



Randomization

Diagram illustrating a survey flow with randomization options:

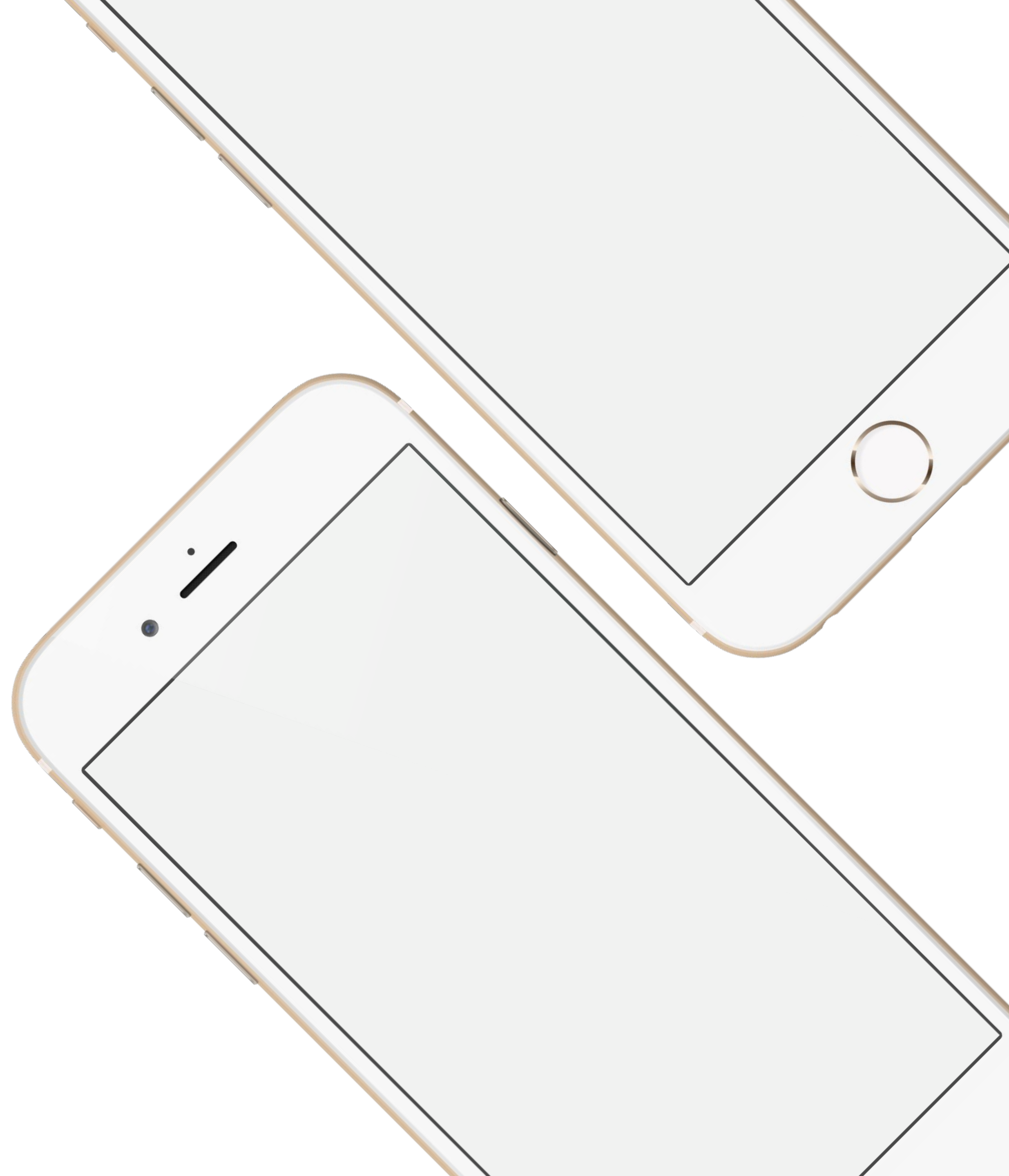
- Show Block: start page (1 Question)
- Show Block: Question Block (6 Questions)
- Randomizer**
 - Randomly present of the following elements
 - ☒ Evenly Present Elements [Edit Count](#)
- Show Block: Block 1 (10 Questions)
- Show Block: Block 2 (10 Questions)
- Show Block: Block 3 (10 Questions)
- + Add a New Element Here
- Show Block: Question Block 2 (2 Questions)
- End of Survey**



Social Network



Analysis



Variable List

BMI (weight/(height²), kg/m²)

less than 18
18-24
24-29
29-34

Time spent on social media per day

less than 1 hour
1-3 hours
4-6 hours
more than 6 hours

Treatment

0 -- Control Group
1 -- Treatment Arm 1
2 -- Treatment Arm 2

Platform Preference

Facebook
Instagram
Snapchat
Twitter
Others

Age

18-24 years old
25-34 years old

Any treatment

0 -- control group
1 -- both treatment arm 1 and 2



Social Network

Variable List

1 Pre-experiment Body Appreciation
self rating before the experiment
0-100

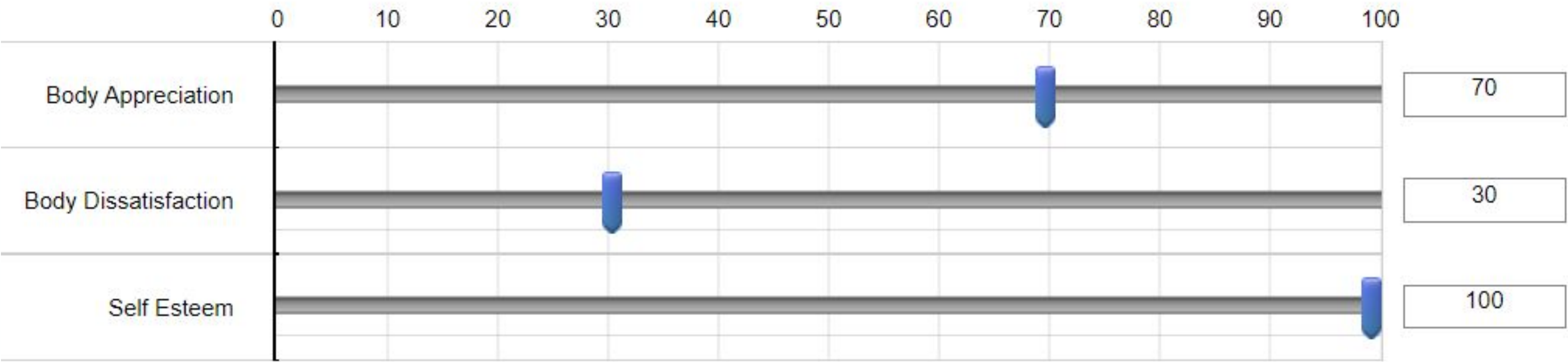
2 Post-experiment Body Appreciation
self rating after the experiment
0-100

3 Pre-experiment Body Dissatisfaction
self rating before the experiment
0-100

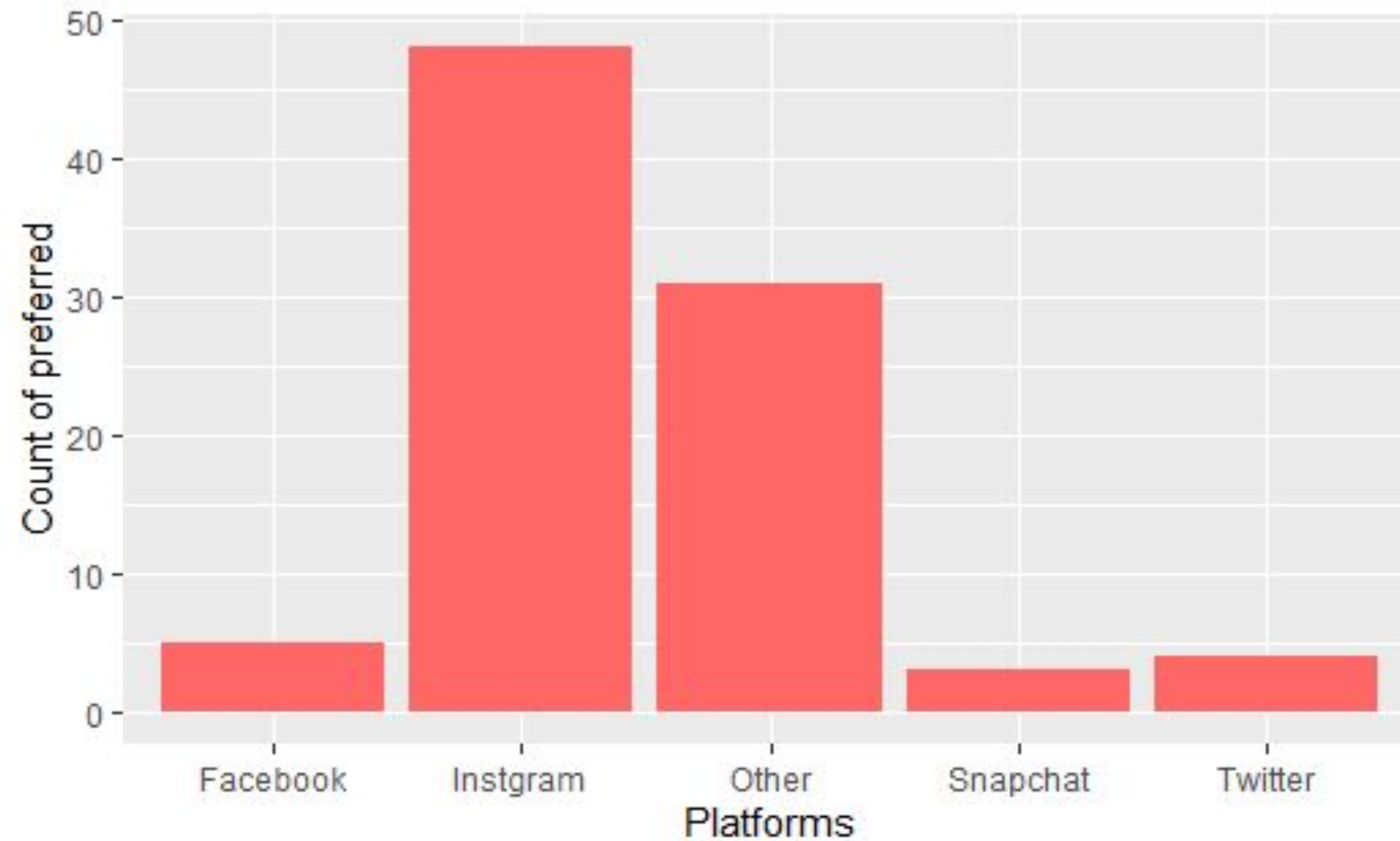
4 Post-experiment Body Dissatisfaction
self rating after the experiment
0-100

5 Pre-experiment Self Esteem
self rating before the experiment
0-100

6 Post-experiment Self Esteem
self rating after the experiment
0-100

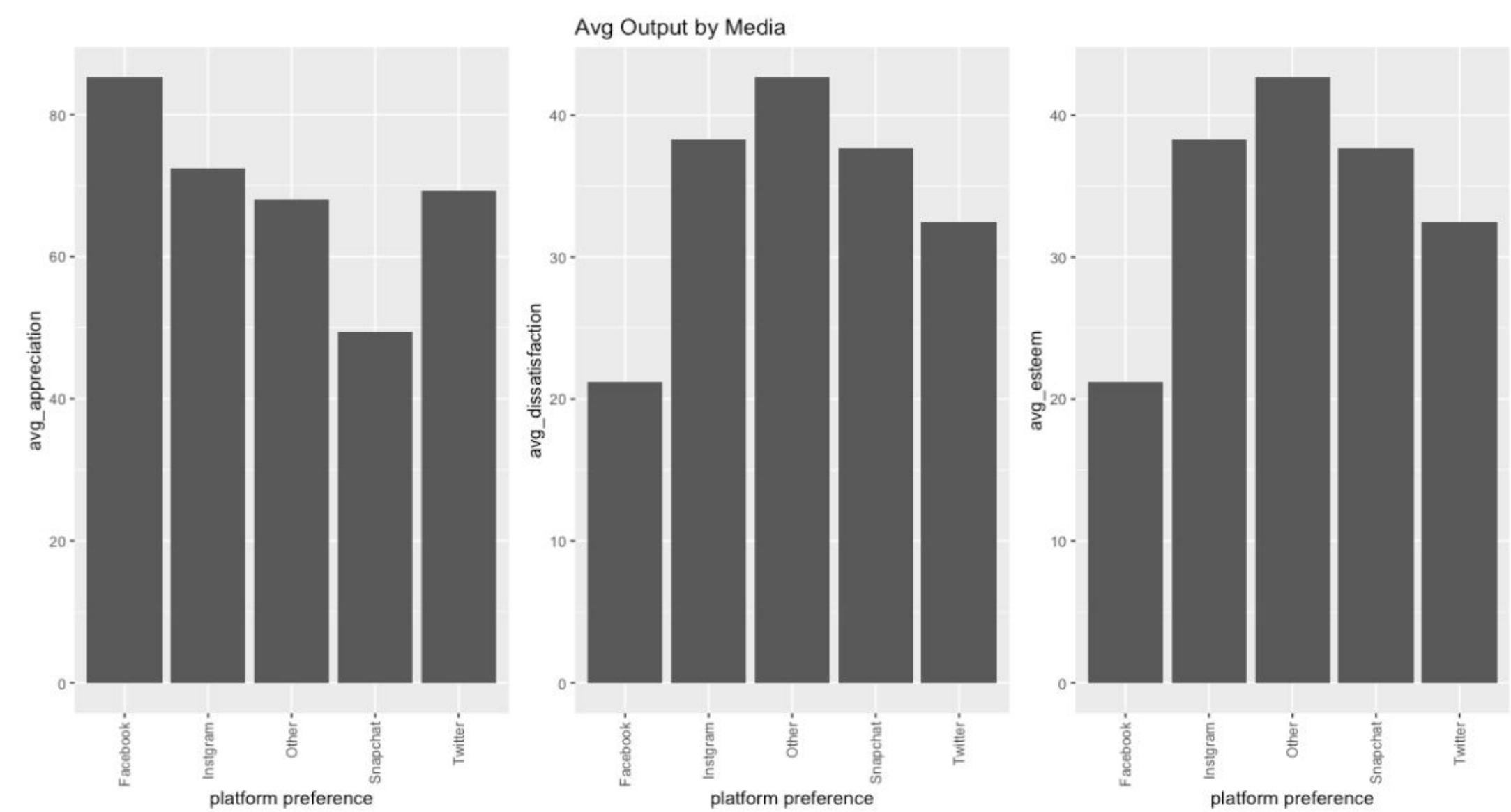


Visualization



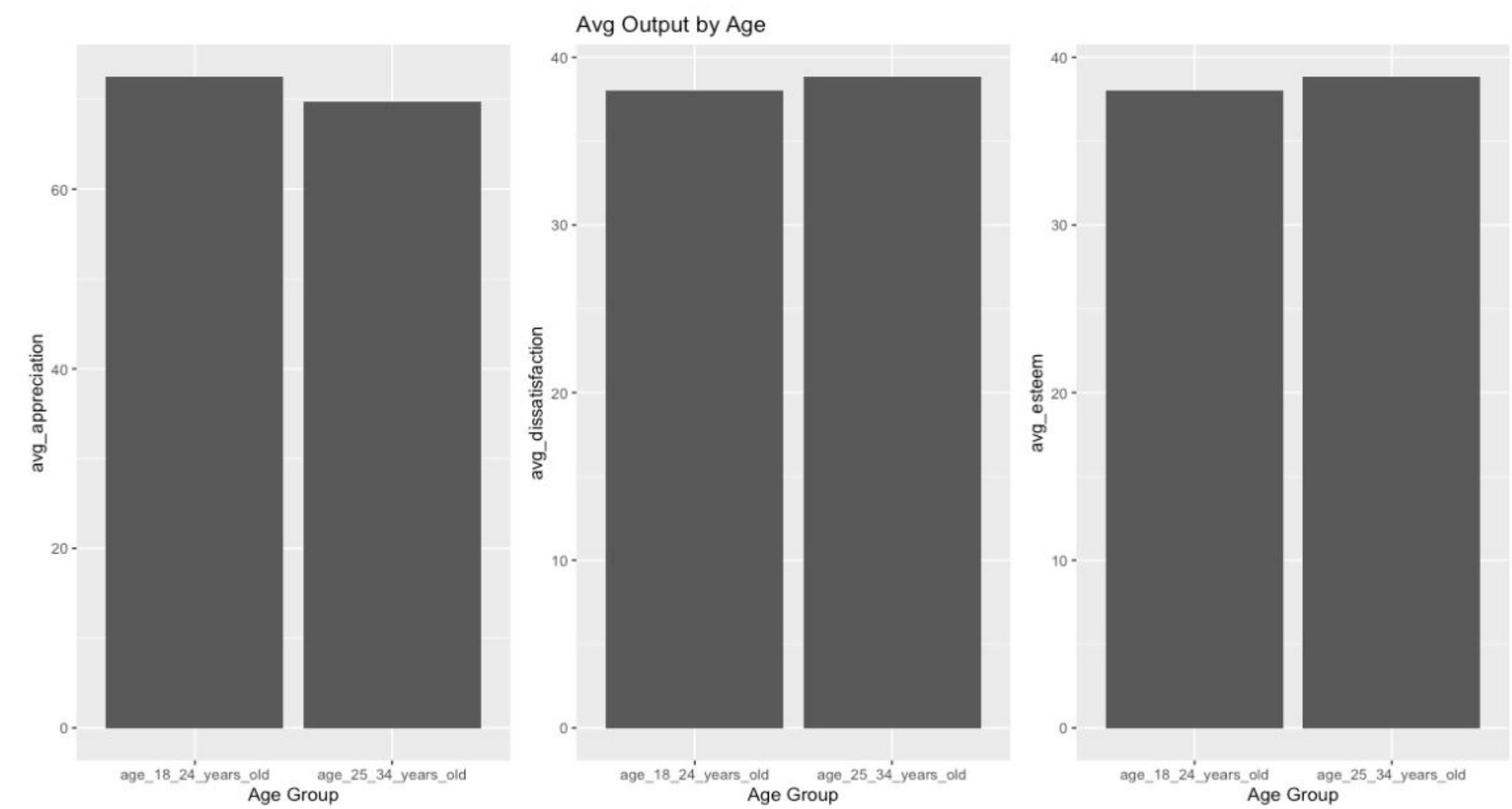
Platform preference of the surveyed women.

Visualization



Average Post Scores by Age Group:
18-24, 25-34

Average Post Scores by Platform:
Facebook, Instagram, Other,
Snapchat, Twitter



Regression

Outcome ~ Any_treatment



The effects are not statistically Significant

| | body appreciation | body dissatisfaction | self-esteem |
|------------|---------------------------|---------------------------|---------------------------|
| constant | 73.633*** (2.555) | 35.100*** (4.580) | 74.333*** (3.133) |
| treatment | -4.355 (3.828) | 5.146 (5.772) | -1.350 (4.224) |
| Num.Obs. | 91 | 91 | 91 |
| R2 | 0.011 | 0.008 | 0.001 |
| R2 Adj. | 0.000 | -0.003 | -0.010 |
| R2 Within | | | |
| R2 Pseudo | | | |
| AIC | 804.7 | 857.9 | 811.0 |
| BIC | 809.7 | 862.9 | 816.1 |
| Log.Lik. | -400.356 | -426.957 | -403.524 |
| Std.Errors | Heteroskedasticity-robust | Heteroskedasticity-robust | Heteroskedasticity-robust |

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001



Regression

Adding Control Variables

Outcome ~ Any_treatment + Age Group + Pre Scores



The effects are still not statistically Significant.

| | body appreciation | body dissatisfaction | self-esteem |
|--------------------------------------|-------------------|----------------------|-------------|
| constant | 5.783 | 0.914 | 16.054 |
| | (4.480) | (2.583) | (16.731) |
| treatment | -2.544 | 3.806 | -1.267 |
| | (2.039) | (2.519) | (2.411) |
| factor(age_group)age_25_34_years_old | -1.741 | -0.074 | -2.671 |
| | (2.115) | (2.603) | (3.810) |
| pre body appreciation | 0.956*** | | |
| | (0.048) | | |
| pre body dissatisfaction | | 0.925*** | |
| | | (0.053) | |
| pre self-esteem | | | 0.807*** |
| | | | (0.193) |
| Num.Obs. | 91 | 91 | 91 |
| R2 | 0.810 | 0.814 | 0.627 |
| R2 Adj. | 0.804 | 0.808 | 0.614 |

Regression

Adding Fixed Effects and Control Variables

Outcome ~ Any_treatment + Age Group + Pre Scores | Platform, bmi, time per day



| | body appreciation | body dissatisfaction | self-esteem |
|---------------------------------|-------------------|----------------------|-------------|
| treatment | -2.632 | 3.263 | -0.766 |
| | (2.078) | (2.743) | (2.346) |
| age 25-34 | -2.979 | 0.625 | -3.457 |
| | (2.009) | (3.077) | (3.999) |
| pre body appreciation | 0.972*** | | |
| | (0.050) | | |
| pre body dissatisfaction | | 0.935*** | |
| | | (0.059) | |
| pre self-esteem | | | 0.779*** |
| | | | (0.193) |
| FE: time_per_day | X | X | X |
| FE: bmi | X | X | X |
| FE: factor(platform_preference) | X | X | X |

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Randomization Check



Check if the control group and treatment groups are diverse and balanced for pre scores, and age group.

P-values are all larger than the significance levels.



| | body appreciation | body dissatisfaction | self-esteem | age group |
|--------------------------|--------------------|----------------------|--------------------|---------------------|
| constant | 1.077** (0.344) | 0.982*** (0.155) | 0.904** (0.336) | 1.032*** (0.149) |
| pre body appreciation | -0.001 (0.005) | | | |
| pre body dissatisfaction | | 0.001 (0.003) | | |
| pre self-esteem | | | 0.001 (0.004) | |
| age 25-34 | | | | -0.032 (0.183) |



T test



Power of the experiment on our major outcome, body_dissatisfaction_score

```
t test power calculation
```

```
      n1 = 61  
      n2 = 30  
      d = 0.314  
sig.level = 0.05  
  power = 0.286  
alternative = two.sided
```

T test



Whether treatment 1 and 2 have difference in treatment effects

Welch Two Sample t-test

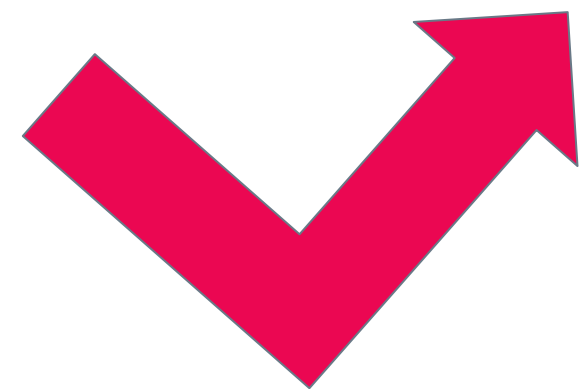
```
data: data[treatment == 1,
body_appreciation_after -
body_appreciation_before] and data[treatment
== 2, body_appreciation_after -
body_appreciation_before]
t = 0.3, df = 50, p-value = 0.8
alternative hypothesis: true difference in
means is not equal to 0
95 percent confidence interval:
-4.01  5.26
sample estimates:
mean of x mean of y
-0.633    -1.258
```

Welch Two Sample t-test

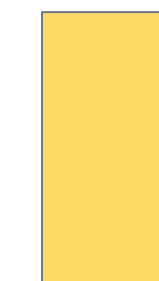
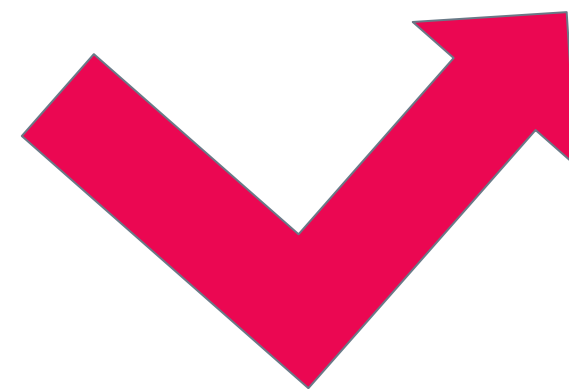
```
data: data[treatment == 1,
self_esteem_after - self_esteem_before]
and data[treatment == 2, self_esteem_after
- self_esteem_before]
t = 0.5, df = 33, p-value = 0.6
alternative hypothesis: true difference in
means is not equal to 0
95 percent confidence interval:
-6.13  9.72
sample estimates:
mean of x mean of y
-0.3      -2.1
```

Welch Two Sample t-test

```
data: data[treatment == 1,
body_dissatisfaction_after -
body_dissatisfaction_before] and
data[treatment == 2,
body_dissatisfaction_after -
body_dissatisfaction_before]
t = -2, df = 50, p-value = 0.1
alternative hypothesis: true difference in
means is not equal to 0
95 percent confidence interval:
-10.77  1.32
sample estimates:
mean of x mean of y
-0.60    4.13
```

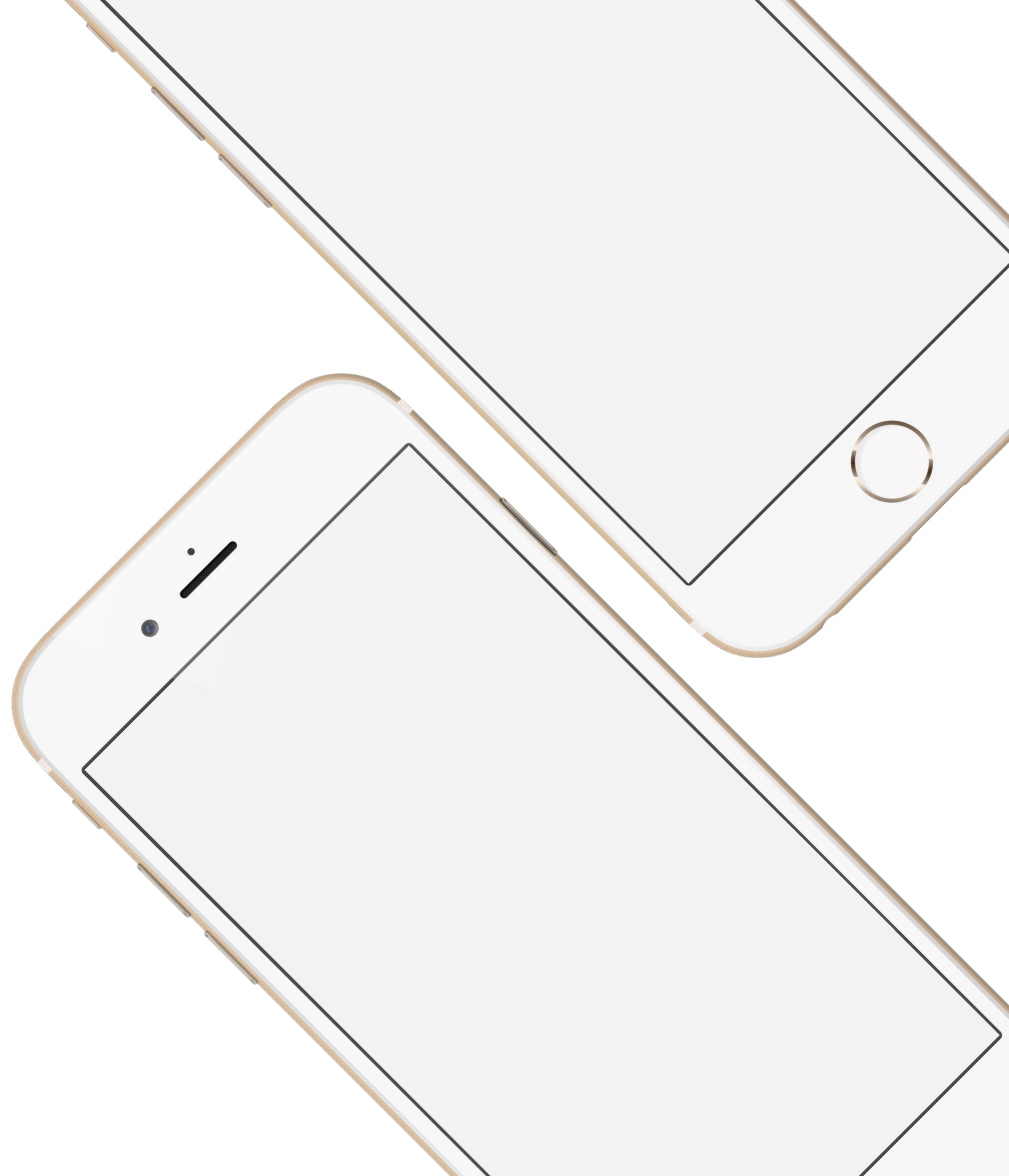


Social Network





Limitation

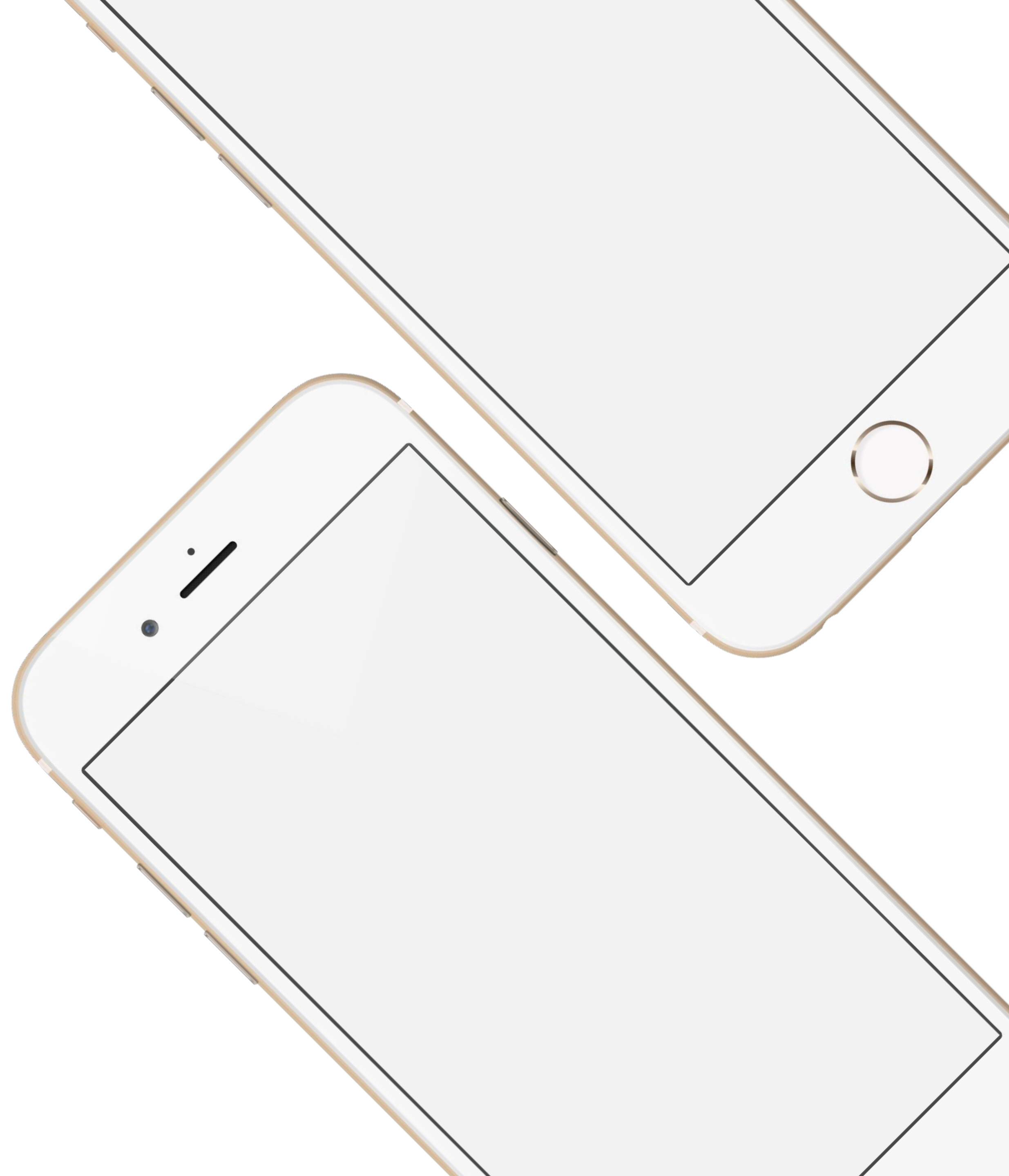


Limitations

- regression result -- statistically insignificant, t-test power 0.286
 - Small sample size.
 - Short duration of exposure to the images.
 - Impact of influencers was limited depending on the individual preference.



Conclusion



Conclusion



- Briefly exposure to good body shape photos will decrease body appreciation, increase body dissatisfaction, and decrease self-esteem but the effects are not statistically significant.
- Treatment 2 has more effect on body dissatisfaction than treatment 1 with 90% confidence level
 - influencers has amplified effect on leading viewers' sentiment on social media
- Randomization check -- correctly randomly assigned
- Suggest people to use 'dislike' button to decrease the body-obsession photo push from apps
- Social Media platforms can also take the anxiety source into account for their recommendation algorithms.





Instagram

Thanks for your listening!

Q&A