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FROM THE PARKS TO THE POLLS: NATIONAL PARKS, PLACE ATTACHMENT,
AND ENVIRONMENTAL VOTING BEHAVIOR

By Rebecca LaRue

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Advisor: Bas van Doorn

Second Reader: Angela Bos

Abstract

This study examines the relationship between National Park visitation, place attachment, and levels of support for pro-environmental ballot measures. The theoretical argument for this relationship is that increased visitation to National Parks will lead to increased place attachment, or connection, to the National Parks. This increased connection to a place of natural beauty could cause people to be more inclined to support ballot measures that protect the environment. A survey, administered through Amazon's Mechanical Turk, was used to collect the data, and a mediation analysis was used to analyze it. The results of this study show that visitation to National Parks does increase place attachment, which in turn increases levels of support for pro-environmental ballot measures. This increase in support was seen to hold steady across two different pro-environmental ballot measures relating to different issues.

KEY WORDS: National Parks, place attachment, voting behavior

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Chapter 1: Introduction

Every year, nearly 300 million people visit various sites across the National Park Service (Visitation Numbers (U.S. National Park Service) n.d.). National Parks hold a special place in many Americans' hearts, and it follows that this deep love for a place of pristine natural beauty might have some impact on the way that people view environmental policies and protections.

Concern for the environment, and views on environmental policies, are shaped by three main factors: concern for the self, concern for other people, and concern for the biosphere (Shultz 2001; Shultz et al. 2005; van Riper and Kyle 2014). One facet of concern for the biosphere is place attachment, or the emotional bond between people and place. Place attachment has been found to develop when people visit National Parks (Halpenny 2010; Ramkissoon et al. 2012; Vaske and Kobrin 2001; Walker and Chapman 2003). This is the basis for the theoretical argument for this study: that visitation to National Parks impacts pro-environmental voting behavior through the mediating influence of place attachment.

This study examines and tests two different hypotheses. The first hypothesis is that visitation to National Parks will lead to an increase in place attachment for the parks, which in turn will lead to an increased likelihood to vote 'yes' on pro-environmental ballot issues. The second hypothesis is that the effect of visitation and place attachment on pro-environmental ballot measures will most likely be seen at higher rates regarding issues of conservation than ballot measures concerned with other types of pro-environmental issues. I test these hypotheses through a survey.

The first chapter following this is the Literature Review, which outlines the current theories surrounding visitation to National Parks, place attachment, and environmental voting behavior. Directly after this comes the Methods chapter, which describes the process of creating, implementing, and analyzing the survey used for this study. The results and findings of the study are then outlined in the Results and Analysis chapter. Finally, the Conclusion chapter presents the implications of the findings, as well as ideas for future research.

Chapter 2: Literature Review

Introduction

As the environment has become an issue of increasing importance, there is also an increasing need to discover what shapes environmental policy. Why do people vote how they vote on environmental issues? To gain a better understanding of this topic, this study will examine how visitation to national parks affects place attachment, which in turn affects voting behavior on environmental ballot measures. A survey of the literature shows that there is not much literature that explores this specific topic. However, there is literature regarding how visitation to national parks affects place attachment, how place attachment affects environmental opinions, and what shapes environmental opinions and voting behaviors. Visitation to a national park or similarly protected area was consistently found to form place attachment between the person and the park, as it provided a meaningful positive experience with a natural environment (e.g. Cazalis and Prévot 2019; Vaske and Kobrin 2001). Place attachment is a bond between a person and a place and is made up of place identity and place dependence. Place attachment was consistently found to be correlated with higher levels of pro-environmental intentions and behavior (e.g. Ramkissoon et al. 2012; Walker and Chapman 2003; Williams and Roggenbuck 1989). Meanwhile, environmental opinions and voting behaviors were found to be shaped by three main categories, which were egoistic, social-altruistic, and biospheric concern (e.g., Gill, Crosby, and Taylor 1986; Shultz 2001; van Riper and Kyle 2014). These three categories were also influenced by demographics, as well as the context in which an individual lives (e.g. Baldassare and Katz 1992; Coan and Holman 2008; Kollmus and Agyeman 2002). Combining the three separate theoretical literatures shows that visitation

to national parks leads to place attachment, and place attachment, in turn, leads to an increase in pro-environmental intentions, which includes voting behavior.

Visitation to National Parks

Visitation to National Parks has been found to form a bond of place attachment between the person and the park (Halpenny 2010; Ramkissoon et al. 2012; Vaske and Kobrin 2001; Walker and Chapman 2003). When people visit a National Park, they form a surface-level connection to that park simply by being there. This surface-level connection allows a larger bond to grow, and also increases levels of empathy for the park (Walker and Chapman 2003). This forms the basis for place attachment to occur. When people visit a park and enjoy their time there, it increases the likelihood that place attachment will form (Halpenny 2010; Ramkissoon et al. 2012; Walker and Chapman 2003).

Visitation is an important factor, but proximity is as well. Proximity to a protected area, such as a National Park, has been correlated with participation in pro-environmental behavior (Cazalis and Prévot 2019). Living near a National Park or similarly protected area provides people with a positive experience with nature. This positive experience with nature forms place attachment and makes people who live near the area more inclined to protect it (Cazalis and Prévot 2019). Proximity to National Parks also increases the likelihood that someone will repeatedly visit the park. Repeat visitation is important to forming place attachment, as it allows for reliance on the park to form, as well as providing more chance for place attachment to form (Cazalis and Prévot 2019; Halpenny 2010; Ramkissoon et al. 2012). More time spent in the park is more time bonding to the park.

When people form a bond with an area, they are more likely to want to protect that area. As National Parks are areas of pristine natural beauty, the place attachment that forms there can have a positive impact on shaping pro-environmental behavior because people want to protect the park service after visiting (Halpenny 2010; Ramkissoon et al. 2012). Visiting a National Park often provides a positive experience with nature. Opportunities for positive experiences with nature have been decreasing over the last decades. This decrease is due to the increased separation of humans and nature, which has led to a reduction of both desire and opportunities to experience nature (Cazalis and Prévot 2019). These positive life experiences with nature that National Parks provide are important to “sensitivity, concern, and knowledge about environmental issues” (Cazalis and Prévot 2019, 548). National Parks are some of the few remaining places where people can have positive experiences, and therefore form meaningful connections to natural places. The place attachment which forms in parks has positive impacts on peoples’ level of environmental concern, as well as their participation in pro-environmental behaviors, including voting behavior.

Place Attachment

Place attachment is the bond that forms between a person and a place (e.g. Ramkissoon et al. 2012; Williams and Roggenbuck 1989; Williams and Stewart 1998). Place attachment is made up of subdimensions, the two most important of which are place dependence and place identity. Place dependence is a functional bond to a place, and place identity is an emotional bond to a place (Halpenny 2010; Ramkissoon et al. 2012; Ramkissoon et al. 2013; Vaske and Kobrin 2001; Williams and Vaske 2003). Place attachment has been correlated with higher levels of pro-environmental behavior and can be a powerful tool

for shaping environmental concern and behavior (Cazalis and Prévot 2019; Halpenny 2010; Ramkissoon et al. 2012; Ramkissoon et al. 2013; Vorkin and Riese 2001; Walker and Chapman 2003).

Overview of Place Attachment

Place attachment refers to the emotional and cognitive bond between a person and a place. In place attachment, the place is more than just the physical location; there is a deeper meaning behind the place (Halpenny 2010; Kaltenborn 1998; Ramkissoon et al. 2012; Ramkissoon et al. 2013; Scannell and Gifford 2010; Vaske and Kobrin 2001; Vorkin and Riese 2001; Williams and Roggenbuck 1989; Williams and Stewart 1998). Place attachment taps into the environmental meanings of a place, which are the emotional, symbolic, and spiritual aspects of a place (Kaltenborn 1998). In place attachment, the meanings and symbols associated with the place are important, as they tie back to the deeper meaning that is associated with a place (Vaske and Kobrin 2001; Williams and Roggenbuck 1989). The deeper a meaning a place holds for someone, the more likely they are to form an attachment with it. Place attachment can form with either natural or civic environments (Scannell and Gifford 2010). It is entirely dependent on the meaningful experiences someone has with a place.

Place attachment treats people as part of the ecosystem and views them as being interconnected with the world around them (Kaltenborn 1998; Williams and Stewart 1998). Ecosystems are socially constructed places and must be understood within the context of the human-environment relationship (Kaltenborn 1998). Meanings for a place are constructed by people, and those meanings must be understood through this lens of complex people-place bonding (Kaltenborn 1998).

Place attachment forms out of positive experiences with a place and will always reflect a personal experience (Cazalis and Prévot 2019; Kaltenborn 1998; Scannell and Gifford 2010; Williams and Stewart 1998). These positive experiences are reflected in the love and pride felt for a place, as well as proximity-maintaining behaviors (Scannell and Gifford 2010). Place attachment can develop through individual means and a physical connection, but it can also develop through group and cultural means, and form through cultural and social connections. This is the difference between an individual visiting somewhere that they enjoy, as opposed to someone's family having used a piece of land for generations (Vorkin and Riese 2001). Both connections, although different, can still form place attachment. Place attachment is formed when a place is imbued with meanings that create an emotional tie to the place (Vaske and Kobrin 2001).

Place attachment is a multifaceted concept and is made up of several subdimensions. These subdimensions are place dependence, place identity, place affect, and place social bonding (Halpenny 2010; Ramkissoon et al. 2012; Ramkissoon et al. 2013; Vaske and Kobrin 2001; Williams and Vaske 2003). Place affect refers to the building of sentiments about a place, and place social bonding is the facilitation of interpersonal relationships through people-place interactions (Ramkissoon et al. 2013). While both are subdimensions of place attachment, the two other subdimensions of place dependence and place identity are more important. Place identity is the emotional attachment a person has with a place, and place dependence is the functional attachment a person has with a place (Halpenny 2010; Ramkissoon et al. 2012; Ramkissoon et al. 2013; Vaske and Kobrin 2001; Williams and Vaske 2003). These two subcategories

make up the majority of place attachment and have the greatest impact on the effect of place attachment.

Place Dependence

Place dependence is one of the two major subdimensions of place attachment. Place dependence is the functional bond a person has with a place; essentially, they depend on the place to provide them with something (Ramkissoon et al. 2012; Ramkissoon et al. 2013; Williams and Vaske 2003). What someone depends on the place for can be incredibly varied. It could be that they harvest timber, that they frequent a hiking trail, or there is a rock-climbing wall that they love in that specific place (Ramkissoon et al. 2012; Ramkissoon et al. 2013; Williams and Vaske 2003). What they depend on the area for does not matter, as long as the area is providing something for them.

Place dependence is also associated with the uniqueness of a setting, and the knowledge that a specific place provides something no other place can provide (Ramkissoon et al. 2013). Here, proximity also plays a role. If someone lives very close to a site where they can go kayaking, they are more likely to frequently visit that site than one that is further away (Williams and Vaske 2003). This repeated visitation will increase place dependence, as the person becomes more dependent on that location to go kayaking. Place dependence also was found to affect how people feel about different changes to a place. Higher levels of place dependence were correlated with higher levels of support for development in an area, such as more trails or amenities (Williams and Vaske 2003).

Place dependence is typically measured by asking questions that examine how a person feels about a certain place with regards to an activity they can do there. Likert

scale questions such as, “ “X” is the best place for what I like to do” and “Doing what I do at “X” is more important to me than doing it any other place” are used to gauge levels of place dependence (Williams and Vaske 2003, 835). Measuring place dependence is an important aspect of measuring overall place attachment, as it is an important part of forming place attachment.

Of the subdimensions of place attachment, place dependence tends to be the first to form. Place dependence proceeds place identity, and in fact, helps to build place identity in most cases (Vaske and Kobrin 2001). Place identity can form without place dependence, but this occurs when people do not frequently visit an area, but still have an attachment to it (Vaske and Kobrin 2001). Overall, place identity mediates the effects of place dependence.

Place Identity

Place identity is the other major subdimension of place attachment. Place identity is the emotional attachment to a place (Halpenny 2010; Ramkissoon et al. 2012; Ramkissoon et al. 2013; Vaske and Kobrin 2001; Williams and Vaske 2003). The symbolic importance of a place and a person’s psychological investment in a place are reflected in place identity. Symbolic meanings for places can range from personal childhood experiences to national symbols, such as National Parks (Williams and Vaske 2003). This psychological investment in a place, and the symbolic meaning a place holds for someone, can be so important that the place becomes part of their identity (Williams and Vaske 2003).

Repeat visits tend to influence the growth of place identity, as place identity tends to build over time (Williams and Vaske 2003). Often, these repeat visits also foster place dependence.

Much like place dependence, place identity is measured using a five-point Likert scale (Ramkissoon et al. 2013; Williams and Vaske 2003). Questions that examine a person's connection with a place are used to measure their place identity. For example, two questions that are commonly used are "I feel "X" is a part of me" and " "X" is very special to me" (Williams and Vaske 2003, 835). How people feel about a specific place reflects their place identity towards that place, and place identity was found to affect how people feel about proposed changes to an area (Williams and Vaske 2003). Place identity was correlated with higher levels of support for paying a fee to visit an area. However, it was also correlated with lower levels of support for proposed modifications, such as the development of trails or amenities (Williams and Vaske 2003).

Place identity is one of the two major subdimensions of place attachment because its presence is predictive of overall place attachment. If both place identity and place dependence are found to be present, then place attachment to that area exists (Ramkissoon et al. 2012; Ramkissoon et al. 2013; Williams and Vaske 2003). The two subdimensions of place attachment are found to be at least somewhat correlated, and if one is found to be present, the other is typically found as well (Williams and Vaske 2003). However, place identity has the highest predictive power of whether or not place attachment is present (Ramkissoon et al. 2013). Overall, the presence of place identity is a necessary component of place attachment.

Place Attachment and Environmental Behavior

Place attachment, overall, is associated with higher levels of pro-environmental concern and behavior (Cazalis and Prévot 2019; Ramkissoon et al. 2012; Ramkissoon et al. 2013; Vorkin and Riese 2001; Walker and Chapman 2003). People who have a connection to an

area are going to be more sensitive to change in that area. They will also want to prevent what they perceive as a negative change to that area (Halpenny 2010; Ramkissoon et al. 2012; Vorkin and Riese 2001). This perceived negative change is often in the form of environmental degradation. Because of this, place attachment can be used to predict attitudes towards environmental change (Halpenny 2010; Ramkissoon et al. 2012; Vorkin and Riese 2001).

The desire to protect one area from environmental degradation has larger consequences related to environmental concern and pro-environmental behavior. Visitors' pro-environmental intentions, while they are visiting somewhere, may 'spill over' into their broader actions (Halpenny 2010; Ramkissoon et al. 2012). Essentially, "individuals' environmentally responsible behaviour [*sic*] in a natural resource setting led to more general pro-environmental behaviours [*sic*] in their everyday life such as sensitizing friends on environmental and conservation issues" (Ramkissoon et al. 2012, 21). This spill-over effect has its limits, however. Environmentally responsible behavior within a park does not necessarily translate across different types of pro-environmental behavior (Halpenny 2010; Ramkissoon et al. 2012). For example, place attachment might affect how someone feels about conservation initiatives, but not change how they feel about carbon taxes (Halpenny 2010; Ramkissoon et al. 2012).

The effect of place attachment was also found to differ based on the level of pro-environmental behavior. In Ramkissoon et al.'s study of place attachment and satisfaction, it was found that place attachment and satisfaction positively influence low effort pro-environmental behaviors, but negatively influenced high effort pro-environmental behaviors (2013). Low effort pro-environmental behaviors are acts such as

signing petitions to support a National Park or reducing the usage of an area that is recovering from environmental damage. High effort pro-environmental behaviors were more intensive and involved participation in public meetings or volunteering to help on projects (Ramkissoo et al. 2013).

When visitors are attached to an area but are satisfied with the current conditions of that area, they may not see a need to promote the protection of that area. Because visitors view the current environment as optimal, they also see no need to improve the quality of the environment (Ramkissoo et al. 2013). However, place attachment still affects the visitors desire to maintain and protect the current conditions. The visitors will view that a low effort can be put forth to maintain the optimal conditions, but that no large amount of effort needs to be exerted (Ramkissoo et al. 201). Low effort behaviors will suffice for protecting the area.

Overall, place attachment has been found to have a positive effect on environmental concerns and pro-environmental behaviors (Cazalis and Prévot 2019; Ramkissoo et al. 2012; Ramkissoo et al. 2013; Vorkin and Reise 2001; Walker and Chapman 2003). A connection to an area, whether that connection is functional or emotional, builds an attachment that makes people want to protect that area. This increase in environmental concern caused by place attachment, as well as pro-environmental behavior, could influence how people vote on environmental issues.

Environmental Concern and Voting Behavior

There is a complex network of factors that shape environmental concern and voting behavior, based on belief structures and personal norms (e.g., Gifford and Nilson 2014; Gill, Crosby, and Taylor 1986; Johnson, Brace, and Arceneaux 2005). Mainly, three large

categories shape environmental concern, based on the value basis theory (Shultz 2001; Shultz et al. 2005; van Riper and Kyle 2014). This theory states that environmental attitudes and behaviors are derived from awareness of the harmful consequences to valued objects, which fall into the categories of self, other people, or all living things. Out of this theory, the three categories of egoistic, social-altruistic, and biospheric concern are derived (Shultz 2001; Shultz et al. 2001; van Riper and Kyle 2014). However, the context that someone lives in, such as an urban versus a rural setting, also affects their environmental concern and their voting behavior (Baldassare and Katz 1992; Blake 2001; Coan and Holman 2008; Gifford and Nilson 2014; Johnson, Brace, and Arceneaux 2005; Kollmus and Agyeman 2002; Larson et al. 2015; Salka 2003). The environmental behavior that a voter engages in is influenced by this complex network of factors (Blake 2001; Larson et al. 2015).

Egoistic Concern

One of the three ways in which environmental concerns, and therefore voting behavior, are shaped is through egoistic concern. Egoistic concern is a concern for the environment on a personal level, and forms based on concern for the self. This concern for self deals with how an individual views they will be personally affected by an environmental factor, or how they could personally benefit from environmental protection (Baldassare and Katz 1992; Johnson, Brace, and Arceneaux 2005; Lyons 1999; Shultz 2001; Shultz et al. 2005; van Riper and Kyle 2014). A perceived personal threat is the main factor that drives egoistic concern (Lyons 1999; Shultz 2001; Shultz et al. 2005).

Egoistic concerns were measured using Schwarz's model of human values. Schwarz's model shows that human values can be reduced into four main categories, two

of which, self-enhancement and self-transcendence, directly correlate to environmental attitudes (Shultz 2001; Shultz et al. 2005). Egoistic concerns were also highly correlated with ideas of self-enhancement. This is the idea that a person's values, goals, and ideals are linked with tangible rewards, and is a model of self-interest (Lyons 1999; Johnson, Brace, and Arceneux 2005; Shultz 2001; van Riper and Kyle 2014). Egoistic concerns were measured by using the questions on Schwarz's survey that reflected self-enhancement ideals (Shultz 2001; Shultz et al. 2005).

While self-interest is a powerful motive, self-interest does have a downside concerning environmental policy. High egotistical pressures have sometimes been linked to lower levels of environmental concern, as they negatively influenced moral action with regards to environmental concern. This pressure somewhat reduced the effect of moral obligations to improve the environment (van Riper and Kyle 2014). However, this is not always found to be true, and egoistic concerns are still a powerful tool for shaping environmental concerns and behavior.

An example of egoistic concern is Baldassare and Katz's survey of Orange County, California (1999). They found that residents who were the most concerned that environmental problems presented a significant threat to their well-being were more likely to recycle, conserve water, buy environmentally safe products, and limit their driving (Baldassare and Katz 1999). While this model of perceived personal threat was not explicitly identified by Baldassare and Katz as being a measure of egoistic concern, this was in fact what they were measuring (1999). In this study, egoistic concern was found to be a more accurate prediction of environmental behavior than the demographics

or political parties that were also measured (Baldassare and Katz 1999). This shows that egoistic concern plays an incredibly important role in shaping environmental behaviors.

Social-Altruistic Concern

Social-altruistic concern is an individual's investment in the well-being of other people. This concern relies on a perceived connection between an individual and other people, and this concern for the well-being of others and humanity as a whole manifests as environmental concern (Gifford and Nilsson 2014; Kollmus and Agyeman 2002; Shultz 2001; Shultz et al. 2005; van Riper and Kyle 2014). Here, the focus is on how the environment can negatively affect not just the individual, but also other people, and society at large. Social-altruistic concern falls into the value-belief-norm theory of environmentalism, which posits that "overt responses to feelings of moral obligations can be expected when positively influenced by values beyond self-interest and belief structures" (van Riper and Kyle 2014, 289). Essentially, when people care about people and objects outside themselves, they are more likely to engage in environmental behavior.

Social-altruistic concern relies on the basic principle that people care about the environment because they care about others, and the environment affects other people (Shultz et al. 2005). This falls into the norm-activation model of altruism, where altruistic behavior is more likely to occur when a person recognizes the possibility of harm to a valued other and ascribes responsibility for this (Shultz et al. 2005). A sense of personal responsibility is associated with social-altruistic concern.

Unlike egoistic concern, social-altruistic concern is a self-transcendent concern. Self-transcendence is the degree to which a person values goals and ideas that are not

directly related to the self, and is associated with low levels of egotistical pressures (Shultz 2001; Shultz et al. 2005). Similar to egoistic concern, social-altruistic concern was measured using Schwarz's model of human value. Instead of using questions that were coded for self-enhancement, some of the questions that reflected self-transcendence were used for this measurement (Schultz 2001; Shultz et al. 2005). Egoistic concerns for the environment, which reflect the values of self-enhancement, have a mitigating effect of high egotistical pressure on environmental concern and behavior that does not occur with social-altruistic concern. Social-altruistic concern is positively correlated with an increase in self-reported pro-environmental behaviors, including voting behavior (Shultz 2001; Shultz et al. 2005).

Biospheric Concern

Biospheric concern is the third major influence on environmental concern and behavior. The biospheric concern is a concern for plants, animals, and the natural world in general (Shultz 2001; Shultz et al. 2005; van Riper and Kyle 2014). In biospheric concern, nature and natural objects are valued because of "the degree to which they are included within an individual's cognitive representation of the self" (Shultz 2001, 336). Essentially, people value nature, plants, and animals because they recognize themselves in nature. This recognition is developed based on how much of a connection someone sees between themselves and nature (Shultz 2001; Shultz et al. 2005). This also reflects the environmental model of inclusion, where an individual views the self and nature as being interconnected, and that aspects of nature have inherent value (Shultz et al. 2005).

Along with social-altruistic concern, biospheric concern was also correlated with self-transcendence. This self-transcendence was again linked with higher instances of

pro-environmental concern (Shultz 2001; Shultz et al. 2005). Biospheric concern was measured in a similar way to social-altruistic concern, and was also measured using Schwarz's model of human value. Some of the questions that reflected self-transcendence were used to measure social-altruistic concern, while the other questions in that category were used to measure biospheric concern (Shultz 2001; Shultz et al. 2005) This pro-environmental concern translated into pro-environmental behaviors, which included voting behavior (Shultz 2001; Shultz et al. 2005).

Because of the nature of biospheric concern, this type of concern is most likely to be influenced or shaped by place attachment, as place attachment deals with similar views of interconnectedness with aspects of nature. In fact, during Gifford and Nilsson's study where they measured environmental concern using the value-belief-norm theory mentioned in the above section, the addition of place attachment increased the accuracy of the model (2014). Place attachment can heighten biospheric concern, which in turn heightens broad environmental concern and pro-environmental behavior. Biospheric concern is an important factor for predicting pro-environmental behaviors, including voting behavior.

Demographics

While the three broad categories of egoistic, social-altruistic, and biospheric concern were found to be the most influential on pro-environmental behaviors, there are still other factors that influence these behaviors. Demographics, mainly age, gender, and socio-economic status, were found to have some influence on pro-environmental behaviors (Baldassare and Katz 1992; Blake 2001; Coan and Holman 2008; Gifford and Nilsson 2014; Johnson, Brace, and Arceneaux 2005; Kollmus and Agyeman 2002; Larson et al.

2015; Salka 2003). Partisanship was also found to be weakly correlated with environmental concern and pro-environmental behaviors, and in some cases was not found to be correlated at all (Coan and Holman 2008; Salka 2003).

Some demographic factors were found to correlate with pro-environmental behaviors. Age was found to be correlated, with younger people having higher levels of environmental concern, and engaging in pro-environmental behaviors at a higher rate (Baldassare and Katz 1992; Gifford and Nilsson 2014; Kollmus and Agyeman 2002; Salka 2003). Gender was also found to have an impact, and women were more likely to exhibit higher levels of environmental concern and engage in pro-environmental behavior than men were (Baldassare and Katz 1992; Gifford and Nilsson 2014; Kollmus and Agyeman 2002; Salka 2003). Lower socioeconomic status was also correlated with lower levels of engagement in pro-environmental behaviors, although it did not have a significant correlation with levels of concern. This is likely because many pro-environmental behaviors require either disposable income or free time, so people of lower socioeconomic status may not be able to afford participation in these behaviors (Gifford and Nilsson 2014; Kollmus and Agyeman 2002).

Partisanship was sometimes found to be correlated with environmental concern and voting behavior, with Democrats showing higher levels of environmental concern than Republicans. Democrats were also found to be more likely to engage in pro-environmental behaviors than Republicans (Coan and Holman 2008; Salka 2003). However, partisanship was not found to be correlated in all studies, and in the studies it was found in, it was only weakly correlated (Coan and Holman 2008; Salka 2003). While

all of these factors have an impact on pro-environmental behaviors, they were all less closely correlated than levels of egoistic, social-altruistic, and biospheric concern.

Context

Context in the geographic sense also plays a role in shaping levels of engagement in pro-environmental behaviors. Where a person lives can shape their environmental concern and their pro-environmental behavior. Environmental attitudes are tied to environmental conditions because the environmental conditions people live and experience will shape what they view as an important issue (Blake 2001; Gifford and Nilsson 2014; Johnson, Brace, and Arceneaux 2005; Larson et al. 2015; Salka 2003). The conditions someone experiences shape their perception of what issues are of great importance, as well as what actions and behaviors would be best to solve these issues.

There tends to be a divide in urban and rural populations' environmental concerns and pro-environmental behaviors (Blake 2001; Larson et al. 2015; Salka 2003). For example, if someone lives in a city where everyone drives a car, and air pollution is very high, that is the environmental issue they will probably view as being the most pressing. If they instead live in a rural community where extractive industries such as logging and mining are common and they experience negative effects from them, then they will view this as the most pressing issue (Blake 2001; Larson et al. 2015; Salka 2003). However, employment in said extractive industries was linked with lower levels of environmental concern (Blake 2001). Generally speaking, rural areas placed more value on land stewardship than urban populations did, likely due partially to the opportunity to access well-conserved lands (Larson et al. 2015).

Types of Behavior

Concern for the environment causes people to take environmental action, which encompasses a wide range of behaviors. Participation in different pro-environmental behaviors is shaped by the type of concern they have, as well as the context that they live in (Blake 2001; Larson et al. 2015). What people view as an effective behavior is highly influenced by the context in which they live, as discussed in the above section.

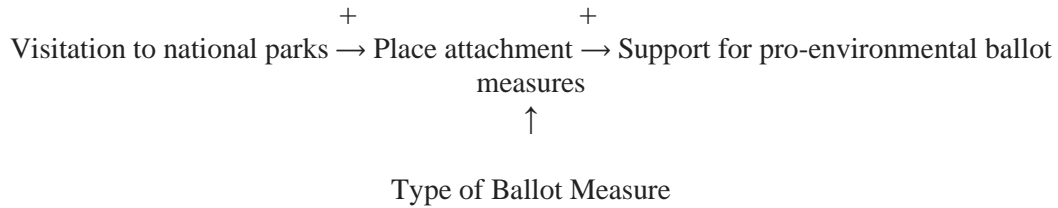
Participation in different behaviors is also influenced by the perceived costs and benefits of the behavior (Larson et al. 2015). For example, it is easy for someone to turn off the lights every time they leave a room, but much harder for them to attend a weekly meeting (Larson et al. 2015). The most common type of pro-environmental behavior that people engage in is conservation lifestyle behavior, which are household actions that they can take in the private sphere. This behavior likely occurs at high frequency because there is so much opportunity for people to make small, environmentally conscious choices in their homes without having to change too much of their behavior (Larson et al. 2015). The type of pro-environmental behavior that occurs with the least amount of frequency is environmental citizenship, which is civic engagement in policy. This is likely because there is the least amount of opportunity for this type of behavior, as elections only happen once a year, so people can only act as environmental citizens once a year (Larson et al. 2015).

Environmental concern and voting behavior are shaped by several factors. Egoistic, social-altruistic, and biospheric concerns are highly influential for influencing pro-environmental behavior (Shultz 2001; Shultz et al. 2005; van Riper and Kyle 2014). Context, both geographically and demographically, also plays a role (Baldassare and

Katz 1992; Blake 2001; Coan and Holman 2008; Gifford and Nilsson 2014; Johnson, Brace, and Arceneaux 2005; Kollmus and Agyeman 2002; Larson et al. 2015; Salka 2003). The type of pro-environmental behavior that someone engages in is highly variable and is influenced by all these factors, as well as perceived costs and benefits (Blake 2001; Larson et al. 2015). Understanding how these factors influence pro-environmental behavior is crucial to understanding how environmental voting is shaped.

Theoretical Argument

As detailed in the literature reviewed above, there is evidence to suggest that visitation to National Parks would lead to an increase in place attachment, and this increased place attachment would, in turn, lead to an increase in pro-environmental voting behavior, specifically on environmental ballot measures. Visitation to National Parks has been shown to cause place attachment in visitors (Halpenny 2010; Ramkissoon et al. 2012; Vaske and Kobrin 2001; Walker and Chapman 2003). Place attachment has been seen to influence environmental behavior, so it follows that place attachment formed in the parks would have this same influence over environmental behavior (Cazalis and Prévot 2019; Ramkissoon et al. 2012; Shultz 2001; Vorkin and Reise 2001). The influence that place attachment has extends to different types of environmental behavior, which encompasses voting behavior on issues that concern the environment (Halpenny 2010; Ramkissoon et al. 2012). This means that it is likely that voting behavior on pro-environmental ballot measures would be affected by place attachment that forms from visitation to national parks, as seen in the arrow diagram below.



It is likely that, as place attachment has been shown to influence environmental behavior through an increase in biospheric concern, the effect place attachment would have on voting behavior would be limited to certain ballot issues (Gifford and Nilsson 2014; Shultz 2001). Most likely, the effect that place attachment has on pro-environmental voting behavior would be limited to issues surrounding conservation, and other issues that directly preserve and protect nature. It is less likely that this effect would be seen with issues such as carbon and green taxes. This would be no less true for place attachment that is formed in the National Park Service, which leads to the two research hypotheses for this study. The research hypotheses are as follows:

- 1) Visitation to National Parks will lead to an increase in place attachment for the parks, which in turn will lead to an increased likelihood to vote ‘yes’ on pro-environmental ballot issues.
- 2) The effect of visitation and place attachment on pro-environmental ballot measures will most likely be seen at higher rates regarding issues of conservation than ballot measures concerned with other facets of pro-environmental issues.

Overall, the place attachment that is formed when people visit National Parks is likely to affect how they perceive and act on environmental issues, including influencing how they would vote on pro-environmental ballot initiatives.

Chapter 3: Methods

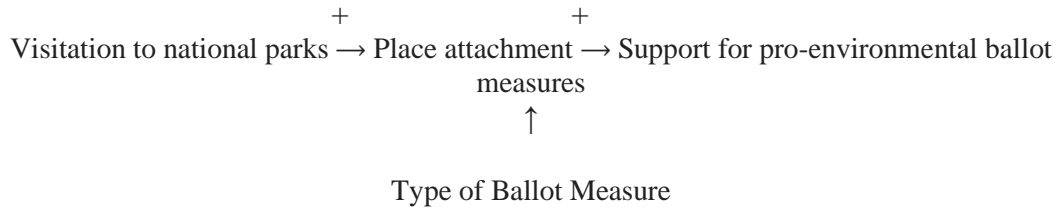
Introduction

This study, which aims to measure the relationship between park visitation, place attachment, and voting behavior on pro-environmental ballot initiatives, is best investigated through the medium of a survey. Surveys allow a researcher to collect data from a large population, without actually sampling the entire population. Surveys are also cost-effective and offer the researcher flexibility in operationalization (Babbie 2020). The survey for this study was run through Amazon's Mechanical Turk platform. This platform is very cost-effective, both in terms of money and time. Amazon's Mechanical Turk also offers a more diverse selection of survey respondents than a different type of convenience sample would, so it was the best choice for this project (Berinsky, Huber, and Lenz 2012). This survey was a questionnaire-style survey, and respondents answered questions in the four categories of demographics, national park visitation, place attachment, and ballot initiative opinion. The responses were analyzed using a mediation analysis.

Hypothesis and Theory

This study investigates the relationship between National Park visitation and pro-environmental voting behavior. The theory motivating this study is that increased visitation to National Parks will lead to an increase in place attachment, and this increased place attachment would lead to an increased tendency to vote yes on pro-environmental ballot measures. When people visit National Parks, they form a connection with the park that they have visited. As they are connected to the park, they are more likely to want to protect and preserve the park, and this desire to protect and preserve one

natural space will likely ‘spill over’ into other natural spaces, and the broader environment as well. This theory is laid out in the arrow diagram below.



Based on this theory, the two research hypotheses are as follows:

- 1) Visitation to National Parks will lead to an increase in place attachment for the parks, which in turn will lead to an increased likelihood to vote ‘yes’ on pro-environmental ballot issues.
- 2) The effect of visitation and place attachment on pro-environmental ballot measures will have a greater impact regarding issues of conservation than ballot measures concerned with other facets of pro-environmental issues.

The attachment that people form with parks is likely to alter how they view environmental protections and cause them to increase their participation in pro-environmental behaviors, including voting behavior. The proposed method for investigating this theory and these hypotheses is a survey questionnaire, run through Amazon’s Mechanical Turk.

Surveys and Amazon’s Mechanical Turk

Surveys

Surveys are a method of collecting data that utilizes a standardized questionnaire and a sample of respondents that is representative of the population being examined. Generally, surveys are the best methodological approach for collecting data from a large population (Babbie 2020). When a population is too large to observe directly, a survey provides a

way to use a group of people whose characteristics reflect that of the general population to learn information about the general population. Surveys provide a way to measure the attitudes and orientations of a large population (Babbie 2020).

Surveys have many advantages as a methodological approach. They are very cost-effective as a way of reaching a broad number of people (Babbie 2020). They also allow for large amounts of data to be collected (Babbie 2020). Surveys also offer researchers increased flexibility, as opposed to an experiment. In an experiment, once operational definitions are decided upon and enacted at the start of the research, they cannot be changed. However, in a survey, researchers have the chance to develop operational definitions through observation (Babbie 2020). Researchers do not have to commit themselves to a particular operational definition, as they may have to in an experiment. Because of the number of questions surveys can ask, operational definitions may be formed from observations, instead of hypotheses (Babbie 2020). The standardization of questionnaire surveys also increases reliability, as the standardization eliminates unreliability in observations from the researchers, as well as the subject's own unreliability (Babbie 2020).

However, there are some downfalls to surveys. Surveys tend to lead to the assessment of the least common denominator, seldom deal with the context of social life, and due to standardization, cannot be changed throughout the process (Babbie 2020). Due to the nature of the standardization of surveys, the questions asked of respondents may be directed towards a minority of respondents and can miss out on what is appropriate for the majority of survey respondents (Babbie 2020). Surveys tend to leave out the context of social life that another kind of researcher, such as a participant-observer, would be able

to discern (Babbie 2020). Surveys are also inflexible in that they require an initial study design that remains unchanged throughout. Unlike field researchers, they cannot adapt to observed phenomena (Babbie 2020). Survey responses are also limited to what the researchers had in mind, so tend to have weaker external validity (Babbie 2020). Overall, the positive aspects of using the survey method outweigh the negative aspects.

Amazon's Mechanical Turk

Amazon's Mechanical Turk, or MTurk, is a platform that allows people to complete online tasks for money and is used by researchers to conduct surveys and experiments (Berinsky, Huber, and Lenz 2012). The platform of MTurk offers a low-cost way to conduct research with a potentially diverse subject pool while maintaining high internal validity (Berinsky, Huber, and Lenz 2012). The monetary cost of MTurk is extremely inexpensive compared with other methods of recruiting subjects, making it cost-effective for researchers (Berinsky, Huber, and Lenz 2012).

The time cost of finding respondents is also very low, and the demographic characteristics of MTurk lead to a more diverse sample than student samples or other samples of convenience. However, MTurk responders do tend to skew younger and more ideologically liberal than the general public, which can lower the external validity of surveys (Berinsky, Huber, and Lenz 2012). Habitual responders can also pose a problem to external validity. Conversely, based on the format of MTurk, experiments and surveys run through MTurk tend to have high internal validity (Berinsky, Huber, and Lenz 2012). The subject pool that MTurk provides for researchers is no worse than the other convenience samples used by political science researchers and offers the benefits of being low in monetary and time costs.

Design Choice

A survey run through MTurk is the best design choice for this study. Surveys are best used for descriptive, explanatory, or exploratory purposes (Babbie 2020). As this research falls into the explanatory category, a survey makes sense for this study. The questionnaire form of the survey also fits with the purpose of this project, which is to measure National Park visitation, place attachment, and voting behavior, and would be best done through a questionnaire to gauge peoples' feelings. Surveys also offer flexibility and will allow for a large amount of data to be collected. Additionally, surveys are also the best method available for collecting data for a population too large to observe directly, such as the population of an entire county (Babbie 2020). Careful setup of the sample groups can yield a group of respondents who reflect the characteristics of the broader population, without having to sample the entire broader group. As the desired sample of this project is made up of United States citizens who have visited National Parks, it is too large to directly observe, so the choice of a survey makes sense (Babbie 2020).

MTurk is the survey recruitment method that makes the most sense for this project. MTurk offers advantages in a low cost, both of time and money (Berinsky, Huber, and Lenz 2012). Given the funds and timeframe for this project, low time and money costs are desirable. MTurk also has significant advantages in terms of a diverse subject pool. If this survey were not to be run through MTurk, the other feasible option would be to do a convenience sample, which would consist of college students from The College of Wooster. A sample of liberal arts students from a college in Ohio is not representative of the population makeup of the United States. As this survey is trying to measure the attitudes and behaviors of United States voters, the sample population should

reflect that. MTurk offers a more diverse subject pool, which would more closely match the desired sample group.

Methodology

This study employed a questionnaire survey, run through MTurk. The sample for this survey was MTurk respondents, and the sample size was 200 respondents. Based on the demographics of MTurk, this survey had a sample that is broadly representative of the population of the United States of America.

Survey respondents answered questions in four different categories, which were demographics, visitation to national parks, place attachment, and ballot initiatives. Demographics that were measured were age, gender, political party, and race. While these demographics are not the subject of this study, based upon the literature, there might be variations in responses influenced by these factors, so they are worth measuring and taking into consideration while analyzing the survey data (Baldassare and Katz 1992; Gifford and Nilsson 2014; Kollmus and Agyeman 2002; Salka 2003). The questions about parks visitation measured the independent variable; these questions measured how many different National Parks were visited, and how many total visits to National Parks the respondent has made. This number of parks was compared with their place attachment score. For a complete copy of the questionnaire used, see Appendix One.

Place attachment was measured in the survey using established questions from the literature. These questions measured the dimensions of place identity and place dependence on a five-point Likert scale, in keeping with the literature. The place attachment questions were used to measure the intervening variable. Each dimension had two separate questions associated with it, and respondents chose from options that ranged

from ‘strongly disagree’ to ‘strongly agree.’ The closer to ‘strongly agree’ their answers were, the higher their place attachment score. Respondents who indicated that they had not visited National Parks still answered the questions about place attachment. As national parks are generally seen as symbols of national pride, it is possible for respondents to have an emotional attachment to National Parks which could have impacted their responses on ballot initiatives.

The ballot initiative section, measuring the dependent variable, had two questions. Respondents were asked how likely they would be to respond positively to one of the two different ballot initiatives, again on a five-point scale from ‘strongly disagree’ to ‘strongly agree.’ One ballot initiative was about land conservation; the other was a non-conservation environmental issue. The two different ballot initiatives were used to measure the conditional variable and gauge whether ballot type impacts the overall relationship. The closer to ‘strongly agree’ the responses were, the higher the levels of support for pro-environmental ballot issues. The responses in this section were also compared against each other, to measure if there are different levels of support for issues of conservation or non-conservation.

The data from the respondents was analyzed using a mediation analysis to see if there was a relationship between the three categories. Because of the presence of the intervening variable of place attachment, a mediation analysis was necessary to measure the relationship between the three variables. In this model, visitation to National Parks is correlated with levels of support for ballot initiatives not because it directly affects levels of support, but because it alters levels of place attachment, and the place attachment then causes a change in the dependent variable of levels of support for ballot initiatives

(Wuensch 2021). The causal method of performing a mediation analysis, as outlined by David Howell, was used for this project. This method of mediation analysis is most commonly used by psychologists (Wuensch 2021). To prove the indirect effect that visitation to National Parks has on levels of support for ballot initiatives, a multiple-step investigation must be conducted, showing that the correlation of visitation to National Parks and levels of support for ballot initiatives is dependent on the presence of the intervening variable of place attachment. See Figure 3.1 for a visual demonstration of this model.

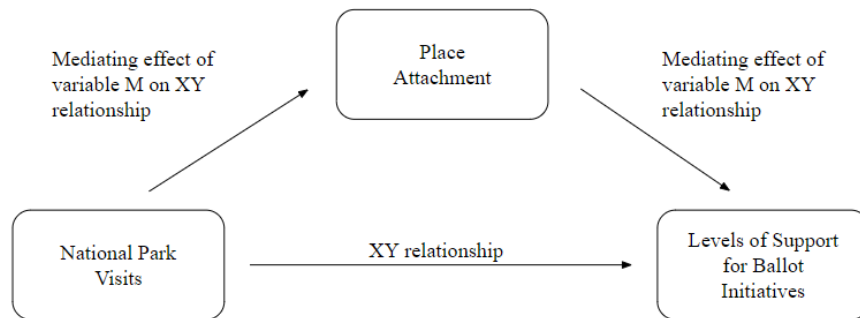


Figure 3.2 – Diagram illustrating the relationship between the variables in a mediation analysis.

To test this relationship, first, a correlation analysis measuring the relationship between the number of National Parks visited and place attachment was performed. Next, a second correlation analysis that measured the relationship between place attachment and one of the two ballot initiatives was run; this step was then repeated for the second ballot initiative. After this, a multiple regression analysis was run, predicting the effect of both the number of National Parks visited and place attachment on the first ballot initiative. This was repeated for the second ballot initiative. This whole process was then

repeated, using the independent variable of the number of total visits to National Parks instead of the number of National Parks visited.

To prove the first hypothesis of visitation to National Parks increasing place attachment, which in turn would increase the likelihood to support pro-environmental ballot measures, there needs to be a statistically significant correlation between high visitation, high place attachment, and high levels of support. There also needs to be a statistically significant correlation between low visitation, low place attachment, and low levels of support. To prove the second hypothesis, that the relationship between park visitation, place attachment, and support for ballot initiatives was higher for issues of conservation, there needs to be a statistically significant difference in how respondents with varying levels of place attachment responded to the two different ballot measures. The conservation issue needs to show higher levels of support to prove this hypothesis.

Conclusion

This project, which seeks to investigate the relationship between visitation to national parks, place attachment, and voting behavior on pro-environmental ballot initiatives, was investigated using a survey, run through MTurk. Because this project aimed to gather data from a population representative of the United States of America, a survey made the most sense, as this is the most efficient way to gather data from a large population (Babbie 2020). The platform MTurk was used, and this platform was the best choice given the time and budget constraints of this project, as well as the other respondent pools available through different convenience samples (Berinsky, Huber, and Lenz 2012). This was a questionnaire-style survey, and respondents answered questions relating to

demographics, visitation to national parks, place attachment, and ballot initiatives. A mediation analysis was used to analyze the data collected.

Chapter 4: Results and Analysis

A total of 200 respondents participated in this study. Of those 200, 13 responses were excluded due to incomplete or incoherent responses, for a total of 187 respondents.

65.9% of respondents identified as male and 33.5% identified as female. The majority of respondents identified as White, at 89.3% of respondents. 4.3% of respondents identified as Black or African American, and 1.6% of respondents identified as both White and Hispanic/Latinx. The remaining 4.8% of respondents were divided amongst the other responses, with less than 1.5% of respondents choosing each option. When asked to identify their political identity, 68% of respondents identified as either lean Democrat, Democrat, or strong Democrat. 12.2% identified as Moderates, and 19.7% identified as either lean Republican, Republican, or strong Republican. This demographic information is outlined below in Figure 4.1.

Table Showing the Gender Breakdown of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	122	65.2	65.9	65.9
	Female	62	33.2	33.5	99.5
	Prefer not to say	1	0.5	0.5	100
	Total	185	98.9	100	
Missing	System	2	1.1		
Total		187	100		

Table Showing the Racial Makeup of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	White	167	89.3	89.3	89.3
	White and Asian	1	0.5	0.5	89.8
	White and Hispanic/Latinx	3	1.6	1.6	91.4
	Black or African American	8	4.3	4.3	95.7
	American Indian or Alaska Native	1	0.5	0.5	96.2
	Asian	2	1.1	1.1	97.3
	Native Hawaiian or Pacific Islander	2	1.1	1.1	98.4
	Hispanic/Latinx	1	0.5	0.5	98.9
	Other	2	1.1	1.1	100
	Total				

Table Showing the Party ID Breakdown Among Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strong Democrat	55	29.4	30.4	30.4
	Democrat	55	29.4	30.4	60.8
	Lean Democrat	13	7	7.2	68
	Moderate	22	11.8	12.2	80.1
	Lean Republican	4	2.1	2.2	82.3
	Republican	22	11.8	12.2	94.5
	Strong Republican	10	2.3	5.5	100
Missing	System	6	3.2		
Total		187	100		

Figure 4.1 - Tables Outlining the demographics of respondents

Number of Parks Visited

As expected, there was a significant correlation between the number of National Parks visited and the mean place attachment score, $r = 0.226$, $p = 0.002$ (see Figure Two) The correlation between the number of National Parks visited and support for ballot initiative one was slightly less significant, with $r = 0.19$, and $p = 0.070$, with a sample size of 92 out of the 187 respondents (see Figure 4.2). A multivariate regression analysis was performed examining the partial effect of place attachment, controlling for the number of National Parks visited on ballot initiative one. For this regression, the significance of place attachment was $p < 0.001$ (see Figure 4.2). The Beta for the number of National Parks visited was $\beta = 0.008$. This indicates a statistically significant relationship, in the positive direction, which is in the correct direction for the mediation analysis to succeed.

This means that for each National Park a person visits, their likelihood of supporting ballot initiative one increases by 0.008 points. The more National Parks someone visits, the more their support will increase; someone who has visited 50 National Parks will have their support increased by 0.4 points.

Correlations				Correlations			
		Number_of_parks	Ballot_Initiative_One			Number_of_parks	Place_Attachment
Number_of_parks	Pearson Correlation	1	.190	Number_of_parks	Pearson Correlation	1	.226**
	Sig. (2-tailed)		.070		Sig. (2-tailed)		.002
	N	186	92		N	186	186
Ballot_Initiative_One	Pearson Correlation	.190	1	Place_Attachment	Pearson Correlation	.226**	1
	Sig. (2-tailed)	.070			Sig. (2-tailed)	.002	
	N	92	92		N	186	186

**. Correlation is significant at the 0.01 level (2-tailed).

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.969	.322		6.118	<.001
	Number_of_parks	.008	.013	.053	.574	.568
	Place_Attachment	.510	.089	.528	5.730	<.001

a. Dependent Variable: Ballot_Initiative_One

Figure 4. 2 - Tables showing the results of the mediation analysis for the number of National Parks visited, mean place attachment score, and ballot initiative one.

The results of the correlations and mediation analysis for ballot initiative two were similar. The same correlation for the number of National Parks visited and the mean place attachment score as seen above was used (see Figure 4.3). The correlation between the number of National Parks visited and support for ballot initiative two had an $r = 0.179$, with a $p = 0.085$, with a sample size of 93 of the 187 respondents (see Figure 4.3). The results of the multivariate regression analysis that was performed examining the partial effect of place attachment, controlling for the number of National Parks visited on ballot initiative one showed that the significance of this relationship was $p < 0.001$ (see Figure 4.3). In this relationship, the Beta for the number of National Parks visited was $\beta = 0.022$. Based on the Beta, and the significant p-value, this relationship is in the positive direction, which correlates with my hypothesis. For each National Park a person visits,

their likelihood of supporting ballot initiative two is increased by 0.022 points, which is a small number by itself but shows that frequent visitation has a significant impact.

Someone who visits 50 National Parks will have their level of support increased by 1.1 points, which means their level of support would be a full point higher than someone who made zero visits.

		Number_of_parks	Ballot_Initiative_Two
Number_of_parks	Pearson Correlation	1	.179
	Sig. (2-tailed)		.085
	N	186	93
Ballot_Initiative_Two	Pearson Correlation	.179	1
	Sig. (2-tailed)	.085	
	N	93	93

		Number_of_parks	Place_Attachment
Number_of_parks	Pearson Correlation	1	.226**
	Sig. (2-tailed)		.002
	N	186	186
Place_Attachment	Pearson Correlation	.226**	1
	Sig. (2-tailed)	.002	
	N	186	186

** . Correlation is significant at the 0.01 level (2-tailed).

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.712	.400		4.282	<.001
	Number_of_parks	.022	.022	.094	.998	.321
	Place_Attachment	.510	.105	.458	4.873	<.001

a. Dependent Variable: Ballot_Initiative_Two

Figure 4. 3 - Tables showing the results of the mediation analysis for the number of National Parks visited, mean place attachment score, and ballot initiative two

Total Number of Visits

The analysis of the total number of visits to National Parks yielded slightly less significant results. The correlation between the total number of visits and place attachment had an r-value of 0.103, and a p-value of 0.161 (see Figure 4.4). When the total number of visits was correlated with ballot initiative one, the results produced $r = 0.194$, and $p = 0.064$, with the same sample size of 92 as in the previous analysis (see Figure 4.4). For the mediation analysis performed for the variables of the total number of visits, place attachment, and ballot initiative one, the significance of the mediating effect

of place attachment on the relationship between the number of total visits and levels of support for ballot initiative one was found to be $p < 0.001$ (see Figure 4.4). The Beta for the total number of visits was $\beta = 0.013$. Again, this is in the correct direction to indicate that the mediation analysis was successful; for each additional visit to a National Park, support for ballot initiative one increases by 0.013. Habitual visitation will lead to significant increases; someone who has made 50 visits to National Parks would see an increase of 0.65 points.

		Number_of_Visits	Ballot_Initiative_One
Number_of_Visits	Pearson Correlation	1	.194
	Sig. (2-tailed)		.064
	N	185	92
Ballot_Initiative_One	Pearson Correlation	.194	1
	Sig. (2-tailed)	.064	
	N	92	92

		Number_of_Visits	Place_Attachment
Number_of_Visits	Pearson Correlation	1	.103
	Sig. (2-tailed)		.161
	N	185	185
Place_Attachment	Pearson Correlation	.103	1
	Sig. (2-tailed)	.161	
	N	185	186

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.925	.319		6.030	<.001
	Number_of_Visits	.013	.009	.130	1.464	.147
	Place_Attachment	.508	.086	.526	5.924	<.001

a. Dependent Variable: Ballot_Initiative_One

Figure 4. 4 - Tables showing the results of the mediation analysis for the total number of National Park visits, place attachment, and ballot initiative one.

The same correlation between the total number of visits and place attachment as used in the previous analysis of the relationship between the total number of visits and ballot initiative two was applied for this analysis, with an $r = 0.013$, and a $p = 0.161$ (see Figure 4.5). The correlation between ballot initiative two and the total number of visits was found to be $r = 0.097$, with a p -value of 0.359, with the same sample size of 93 respondents as used in the above analysis of ballot initiative two (see Figure 4.5). The mediation analysis found the significance of the effect of place attachment on the

relationship between the total number of visits and ballot initiative two to be $p < 0.001$. The Beta for the total number of visits was $\beta = 0.009$ (see Figure 4.5). As with the other three analyses, this relationship is in the correct direction to indicate that the mediation analysis was successful. Each visit that a person makes to a National Park will increase their likelihood of supporting ballot initiative two by 0.009. This again shows the power of frequent visitation to National Parks, as someone who made 50 visits to National Parks would have their support increased by 0.45 points.

		Number_of_Visits	Place_Attachment
Number_of_Visits	Pearson Correlation	1	.103
	Sig. (2-tailed)		.161
	N	185	185
Place_Attachment	Pearson Correlation	.103	1
	Sig. (2-tailed)	.161	
	N	185	186

		Number_of_Visits	Ballot_Initiative_Two
Number_of_Visits	Pearson Correlation	1	.097
	Sig. (2-tailed)		.359
	N	185	92
Ballot_Initiative_Two	Pearson Correlation	.097	1
	Sig. (2-tailed)	.359	
	N	92	93

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.748	.407		4.296	<.001
	Number_of_Visits	.009	.014	.056	.594	.554
	Place_Attachment	.514	.105	.460	4.898	<.001

a. Dependent Variable: Ballot_Initiative_Two

Figure 4. 5 - Tables showing the results of the mediation analysis of the total number of National Parks visits, place attachment, and ballot initiative two.

Differences in Ballot Initiatives

While the results of the four mediation analyses indicate that the first hypothesis, that increased visitation to National Park, both in terms of number of parks visited, and number of total visits, leads to increased levels of place attachment, which in turn leads to increased levels of support for pro-environmental ballot initiatives, was successfully proven, the second hypothesis appears to be less successful. The second hypothesis predicted that this effect outlined in the first hypothesis would be stronger for ballot

initiatives that dealt with issues of conservation, as opposed to other facets of pro-environmental issues. However, based upon the results of the mediation analyses, this hypothesis does not appear to be true. When the results from the analysis of how the number of National Parks visited impacted voting behavior on ballot initiatives were compared, the Beta for the two ballot initiatives was identical, with $\beta = 0.51$ in both cases. This means that the mediating effect of place attachment on the relationship between visitation to national parks and voting behavior for pro-environmental policies was identical, and increased support by the same amount. When examining the relationship between the total number of visits to National Parks and voting behavior on ballot initiatives, the Betas of the two ballot initiatives were not statistically different, with $\beta = 0.508$ for ballot initiative one, and $\beta = 0.514$ for ballot initiative two. This indicates that increased visitation to National Parks increases place attachment, which in turn increases support for pro-environmental ballot initiatives at equal levels across various types of environmental issues.

Chapter 5: Conclusion

Importance of Findings

The results of this study show that in all cases, the mediation analysis was successful. This provides support for the first hypothesis, that visitation to National Parks increases place attachment, which in turn increases levels of support for pro-environmental ballot measures. While the first hypothesis was supported, the second hypothesis was not. There was not a significant difference in the amount that support was increased across the two different types of ballot initiatives. This shows that across different types of ballot initiatives, the effect of place attachment formed through visiting National Parks remained constant. However, it should be noted that the two ballot initiatives, although they were picked to represent issues theorized to be impacted by the place attachment relationship, do not represent the full range of environmental issues. It is possible that different ballot initiatives covering other environmental issues could yield variances in levels of support. Despite this, it should be noted that these steady levels of support across environmental issues are encouraging for those seeking stronger environmental protections: across the board, support will increase when people visit and connect with the National Parks.

This study has demonstrated the importance of considering the variable of place attachment. The positive effect of visitation to National Parks works through place attachment to heighten support for pro-environmental ballot issues. People develop place attachment through visitation, and this causes them to increase their support for these ballot initiatives. Given the results of this study, place attachment should be examined and considered more in the study of environmental public opinion going forward. More

broadly speaking, place attachment is important to the understanding of how interactions with natural spaces can change how people view environmental protections. As demonstrated by this study, contact with the natural world, in helping form a relationship with a natural place, can alter how people view environmental policies, as well as change their voting behavior.

Broader Impacts

Visitors to the National Parks

An increasing number of people are visiting National Parks. In 2021 alone, a year where travel was still impacted by the Covid-19 pandemic, nearly 300 million people visited National Park Service Sites (Visitation Numbers (U.S. National Park Service) n.d.).

There are 423 units in the National Park Service, which includes not only National Parks, but also National Scenic Trails, National Recreation Areas, and National Historic Sites, among many other designations. Of these 423 units, 46 set records for the number of visitors in 2021, and 6 broke records that were established in 2020 (NPS Visitation 2021 - Office of Communications (U.S. National Park Service) 2022). National Parks have become so popular that some parks, including Arches National Park, Glacier National Park, and Rocky Mountain National Park, are implementing a timed-entry reservation system (Preske 2022). It is possible that this year, especially as travel begins to return to normal, the National Park Service will see another record-breaking year.

The National Parks are popular sites for visitors, and the number of visitors has been steadily increasing. Many of these visitors are going to leave the National Parks they visit with more than just memories and photos; they are going to leave with place attachment for the parks they visit, and that place attachment might affect how they think

about and vote on environmental issues. Some portion of the millions of visitors to the Park Service last year left with their support for pro-environmental protections slightly higher. With so many visitors, and more visiting every year, it is possible that policy changes could follow these visits. Millions of people with increased levels of support for pro-environmental ballot initiatives could significantly alter policy.

Covid-19

During the early stages of the Covid-19 pandemic, parks and green spaces were some of the few places where people could freely visit, with minimal worry. Studies have shown that due to the Covid-19 pandemic, more people visited outdoor spaces and parks near them, and many did so for the first time during the Covid-19 pandemic. A study by the University of Vermont showed that in some places, visitor numbers to outdoor spaces and parks were up by almost 70%. 25.8% of those visitors were either first-time visitors or very infrequent visitors before the onset of Covid-19 (Grima et al. 2020). Visitation to natural spaces was greatly increased during the Covid-19 pandemic.

Visits increased, but so did the importance of these parks, and “80.6% of respondents considered that the importance of these areas, and access to them, either *increased or greatly increased*” (Grima et al. 2020, 1). The Covid-19 pandemic highlighted the importance of natural spaces and access to these spaces. Many people were trapped in their houses or apartments during the Covid-19 pandemic, especially during the initial months. Often, the one exception to this isolation was parks and natural spaces. This reliance on nature and natural spaces as a brief respite from the isolation caused by the pandemic could quickly cause place attachment. Combine this increased place attachment with the people who, for the first time, were spending large amounts of

time outdoors, and it is not unlikely that there could be far-reaching policy implications that result from this. For many people, nature and outdoor spaces were a lifeline during the pandemic, so it only follows that the same relationship between visitation, place attachment, and increased levels of support for pro-environmental ballot measures outlined in this study could emerge.

Youth in the Outdoors

Children have time off from school in the summer, and for many children, these months need to be occupied by some sort of program or activity, so that the parents can work. There are countless summer programs and camps dedicated to exposing children to the outdoors. Time spent in nature is likely to have an even more lasting impact when children are young as opposed to adults. Having children spend time in nature could create a more long-lasting place attachment than simply visiting a National Park as an adult. This place attachment could in turn create a pattern of environmentally friendly voting behaviors. A focus on getting children out into nature and the National Park Service from a young age could thus have long-term policy impacts.

Climate Policies by State

States across the United States vary widely in their climate protection policies. Based on the findings of this study, it is possible that the number of National Parks and available green spaces in the state impact the attitudes of citizens in the state towards environmental protections. These differences in attitudes of citizens could be reflected in the policy that the state implements. A state with a National Park or National Parks easily accessible would likely have citizens that frequently visit the National Parks. This study suggests that a state that has a large number of citizens who visit National Parks would

have citizens that are more inclined to pass pro-environmental regulations. Increasing the number of National Parks in a state could increase the number of environmental protections they pass. Future research could investigate the relationship between the number and accessibility of National Parks, and green spaces in general, and environmental protections by states.

Future Research

State and Local Parks

While this study focuses on the relationship between visitation to National Parks and voting behavior, most people are more likely to have easier access to either state parks or city parks. The National Park Service has nearly 300 million visitors each year, but in 2019, 813 million people visited state parks (America's State Parks n.d.). More people visit state parks than National Parks, nearly three times as many, and have a chance to form place attachment to these parks.

Despite this, it is possible that people still have a greater attachment to the National Park Service. National Parks may more easily generate place attachment that state or local parks do not have, simply by virtue of being called a National Park. National Parks are symbols of national pride. They have been called “America’s Best Idea,” and many people may form place attachment to the National Park system without ever visiting any of the parks (Daniel et al. 2016). People watch documentaries about the National Park Service and make lists to check off how many parks they have visited. It is likely that place identity is relatively high when it comes to National Parks.

National Parks might be ‘bucket-list’ locations that people plan trips to go see, but state parks are where people go for hikes, go for their morning jogs, or take their children

swimming. Because of the frequency of use, and the much higher levels of accessibility, levels of place dependence are likely higher in state and local parks. Future research should investigate if visitation to state and local parks has a similar effect on voting behavior as visitation to National Parks does. This research should also investigate levels of place dependence and place identity in the National Parks versus state and local parks. It is likely that levels of place dependence would be higher in state and local parks, and levels of place identity would be higher in National Parks. If there is variation in how the different types of parks impact voting behavior, it could possibly be explained by the varying levels of place identity and dependence.

Inclusivity

The natural landscapes that we today appreciate as the National Park Service is made up of land that was stolen from the Native American people (Kantor 2007). National Parks offer a chance to view a land that is seemingly untouched by human alterations and activity, but the reality is that this land was inhabited by humans, who were later forcibly removed from that land (Kantor 2007). This colonial legacy is one that the National Park Service is still coming to terms with and working to help correct. This legacy of forcible removal and violence has left Native Americans with a constantly evolving relationship to the National Park Service that is marked by levels of tension. Future research should endeavor to include a more inclusive perspective of the relationship between people and the National Park Service. This could include incorporating indigenous voices on land usage and conservation, as well as how indigenous people connect and view the National Park Service. For example, it is entirely possible that indigenous people could have a negative response to more land being set aside for conservation, as in the past, that land is

taken from them to be used for conservation. It is also possible that indigenous people could have high place attachment to the land itself, but low place attachment to anything associated with the name 'National Park Service'. Future research should also investigate potential disparities in how that relationship emerges in terms of voting behavior.

Additionally, the majority of visitors to the National Park Service are white (Solop, Hagen, and Ostergren 2003). Generally speaking, white people are more likely to not only visit National Parks but also spend time recreating outside (Solop, Hagen, and Ostergren 2003). The National Parks system, and outdoor recreation in general, is not diverse. This study also encountered issues of diversity, as the respondents of this study were disproportionately white, at 89.3% of respondents. Future research should strive for more diverse perspectives. Researchers should also look more closely at how racial demographics can impact the effect National Parks have on voting behavior, and how race changes how people interact with and view their relationship with the natural world. Considering that the consequences of environmental degradation are unequally distributed, with minorities most commonly suffering the impacts, it follows this could impact how people view the environment and environmental protections.

Conclusion

As demonstrated by this study, visitation to National parks fosters place attachment, which in turn increases levels of support for pro-environmental ballot measures. This relationship appears to hold steady across two different types of environmental ballot measures. More broadly, this speaks to the relationship between interactions with natural spaces, and support for environmental protections. While there are still questions to be

answered regarding new research directions, this study overall provides evidence that visiting the National Parks can change people's voting behavior.

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Appendix One: Complete Copy of the Research Questionnaire Used

CONSENT TO PARTICIPATE IN A RESEARCH STUDY COLLEGE OF WOOSTER

Public Opinion Study Principal Investigator: Rebecca LaRue, Department of Political Science,
rlarue22@wooster.edu

Purpose

You are being asked to participate in a research study. We hope to learn about National Park visitation, and how citizens vote. The data will be used to write a scholarly paper. It is also possible that the summarized data could be published at a later date.

Procedures

If you decide to volunteer, you will be asked to answer a number of questions about yourself, your visitation to National Parks, and your voting behavior. This study should take approximately 4 minutes to finish.

Risks

There are no significant risks to you for your participation in this study.

Benefits

You may enjoy taking the survey.

Confidentiality

Your participation in this study occurs on an anonymous basis. We do not have the ability, nor any interest in, linking your responses to your identity.

Costs/Compensation

There is no cost to you beyond the time and effort required to complete the procedure described above. Participants will earn \$0.70 on MTurk for their time.

Right to Refuse or Withdraw

You may withdraw from or refuse to participate in the study.

Questions

If you have any questions about the study, you can email Rebecca LaRue at rlarue22@wooster.edu

Consent

By checking the box below, you indicate that you have decided to volunteer as a research subject, that you are a US citizen of 18 years of age or older, and that you have read and understand the information provided above.

- Yes, I agree and consent (1)

What is your age in years?

What is your gender?

- Male (1)

- Female (2)
- Non-binary / third gender (3)
- Transgender male (4)
- Transgender female (5)
- Prefer to self-describe (6) _____
- Prefer not to say (7)

Generally speaking, which of the following do you consider yourself?

- Strong Democrat (1)
- Democrat (2)
- Lean Democrat (3)
- Moderate (4)
- Lean Republican (5)
- Republican (6)
- Strong Republican (7)

How would you describe your race/ethnicity (check all that apply)?

- White (1)
- Black or African American (2)
- American Indian or Alaska Native (3)
- Asian (4)
- Native Hawaiian or Pacific Islander (5)
- Hispanic/Latinx (6)
- Other (7) _____

How many National Parks would you estimate you have visited?

How many National Park visits have you made total?

In the next set of questions, you will be presented with a series of statements. Please indicate how much you agree or disagree with the statements.

I am very attached to National Parks.

- Strongly disagree (1)

- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

National Parks mean a lot to me.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

National Parks are the best place for what I like to do.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

I wouldn't substitute any other area for doing the type of things I like to do in the National Parks.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Suppose there is a proposed bill in your town or city that is trying to conserve more land. This bill would increase sales taxes by 0.25%. This would provide funds for the acquisition, improvement, and management of a block of land to preserve wildlife habitat and protect an old growth forest. How likely would you be to vote in support of this bill?

- Extremely unlikely (1)
- Somewhat unlikely (2)
- Neither likely nor unlikely (3)
- Somewhat likely (4)
- Extremely likely (5)

Suppose there is a proposed bill in your town or city that is trying to mitigate the effects of climate change. This bill would increase sales taxes by 0.25%. The funds generated from this would finance programs to eliminate greenhouse gas emissions and adapt to climate change. How likely would you be to vote in support of this bill?

- Extremely unlikely (1)
- Somewhat unlikely (2)
- Neither likely nor unlikely (3)
- Somewhat likely (4)
- Extremely likely (5)

Thank you for your participation. Your validation code for mTurk is `#{e://Field/random}`

Please press the "NEXT" button in order to receive your payment.