



# Effects of a Brief Exposure to Nature or Social Media

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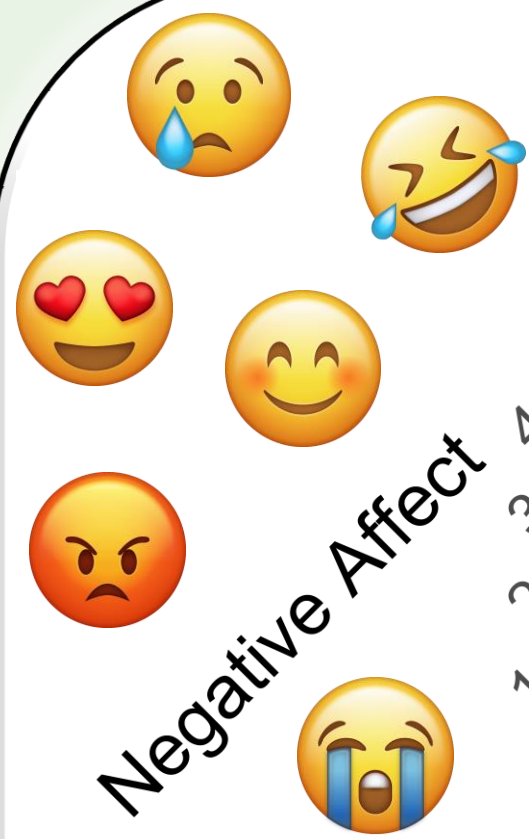
## Background

The current study aims to examine whether a brief exposure to pictures of nature, social media, or social media followed by nature affects future self-identification, psychological well-being, awe, and social comparisons differently:

- Social media can lead young people to make more social comparisons, often leading to increased loneliness, depression, and anxiety (3)
- Future self-identification predicts outcomes related to decision-making and its downstream effects (1)
- Spending time in nature or seeing photos of nature reduces stress and increase positive affect and ability to reflect (2)
- Awe-inducing stimuli increase prosociality, positive affect, and create a sense of a “small self” (4)

## Hypotheses

1. Compared to those who only view their social media feed, participants who view pictures of nature will report a lower level of social comparisons, less loneliness, higher positive affect, higher awe, lower negative affect, lower levels of depression, and stronger identification to their future selves
2. Compared to those who only scroll through social media, those exposed to pictures of nature after scrolling through their social media feed will experience effects similar to those who are only exposed to pictures of nature
3. Social media use and/or time spent outside will moderate the relationship between the manipulation and one or more outcome variables



H1. Viewing photos of nature resulted in lower negative affect compared to viewing one's social media feed

H2. There was no statistically significant difference for those who viewed their social media feed and nature compared to viewing either one alone

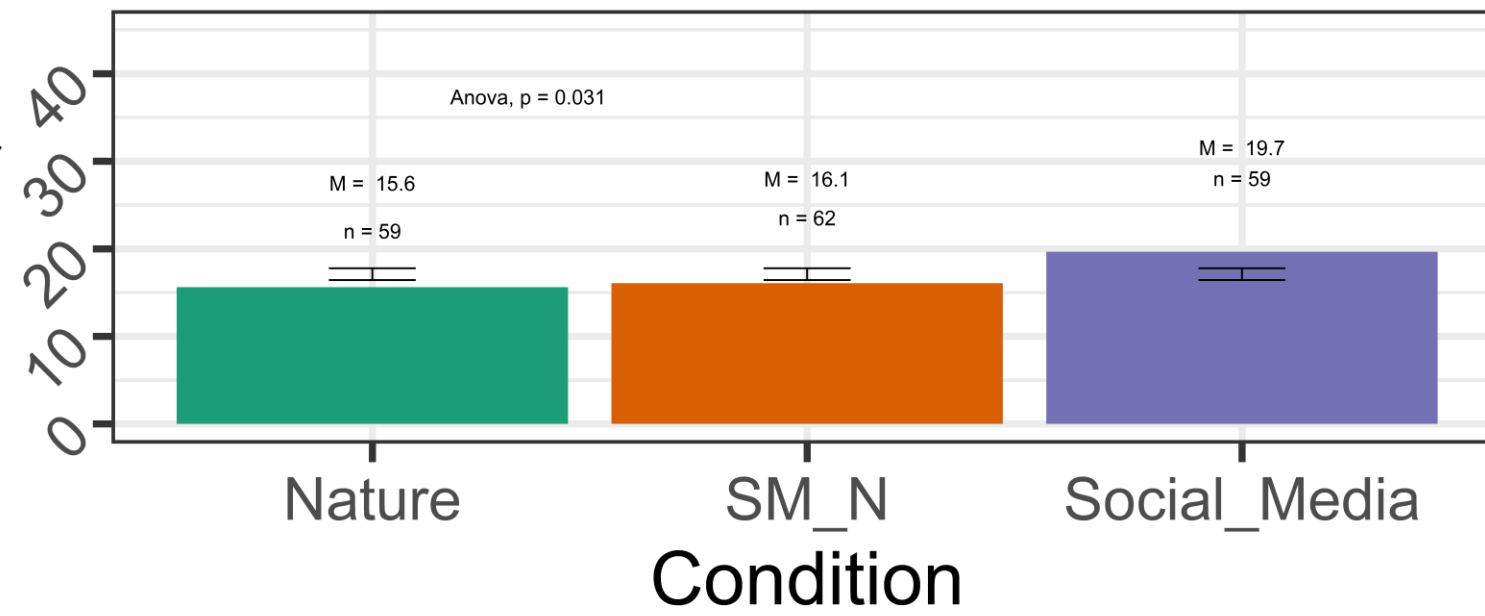


Figure 1. Between groups ANOVA:  $F(2, 177) = 3.56, p = .03$ , partial  $\eta^2 = .04$ ; Tukey's HSD: nature vs. social media,  $p = .04$ , 95% CI = [-7.99, -.11] and SM\_N vs. social media,  $p = .08$ , 95% CI = [-.31, 7.47]



Glacier National Park, MT, United States – Glacier National Park has spacious forests with clear lakes surrounded by towering mountains. Walking through the forest on a sunny day in the spring, snow and ice from the mountains melt and drain into the lakes, creating clear water and fostering new life.



Bryce Canyon National Park, UT, United States – With unique displays of earth in colors and shapes, Bryce Canyon's natural rock formations provide a place of rest and comfort. The complexity, combined with the sunset, creates a beautiful display during the sunset.



Banff National Park, Alberta, Canada – Moraine Lake, located in Banff National Park, is surrounded by the Rocky Mountains and beautiful forests. Visitors can easily hike through forests of evergreen trees while viewing the surrounding mountains and the lake below.

## Results

H3. Those who used social media more often were more likely to experience negative affect

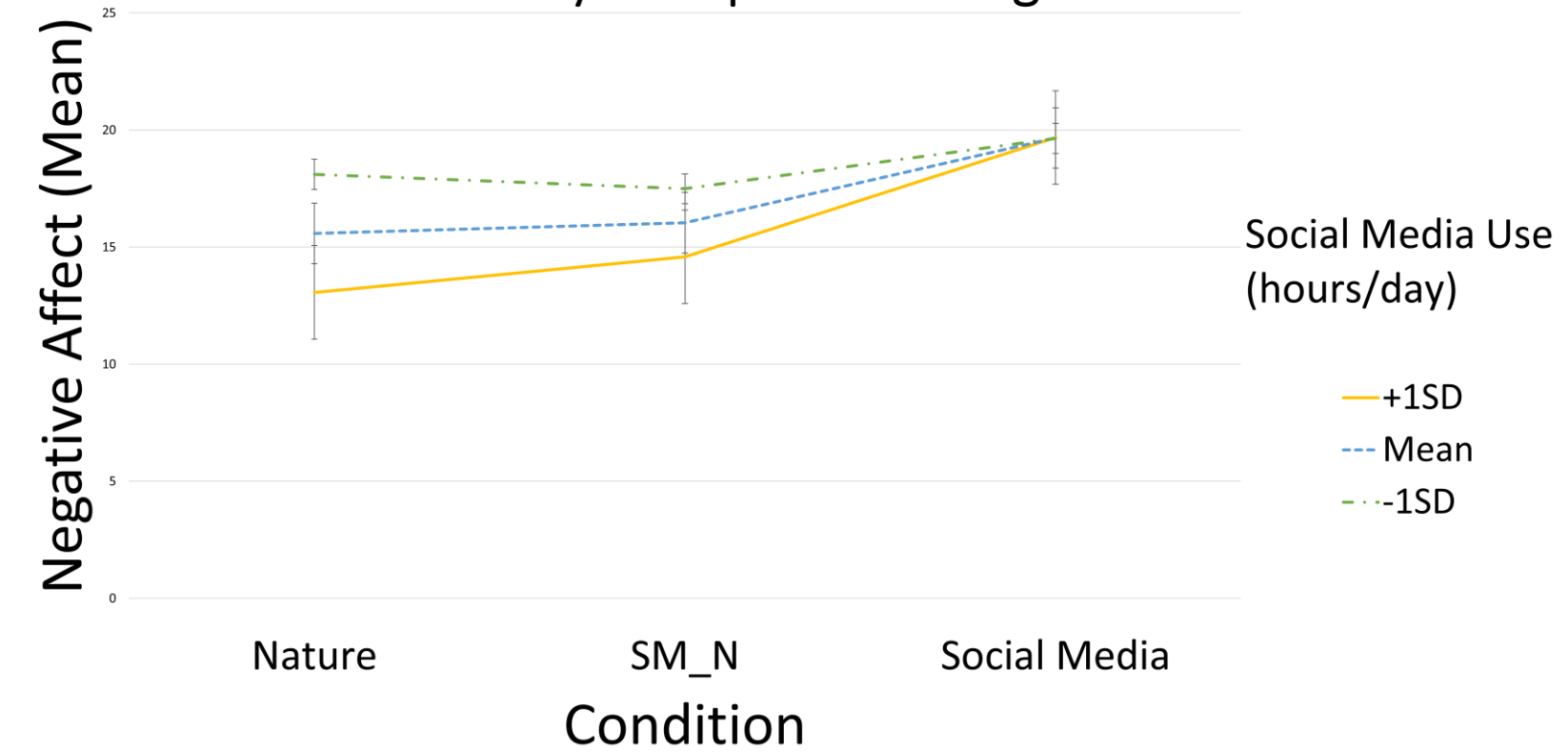


Figure 2. Overall:  $F(5, 174) = 2.63, p = .03, R^2 = .07$ , main effect:  $\beta = -1.90, t(174) = -2.12, p = .04$ . With main effects between nature and social media,  $\beta = 4.07, t(174) = 2.47, p = .02$  and SM\_N and social media,  $\beta = 3.62, t(174) = 2.22, p = .03$ .

H3. Those who spent more time outside and viewed photos of nature were more likely to experience less negative affect; however, they were more likely to experience increased negative affect after viewing social media

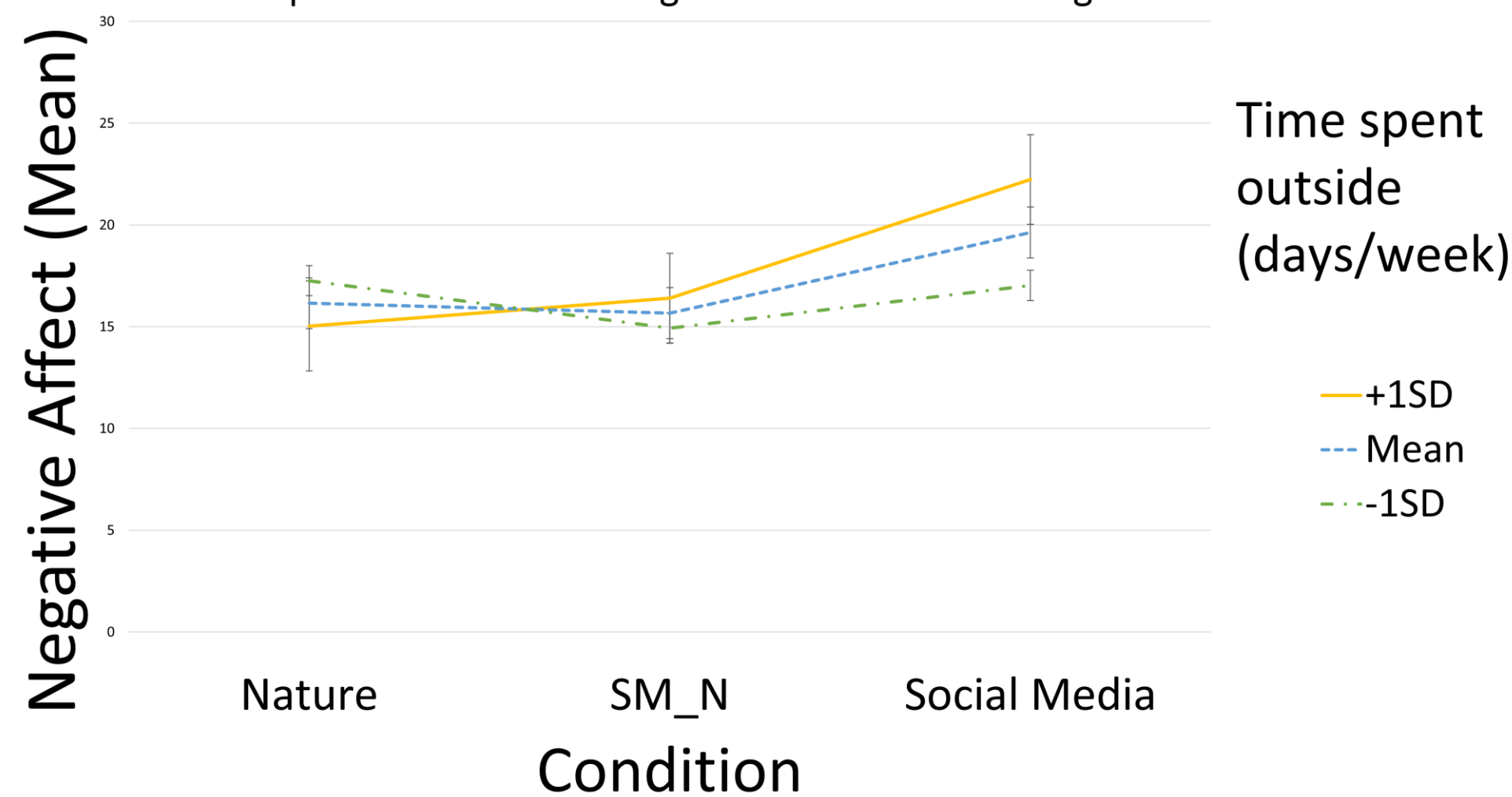
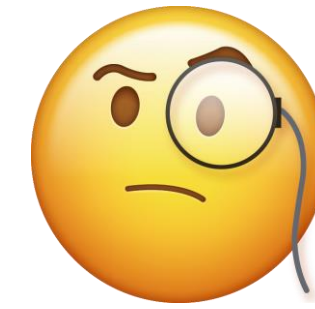


Figure 3. Crossover interaction of time spent outside and negative affect,  $\beta = 3.20, t(174) = 2.26, p = .03$ .



**Note:** Out of ten variables tested, only negative affect was statistically significant between the nature only and social media only groups.

## Study Design

This was a between-subjects design in which participants were randomly assigned to either view photos of nature (12 photos for 25 seconds each), to scroll through their Instagram account for five minutes, or to first scroll through Instagram for five minutes then view photos of nature.

## Methods

- 275 participants were recruited via MTurk and paid \$3.00; final analyses included 182 participants who passed all attention checks
  - Female (73.3%)
  - White/European American (70.3%)
- Req: 18-25, working computer and phone, use Instagram, living in the United States
- Participants were randomly assigned to view photos of awe-inducing nature, scroll through social media, or scroll through social media then view photos of awe-inducing nature
- Post-test measures – Social Comparisons (INCOM), Future self-identification, social media use, Positive and Negative Affect Scale (PANAS), Loneliness (UCLA Loneliness Scale Revised), Depression (CESD), Awe (DPES subscale)

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