

**The Impact of Social Media on Individual Interactions with and Experiences in Nature**

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Senior Honors College Project Thesis

## **Abstract**

Social media has many uses, and its reach spans the globe. A common theme of social media posts is people's experiences in nature. This research aims to further explore the relationship that has developed between experiences in nature and posts that are seen or posted on social media. The data suggest that social media is a positive influencer for bringing people to a certain location or trying a new activity. A dichotomy emerged between expressed tech savviness and the actual number of posts that users post to social media. Further research could contain a stronger focus on the specific reasons people post to social media, the dichotomy that was presented, and the overall influence that social media has on peoples' experiences in nature trying new activities or traveling to new locations.

## **Introduction**

“When they are new, technologies affect how we see the world, our communities, our relationships, and ourselves” (Baym, 2010). Social media has saturated every aspect of our personal and professional lives. The goal of this research was to further explore the relationship between social media and individual experiences in nature. “Outdoor recreation … is commonly perceived as a means of getting away from everyday life and ‘out into nature’” (Skår & Krogh, 2009).

Asking individuals what the definition of an “experience in nature” is, varying responses would be collected, as an experience in nature might look different to everyone. This would make research about experiences in nature difficult because it would be lacking specificity. This study chose to define an experience in nature as, “any participation in an active or passive recreational activity, (i.e., walk, run, picnic, hike, hammocking, biking, etc.) specifically outside,

where most of the environment is natural", allowing for consistency throughout data gathered, as the definition of experience in nature is constant. Maintaining consistency is important to research and analysis of data collected. Recreation and Park Management professionals will better be able to apply the trends and patterns identified in this research based on the foundation that is a defined experience in nature.

Interactions with nature are imperative to overall health and can be used as a beneficial tool to improve lives. This claim is supported by the research that concluded that, "people who made long visits to green spaces had lower rates of depression and high blood pressure, and those who visited more frequently had greater social cohesion. Higher levels of physical activity were linked to both duration and frequency of green space visits" (Shanahan et al., 2016). How humans interact with the natural world is a unique phenomenon that varies between individuals. "Nature-based experiences can moreover, be a part of a lifestyle where one chooses activities and experiences that reflect the common interests of the lifestyle" (Dimanche & Samdahl, 1994; Vespestad & Lindberg, 2011). This allows a large amount of freedom in what an experience in nature looks like to different people and how it affects them.

Social media and the outdoors create a paradoxical relationship; however, the overlap between the two is increasing. Users of social media are interacting with nature based on a social media post they saw. People who have a positive experience in nature on their own decide to post it to social media and share it with their friends. These instances will continue to increase as the span of social media grows. The Recreation and Park Management profession can benefit from this growing relationship by using social media in an advantageous way. Creating content, sharing the content of others, and encouraging members of the public to post their own content are all ways that social media can become a useful tool to increase knowledge about the outdoors

and the experiences that are possible in them. Social media is a factor that influences individual experiences in nature and the goal of this research is to further explore the relationship between social media and humans' interactions with nature.

## **Methods**

An online quantitative survey containing items related to peoples' interactions with social media and nature was created and distributed, via email to 4500 active ECU students: 3000 undergraduate and 1500 graduate (see Appendix for Survey). Quantitative methods were used to generalize results to the broader population. Institutional Review Board (IRB) approval was obtained for this research with the certification number UMCIRB 20-002832. The student researcher involved in this research participated in and completed IRB CITI Training mandated by East Carolina University to assist in the study. IRB approval is critical to ensuring that the research conducted is done in an ethical and humane way. The survey created also received approval from the Survey Review and Oversight Committee (SROC) to be disseminated to the ECU student body.

The survey was sent out to 4500 active ECU students (3000 undergraduate and 1500 graduate) and the responses were collected and stored. The data were analyzed using SPSS software to conduct analyses and calculate frequencies and means. Results were compiled, and conclusions were drawn from trends according to the variables which are 1) number of experiences in nature, 2) quality of experiences in nature, 3) motivations for interacting with nature, 4) average amount of time spent on social media daily, and 5) motivations for using social media.

The Qualtrics survey that was created was originally distributed on January 21, 2021. A reminder was sent to those who had not completed the survey on March 2, 2021. Users who had completed the survey were removed before each subsequent email following the original one. A third email was sent on March 4, 2021 containing a corrected link from the March 2 email. Users had contacted the student researcher with problems pertaining to the survey link. The problem was addressed, and a new link was sent. On March 10, 2021, a fourth email reminder was sent to those who had yet to complete the survey. Data were collected through March 16, 2021 and SPSS analyses on the data were started.

## Results

The following is the data that were collected from the survey used for this research:

Out of 275 responses on a 1 – 7 Likert-type scale, one being strongly disagree and seven being strongly agree, the mean score ( $\pm$  standard deviation) of the item, “Please indicate how much you agree or disagree with the following statement: I am a person who enjoys the outdoors” was  $5.90 \pm 1.29$ . Out of 275 responses on a 1 – 7 Likert-type scale, the mean score ( $\pm$  standard deviation) for the item, “Please indicate how much you agree or disagree with the following statement: I am a tech savvy person” was  $5.12 \pm 1.37$ .

Based on 269 responses on a 1 – 5 Likert-type scale, one being not at all important and five being extremely important, the mean score ( $\pm$  standard deviation) for the item, “to aid in the recollection of the experience” as a reason people post to social media was  $3.09 \pm 1.19$ . Using a 1 – 5 Likert-type scale and out of 269 responses, the item, “to share the experience with others” had a mean score ( $\pm$  standard deviation) of  $3.20 \pm 1.15$ . Out of 270 responses on a 1 – 5 Likert-type scale, the item, “to highlight favorite parts of the experience” as a reason people post to

social media recorded a mean score ( $\pm$  standard deviation) of  $3.42 \pm 1.10$ . Out of 270 responses on a 1 – 5 Likert-type scale, the item, “to update others on life experiences” had a mean score ( $\pm$  standard deviation) of  $2.87 \pm 1.20$ .

Out of 268 responses on 1 – 5 Likert-type scale, one being greatly increased negative feelings and five being greatly increased positive feelings, the mean score ( $\pm$  standard deviation) for the item “how posting to social media about your experience in nature affected your feelings towards the experience” was  $3.49 \pm .77$ . Out of 268 responses on a 1 – 4 Likert-type scale, one being no influence and four being large influence, the mean score ( $\pm$  standard deviation) was  $3.03 \pm .99$  for the item, “a positive experience in nature influencing the likelihood of posting to social media”. Based on 266 responses on a 1 – 4 Likert-type scale, the item, “a negative experience in nature influencing the likelihood of posting to social media” reported a mean score ( $\pm$  standard deviation) of  $2.20 \pm .98$ .

In the final section of the survey, respondents were asked to answer a series of questions relating to their experiences in nature based on their social media usage. Out of 303 responses, the following information was recorded from the data collected:

- 67.7% of respondents claimed that seeing a social media post about an outdoor activity has influenced them to participate in a similar experience.
- 41.6% of people stated they had previously participated in the activity they saw.
- 31.4% stated it was their first time engaging in the activity that they had seen.
- 55.4% of the respondents stated that, at the time of engaging in the activity, they had never been to the specific location that they went to.

- 66.3% of the people who engaged in an activity after being influenced by social media stated that their experience was slightly or very similar to the one they were exposed to.
- Only 7.6% of people stated that it was either nothing alike or exactly the same.

## **Discussion**

When the data were compiled and analyzed using SPSS software, there were several trends and patterns identified. Based on the number of results, only descriptive statistics were used; frequencies and means of the survey items were reported and studied.

A trend that was realized from the data reported is that the mean score ( $\pm$  standard deviation) on a 1 – 7 Likert-type scale, one being strongly disagree and seven being strongly agree for the item, “Please indicate how much you agree or disagree with the following statement: I am a person who enjoys the outdoors” was  $5.90 \pm 1.29$ . This indicates that most respondents enjoy the outdoors and participating in experiences in nature. This information could be beneficial to future research focusing on the popularity of the outdoors and conservation projects. If someone has a positive experience at a park or other natural area, they might be more inclined to post to social media about it, thus spreading the word to numerous other people. By encouraging this chain through positive experiences in nature, interest in the outdoors will grow, creating many possibilities for future research and application to the Recreation and Park Management profession.

An interesting dichotomy emerged from the data. The mean score for agreeing with the statement, “I am a tech savvy person” was  $5.12 \pm 1.37$  on a scale from one to seven, yet 50% of respondents said they rarely post to social media. This presents a research question that could be answered by future research: Why is there a disconnect between expressed tech savviness and a

lack of activity on social media? This disconnect indicates that the primary reason people use social media is to see what others are doing. Investigating this dichotomy further could help researchers better understand the true reason people use social media and how to better appeal to a wider audience with posts. It could also make Recreation and Park professionals more aware of the barriers that keep people from posting. By creating experiences that are unique, professionals can counteract those specific barriers and users might be more influenced to post to social media about their experience.

Based on the data reported, it was suggested that social media has a positive impact on the lives of respondents by influencing them to participate in new activities or travel to new areas. This supports the hypothesis that social media has become increasingly connected to every part of life. When asked about seeing an activity on social media, 67.7% of respondents stated they were influenced to participate in a similar experience. Regardless of the motivation behind participating in the activity, it is evident that social media posts influence actions. In the Recreation and Park Management field, social media platforms can be used advantageously to expand interest in activities or increase attendance to parks or natural areas, which would equate to not only more revenue, but more appreciation for the outdoors.

When respondents were asked about participating in a similar experience after seeing an activity on social media, 31.4% stated that it was their first time. This suggests that social media has a positive influence on awareness of new activities. Practically, this knowledge could be used when gaining supporters of a new activity. Posting on social media may influence viewers to participate in said activity, thus increasing knowledge and awareness.

However, 66.3% of those who participated in a similar experience reported that their experience was either slightly or very similar to the one to which they were exposed. This could

be explained by inaccurate social media posts about one's experience. Posting false information of any capacity might influence someone to participate in a similar experience with an expectation that might not be met. Only 2.3% of people stated that their experience was exactly the same as the one that was seen. This phenomenon could lead to a negative experience, as what was described in a post might not happen the same way for every experience. Regardless of the motivation for posting misleading information, professionals in the Recreation and Park Management field should be aware of this issue to attempt combatting it by providing digital or physical information about what is offered at the facilities available to the public.

Based on data analyzed after collection, 55.4% of those who participated in a similar experience stated that they had never been to the location where the experience was participated in before. This shows that social media has an influence of encouraging people to explore new locations, in addition to encouraging people to try new activities. This information is beneficial because future uses of social media could include increasing attendance at a location, such as a park or other nature area, that desires greater public interest.

Encouraging current users to post about their experiences on social media could influence others to explore that location, thus enticing more people to that location and improving attendance. The location could also post specific, yet cryptic, posts to social media that piques the interest of individuals and influences them to go the location to further explore. Using this information, locations such as parks or nature reserves could better use social media as a tool for their advantage to increase attendance.

On the contrary, encouraging users to post about their experiences could cause drawbacks. Long wait times for attractions or large crowds of people may lead to negative outcomes regarding quality of experiences. Some secondary issues that emerge from popularity

on social media may be increased litter around the park or natural areas, increased vandalism, or even destruction of natural areas through human intervention, such as social paths. Officials in the Recreation and Park field should recognize and anticipate potential problems that may arise from increased attendance before encouraging users to post on social media. Feedback about experiences in nature on social media can be a beneficial tool; however, without proper systems in place, increased attendance can turn into a negative consequence.

### **Limitations & Recommendations for Future Studies**

It is recommended that when asking respondents about various social media types used via survey, a series of checkboxes be used in survey design instead of an open text box. This gives the researcher control over what options are selected and can refine the results that are collected. This will also eliminate any unwanted answers that do not pertain to the prompt or are not actual types of social media. This study used an open text box to gain a base knowledge of the main forms of social media that the public uses. The data from this survey can be used to refine the next iteration of the survey and narrow down the available options, thus increasing specificity.

It is also recommended that when asking about the specific number of social media pages that are followed related to nature, a more specific series of radio buttons be used. This study used a series of radio buttons that were labeled, “1-4; 5-9; and 10+”. According to the data collected, most of the respondents chose the one to four option, with the five to nine option gathering fewer selections. For future research, it is recommended that the series of radio buttons be split into individual digits or sets of two. This would provide better accuracy to the number of nature-related social media accounts that are followed by respondents. Greater specificity for this question could aid researchers in understanding how often outdoor experiences are participated

in after seeing a post about nature. For a user who follows numerous accounts, for example, the percentage of seeing nature-related posts and participating in an experience in nature might be lower than a user who only follows one or two accounts that post about nature. Gathering more data on this ratio might aid in the understanding of the total influence of social media in outdoor recreation.

The final recommendation for future research is to add a question to the survey design that specifically asks how much a user posts about nature on social media. The current study poses a question that asks about the general amount a user posts to social media, but a greater understanding of how experiences in nature affect social media usage could be obtained by asking about how many posts specifically about nature are posted to a user's social media platforms. This would allow researchers to compare the average overall social media usage with the social media usage related to nature and further explore that relationship. All these recommendations should be considered if future research is pursued, as a refined study that is more specific can yield better results that can further explain the trends observed in this study.

## **Conclusion**

“Social media has notably provided an ability for national parks to reach large numbers of people with their messages” (Miller & Freimund, 2017). Social media can often be portrayed as entertainment, but within the right application, it can be a tool used to accomplish goals set by professionals in the Recreation and Park Management field. Utilizing this tool to create content, promote natural sites, or encourage users to post about their experiences in nature can provide professionals with a beneficial strategy that can be used to increase awareness of activities or attendance to locations. Drawbacks to social media promotion should not be ignored, rather they should be expected with the prominent effects that social media has on current trends.

“Currently, much of the research emphasis has focused on social media, but little has explored why users share their travel information and experiences” (Kang & Schuett, 2013). Regardless of why they post, users still post to social media about their personal experiences in nature. Recognizing this as a trend that will only grow can equip professionals in the Recreation and Park Management field with the knowledge needed to achieve aspirations of activities or locations that are overlooked or neglected by the public.

Wood et al. (2003) stated that crowd-sourced information can revolutionize the way we study people and understand their choices. Motivations behind posting to social media may not be fully known, but data collected from this study suggests that social media has a positive influence on the actions of users who view nature-based posts. The relationship between social media and nature should be a stronger focus of future research, as this is the key to understanding more about how this entity can be used for the benefit of parks and other natural areas and conservation movements to protect them. It is evident that social media has an influence on the actions of its users; the challenge that arises is using these ever-growing platforms to further educate and entice users to explore their own experiences in nature in a beneficial and meaningful way.

### **Presentations**

This research was presented virtually at Research and Creative Achievement Week on April 7, 2021. A poster was submitted and presented to students participating in the event. Questions that were asked by viewers via comments on the virtual poster were answered as well as personal emails containing questions regarding the research.

This research was also presented virtually to the Department of Recreation Sciences faculty and a Graduate student in the Recreation and Park Administration Graduate Program. The pertinent information pertaining to the research was compiled into a PowerPoint Presentation and discussed to students and faculty. Any questions that were asked were answered in real-time and the option of privately asking questions was extended.

## References

- Baym, N. K. (2010). *Personal Connections in the Digital Age*. Cambridge: Polity.  
[https://books.google.com/books?hl=en&lr=&id=4\\_1RCgAAQBAJ&oi=fnd&pg=PT6&ots=PTAV9s0-Kl&sig=PZQgwCZpICiMg\\_Fr\\_cuuF\\_OZHys#v=onepage&q&f=false](https://books.google.com/books?hl=en&lr=&id=4_1RCgAAQBAJ&oi=fnd&pg=PT6&ots=PTAV9s0-Kl&sig=PZQgwCZpICiMg_Fr_cuuF_OZHys#v=onepage&q&f=false)
- Dimanche, F., & Samdahl, D. (1994). Leisure as symbolic consumption a conceptualization and prospectus for future research. *Leisure Sciences*, 16(2), 119–129.  
<https://doi.org/10.1080/01490409409513224>
- Kang, M., & Schuett, M. A. (2013). Determinants of Sharing Travel Experiences in Social Media. *Journal of Travel and Tourism Marketing*, 30(1–2), 93–107.  
<https://doi.org/10.1080/10548408.2013.751237>
- Miller, Z. D., & Freimund, W. (2017). Visual Visitors: Facebook Users and National Parks. *Journal of Park and Recreation Administration*, 35(3), 136–150.  
<https://doi.org/10.18666/jpra-2017-v35-i3-8010>
- Shanahan, D. F., Bush, R., Gaston, K. J., Lin, B. B., Dean, J., Barber, E., & Fuller, R. A. (2016). Health Benefits from Nature Experiences Depend on Dose. *Scientific Reports*, 6(1), 1–10.  
<https://doi.org/10.1038/srep28551>
- Skår, M., & Krogh, E. (2009, August 4). *Changes in children's nature-based experiences near home: from spontaneous play to adult-controlled, / Enhanced Reader*. Children's Geographies. chrome-extension://dagcmkpagjlhakfdhn bomgmjdpkdklff/enhanced-reader.html?openApp&pdf=https%3A%2F%2Fwww.tandfonline.com%2Fdoi%2Fpdf%2F10.1080%2F14733280903024506%3Fcasa\_token%3D2cpe191cIw0AAAAA%3AnxH9uA9C4a-MpKti4lPfTU8n-c765TJo-nOV\_hFLktmlM\_LCFmbXtZ-0oE8v2fHfNP3jHywj3BgO
- Vespestad, M. K., & Lindberg, F. (2011). Understanding nature-based tourist experiences: an ontological analysis. *Current Issues in Tourism*, 14(6), 563–580.  
<https://doi.org/10.1080/13683500.2010.513730>
- Wood, S. A., Guerry, A. D., Silver, J. M., & Lacayo, M. (2013). Using social media to quantify nature-based tourism and recreation. *Scientific Reports*, 3(1), 1–7.  
<https://doi.org/10.1038/srep02976>

## Appendix

### Qualtrics Survey Sent to ECU Student Body

**Please tell us a bit about yourself.**

What is your ZIP code? \_\_\_\_\_

In what year were you born? \_\_\_\_\_

What is your gender?  Male       Female       Prefer not to respond

What is your major? \_\_\_\_\_

Please list your current status at ECU.

Undergraduate     Graduate

Please list which social media platforms you use. \_\_\_\_\_  
\_\_\_\_\_

| Please indicate how true these statements are. | Not true<br>at all | Somewhat true | Very<br>true |   |
|--|--------------------|---------------|--------------|---|
| I am a person who enjoys the outdoors          | 1                  | 2             | 3            | 4 |
| I am a “tech savvy” person                     | 1                  | 2             | 3            | 4 |

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*For this study, an “experience in nature” is defined as:  
“any participation in an active or passive recreational activity, (i.e., walk, run, picnic, hike, hammocking, biking, etc.) specifically outside, where most of the environment is natural”*

| Please indicate how important each of the following statements is when posting to social media about an experience you had in nature. | Least<br>important | Neither important<br>nor unimportant | Highly<br>important |   |
|---|--------------------|--------------------------------------|---------------------|---|
| To aid in recollection of the experience  | 1                  | 2                                    | 3                   | 4 |
| To share the experience with others   | 1                  | 2                                    | 3                   | 4 |
| To highlight favorite parts of the experience   | 1                  | 2                                    | 3                   | 4 |
| To update others on life experiences  | 1                  | 2                                    | 3                   | 4 |

Please indicate how posting to social media about your experience in nature affected your feelings towards the experience.

| Increased Negative feelings | Did not affect feelings |   |   |   | Increased Positive Feelings |   |
|-----------------------------|-------------------------|---|---|---|-----------------------------|---|
| 1                           | 2                       | 3 | 4 | 5 | 6                           | 7 |

| Please indicate how each scenario would increase the likelihood of posting about your experience in nature to social media. | No influence | Medium influence | Strong influence |
|---|--------------|------------------|------------------|
| A POSITIVE experience in nature   | 1            | 2                | 3                |
| A NEGATIVE experience in nature   | 1            | 2                | 3                |

Please answer the following questions.

How often do you post to social media?

- Daily       Weekly       Bi-weekly       Rarely

Never

How many of your posts are related to or about nature?

- None       Minority       Half       Majority

All

How often do you like/share others' posts regarding nature?

- Never       Sometimes       Half the time       Often

All the time

Do you follow any accounts focused on posting only about nature?

- Yes       No

If yes, how many?

- 1-4       5-9       10+

Has seeing a post about an experience in nature ever influenced you to participate in a similar experience?

- Yes       No

If yes,

What is your first time engaging in this activity?       Yes     

No

Had you ever been to the location of the experience before?       Yes     

No

How did your experience align with what you perceived from the post?

- Nothing alike       Slightly similar       Very similar

Exactly the same