Visitor Experience and Media Effectiveness

Rocky Mountain and Yellowstone National Parks

Robert Eisenberger

University of Delaware

and

Ross J. Loomis

Colorado State University

Fall, 2003

All opinions and conclusions expressed in this presentation are the responsibility of the researchers and do not reflect National Park Service policies or official Park Service positions. This project supported by the National Park Service through a cooperative agreement with Colorado State University

Acknowledgements

The authors would like to thank Sam Vaughn of the Harpers Ferry Center of the National Park Service for his expert advice, encouragement, and unstinting efforts on behalf of the entire project. We are greatly indebted to Judy Visty at Rocky Mountain National Park and Judy Knuth-Foltz at Yellowstone National Park for their ingenuity and dedication in helping to bring this project to fruition. We call special attention to the contributions of Ivan Sucharski of the University of Delaware and Steven Yalowitz of the Monterey Bay Aquarium for their dedicated efforts on behalf of the project. Finally, we thank the National Park Service personnel, college students, and volunteers who helped administer the visitor surveys. This project would never have happened without the participation of many generous individuals.

Robert Eisenberger
University of Delaware

Ross J. Loomis
Colorado State University

I. Executive Summary

- The following personality traits influenced the visitors' stated purposes for coming to Rocky Mountain National Park (RMNP) and Yellowstone National Park (YNP):
    - Need for sensory experience (NSE) was the personality trait most strongly predicting the desire to experience enjoyable sights, smells, sounds and visiting to learn about nature, history, and culture.
    - Need for affiliation most strongly predicted visiting to engage in shared experiences.
    - Need for exercise most strongly predicted visiting to engage in strenuous physical activities, such as walking, hiking, or climbing. (Pages 8-9).

- Building design and display quality had the greatest impact on satisfaction at park visitor centers. (Pages 9-12).

- Well-designed visual displays may convey certain simple concepts (e.g., safety) without auditory or textual supplements. (Page 13).

- Visitors' most common suggestions for improving displays involved the reduction of crowding, the provision of audio and tactile components, and the inclusion of additional information. (Pages 14-15).

- In order to satisfy visitors both high and low in Need for Cognition (NC), individuals need to be able to access increasingly complex details to reach a level of understanding with which they feel comfortable. (Page 15-16).

- Personality influences the kind of experience individuals most desire in visitor center displays.
    - High NSE individuals suggested adding sensory components to displays such as audio and tactile elements.
    - High NC individuals suggested adding informational components to displays such as more in depth descriptions and historical facts. (Pages 16-17)

- The friendliness and helpfulness of people at visitor center information desks was the strongest visitor center experience contributing to visitors' belief that they were valued by the National Park Service (NPS). Such perceived client support increased the likelihood that visitors would provide a quote for the NPS to use to promote park attendance. (Pages 17-18).

- On average, visitors reported that participating in the visitor center surveys was a highly enjoyable experience. (Pages 18-19).

- At both parks, the most satisfying visitor experience was viewing scenery. Viewing wildlife was the second most satisfying experience at YNP, while hiking was the second most satisfying experience at Rocky Mountain National Park RMNP. (Pages 19-23).

- Traffic and crowding were reported to be very unenjoyable at both parks. Roadwork stood out as unenjoyable at Yellowstone as well, while the presence of visitors damaging the environment was unenjoyable to RMNP visitors. (Pages 23-28).

- The predominant activity during visitors' first three hours at YNP involved sightseeing from within and outside motor vehicles. (Pages 28-29).

- Photographs enhanced interest in textual media describing park locations, especially for individuals with high NSE. (Pages 30-31).

- Approximately 50% of visitors to YNP used the park newspaper to find out about nature, history, culture, and places to visit in the park. Approximately 30% of visitors to YNP used the paper to learn about safety and find out where to walk, hike, or climb. At RMNP, about 30% of visitors used the paper for all of the above information. Among those using the papers, on average, visitors found the information very useful. (Pages 31-32).

- A detailed profile of the park visitors is provided. (Pages 31-32).

- A list of 51 specific visitors' suggestions for improvement of YNP and RMNP are included in the report, along with summary profile of visitors. (Pages 32-41).

TABLE OF CONTENTS

I. Executive Summary 2

II. Introduction 6

III. Background 6

IV. General Method 8

V. Visitors Personalities and Reasons for Coming 8

VI. Visitor Center Experiences 9

A. Procedure 9

B. Most and Least Liked Features of Visitor Centers 9

C. Description of Visitor Center Displays 12

D. Effects of Contextual Information on Display Enjoyment and Suggestions for Improvement 13

E. General Suggestions for Display Improvement 14

F. Influence of Visitor Personality on Display Enjoyment and Suggestions for Improvement 15

G. Perceived Client Support 17

H. Satisfaction with Survey 18

VII. Outdoor Experiences 19

A. Most Satisfying Outdoor Park Experiences 19

B. Least Satisfying Outdoor Park Experiences 23

C. Experience Sampling of Visitor Activities 28

D. Interest in Textual Media: Influences of Pictures and Personality 30

VIII. Specific Park Information 31

A. Newspaper Utilization 31

B. Visitor Profiles 32

C. Suggestions for Park Improvements 38

IX. References.....41

X. Appendix A 42

II. Introduction

National parks preserve irreplaceable natural and cultural resources. These parks provide educational, inspirational, and recreational experiences for tens of millions of visitors each year. The purposes of our research were (a) to develop a basic understanding of how visitors' differing personality traits act in combination with media and other experiences to influence the quality of visitors' park experiences, and (b) to develop methodologies that could be used in the future to design and evaluate media for achieving optimal visitor experiences and resource protection objectives. We chose to study Yellowstone National Park (YNP) and Rocky Mountain National Park (RMNP) because backcountry leisure activities are especially relevant to our interest in need for pleasurable sensory experience (NSE), a fundamental aspect of human nature that we believe deserves greater attention as a source of motivation in leisure and informal learning.

We examined visitor reactions to displays and other features of visitor centers at YNP and RMNP. We also evaluated the effectiveness of media and reactions to outdoor experiences among visitors beginning their trips at park entrances. Because we were interested in studying how national parks can meet the needs and interests of visitors with differing personality types, we assessed relevant personality traits of all visitors and examined how these traits influenced visitor reactions to various experiences. In all, we examined the experiences of 848 visitors to RMNP and 1739 visitors to YNP

Section I contains a list of the major findings of the study with the associated page numbers in the report. Section III describes the personality traits that we assessed, including NSE, because of their relevance to the visitor experience. Section IV briefly discusses the general methodology for obtaining initial information from participants. Section V examines the influence of personality traits on visitors' reasons for coming to RMNP and YNP. Section VI covers visitor center experiences whose general findings have implications for general National Park Service (NPS) policies and practices, as well as for the individual parks. Section VII summarizes findings involving outdoor experiences with general implications for NPS policies and practices, and for the individual parks. Section VIII provides information of more specific interest to the individual parks including park newspaper utilization, visitor profiles, and suggestions for park improvements.

We wish to express our appreciation to Sam Vaughn of the Harpers Ferry Center, Judy Visty of RMNP, and Judy Knuth-Folts of YNP for their guidance, advice, and support. Without the extraordinary competence and dedication of these individuals, this large-scale project would have been impossible. Of course, the authors take full responsibility for the data and conclusions of the report. Thanks also to Linda Young at YNP for her considerable support. Our colleague, Steven Yalowitz of the Monterrey Bay Aquarium, and the students at the University of Delaware (Justin Aselage, Jason Jones, Ivan Sucharski, Deborah Watson, Jesse Wassmer) were our partners throughout the project.

III. Background

Visitor satisfaction in national parks depends on meeting people's individual motivations. Because park visitors' motivations differ, a particular park experience may satisfy some visitors and not others. One important source of differing visitor motivation involves personality traits -- enduring tendencies to prefer some situations more than

others. The strength of personality traits can often be inferred through questionnaires in which individuals state the extent to which they like to engage in various activities**.**

We propose the existence of a personality trait termed need for sensory experience (NSE) that we believe may influence many individuals to come to national parks and affect the enjoyment of their park experiences. By NSE we mean an enduring tendency, stronger in some individuals than others, to seek out and enjoy pleasant visual, auditory, and olfactory sensations and to avoid unpleasant sensory experiences. People high in NSE would especially enjoy various kinds of pleasant sensory stimulation related to exploring natural vistas and nature related museum displays.

Questionnaire items we use to assess NSE include one's degree of enjoyment of smelling flowers, taking long walks, listening to the patter of water on the roof, watching the bright lights of a city at night, etc. Thus, we found in previous research that clear as opposed to blurry pictures of national park scenes more strongly increased the enjoyment of high NSE individuals than low NSE individuals (Eisenberger, 2001). Also, visitors to an art museum with high NSE showed a heightened enjoyment of sensory experiences relative to visitors with a low level of NSE (Eisenberger, Knuth-Folts, Loomis, Vaughn, Loomis, Visty, & Yalowitz, 2002).

We assumed that high NSE individuals, as compared with those having a lower NSE, would be especially interested in experiencing the pleasurable sights, smells, and sounds in the parks. We also believed that high NSE individuals might be interested in information that provided context and meaning to pleasant sensory stimulation. Such people may be especially interested in media that provided the opportunity to learn about and experience sensory aspects of the park, thereby enhancing the enjoyment and understanding of their park experiences.

A second personality variable that may be especially relevant to visitors' reactions to displays is need for cognition (NC: Cacioppo, Petty, Feinstein, & Jarvis, 1996). NC refers to an interest in and enjoyment of effortful cognitive endeavors. Typical NC questionnaire items assess preference for abstract thought and cognitive problem solving. NC has been extensively studied as an individual difference variable that influences preference for and degree of information processing in formal and informal learning situations. Well over 100 studies have been carried out on need for cognition, the results of which indicate that this personality trait is an important determinant of information seeking and voluntary information processing. Yalowitz and Loomis (1999) found that high need-for-cognition visitors were significantly more satisfied with cognitive museum displays, as opposed to emotion-arousing displays, than were low need-for-cognition visitors. Similarly, we expected that high NC individuals' satisfaction with visitor center displays would be strongly influenced by quality of the informational content in displays.

Need for physical exercise (EXER) refers to enjoyment of strenuous activities. Those with a high need for physical exercise may be especially interested in opportunities for walking, hiking, or climbing. Eisenberger et al. (2002) found that the need for physical exercise had little relationship to need for sensory experience, meaning that having a high need for physical exercise does not necessarily make a person more or less prone to find pleasant sensory experiences especially enjoyable. Where high NSE individuals find long walks and other sensory experiences enjoyable, high EXER individuals find more exacting physical exercise especially satisfying. We expected that high EXER individuals' purpose

for coming to the parks would involve more strenuous physical exercise than in the case of low EXER individuals.

Need for affiliation (AFIL: Hill, 1987) refers to the enjoyment that results from shared social experiences. Individuals with a high need for affiliation have been found more likely than other individuals to derive strong satisfaction from meaningful interactions with others. Those with a high need for affiliation may have an increased desire for media and outdoor experiences that are conducive to social interaction and which provide opportunities for sharing experiences with others. We expected that high AFIL individuals' motivation for coming to the parks would involve more shared social activities than in the case of low AFIL individuals.

IV. General Method

Visitors at YNP and RMNP entrances and visitor centers were approached by park rangers and asked if they would be willing to take part in the survey. If they agreed, they were directed to the survey crew. Participants completed questionnaires that afforded information concerning their age, gender, who they came with, how often they visited parks, how far from home they were, and how many hours they would be spending in the park. The first portion of all surveys also assessed the strength of the four personality traits discussed earlier (NSE, NC, AFIL, and EXER) as well as visitors' motives for visiting the park

V. Visitors' Personality Traits and Reasons for Visiting

Table 1 gives the extent to which four different personality traits corresponded to visitors' stated reasons for coming to YNP. In the first row, the four columns give the relative degrees (standardized beta weights, which are related to correlation coefficients) to which NSE, NC, EXER, and AFIL contributed to the purpose of experiencing sights, smells, and sounds. Several of the personality traits had statistically significant effects on this purpose. However, as predicted, by far the strongest effect was the influence of NSE on the desire for these enjoyable sensory experiences.

The second row indicates that, as predicted, NC was positively related to the purpose of learning about nature, history, and culture. However, NSE showed an even stronger association with visiting to learn. Evidently, NSE creates a strong motivation not only to experience enjoyable sights, smells, and sounds, but also to learn about enjoyable sensory experiences. Additional evidence concerning the combined desires for enjoyable sensory experience and learning will be discussed later.

As shown in the remaining rows, EXER was the personality trait most strongly related to the purpose of visiting to engage in strenuous physical exercise, and AFIL was the need most strongly related to the purpose of visiting for sharing of experiences with others. These results suggest that motives for visiting the national parks reflect an individual's personality traits. Whether a visitor was mainly interested in sensory experience, natural history, exercise, or shared experience depended on one's personality traits. However, one surprising finding was that among people attending the two national parks, those with a high NSE are motivated by learning to an even greater extent than those high in NC. That is, the desire for the sensory experience of nature appears to influence the motivation to learn about nature.

Table 1: Relationship Between Personality Traits and Stated Reasons for Visiting Yellowstone National Park

	NSE	NC	EXER	AFIL
To experience sights, smells, and sounds.	.338***	.086**	-.012	.055*
To learn about nature, history, and culture.	.257***	.089**	-.053	.096***
To get exercise.	.209***	-.031	.402***	.065**
To share experiences with others.	.000	-.029	.095***	.429***

* p< 05. ** p<01. *** p<001

VI. Visitor Center Experiences

We selected the Fall River visitor center at RMNP and the Canyon visitor center at YNP to study. Both centers housed excellent visual displays. While Fall River at RMNP is new and spacious, Canyon at YNP is worn and cramped. These two centers provided an interesting comparison between one of the most modern visitor centers and an older, more conventional visitor center. Although Canyon was scheduled for demolition, we felt that it would provide useful information for the design and implementation of future visitor centers.

A. Procedure

Visitors were asked to view a pair of displays, rate their enjoyment of each display, and suggest improvements. At the Canyon visitor center we evaluated the contribution of textual information to display enjoyment by varying the informational content of the displays. Half of the visitors experienced displays accompanied by the information usually present with the displays. The remaining visitors experienced the displays with the information removed. At the Fall River visitor center, we compared visitor responses to two intact displays: one display with high quality sensory experience but little contextual information versus a second display with high degree of information but limited opportunities for sensory stimulation. Additionally, visitors to both visitor centers were asked to a series of questions concerning their most and least satisfying experiences in the center, the favorableness of conditions in the visitor center, the regard in which they felt they were held by the National Park Service, and the extent to which they found taking the survey enjoyable.

B. Most and Least Liked Features of Visitor Centers

At both visitor centers, visitors were asked to record their most and least satisfying visitor center experiences. These responses were obtained in order to provide both parks and the NPS with a snapshot of visitors' experiences within the two centers and to provide insight into aspects of the centers that visitors feel need to be improved.

1. *Facilities*

As shown in Figure 2, Canyon visitors reported that facilities were the least satisfying part of their visitors center experience more than four times as often than they stated that the facilities were the most satisfying part of their stay. The facilities category involved such features as building maintenance, design, and roominess. Approximately half

the Canyon visitors remarked that crowding was their least favorable experience. Examples of these unfavorable comments include:

- Whole display area seemed too confined.
- People cutting you off, I like my personal space.
- Too crowded, little space.

Visitors provided mixed reviews for the Fall River visitor center. Many visitors thoroughly enjoyed the openness of the space and the views from the large windows.

- The beautiful building! I love the architecture of the building.
- Beautiful view from full-length windows.
- Nice, new, clean and well kept.

However, a substantial number of visitors felt that the design of the building amplified visitors' voices resulting in a noisy atmosphere.

- Acoustics/level of sound in visitor center. Noisy with only a few people.
- Voices from upstairs really carry over to downstairs (Noisy for even a few people).
- Too much "necessary" noise in upper level by info desk. It reverberates throughout building.

Crowding and noise would appear to be two issues of importance to visitors that should be of consideration in the design of future visitor centers. The problem of crowding at Canyon was partly due to the limited overall size of the facility, but was also attributable, as we shall see in a later section, to the layout of the exhibits. At Fall River, the noise concerns voiced by visitors does not necessarily stem from crowding, but from the design of the building. Even though many visitors expressed satisfaction with the open atmosphere of Fall River, future visitor centers of a similar design could benefit from the use of sound absorbent building materials.

2. *Information*

A substantial proportion of visitors found the information they got from a variety of sources in the visitor center highly satisfying. As shown in Figure 1, Canyon visitors stated that the information they received was the most satisfying part of their stay six times more often then they stated that information was the least satisfying aspect of their stay. Visitors at Rocky Mountain said that information was the most favorable aspect of their stay twice as often as they said it was the least satisfying part of their display.

3. *Displays*

A substantial proportion of visitors reported that displays were the most satisfying visitor center experience. Visitors reported that the displays were their most satisfactory visitor center experience twice as often as they stated that the displays were the least satisfying aspect of their visitor center stay. In subsequent sections we will consider factors contributing to visitor satisfaction with displays.

4. *Staff*

Approximately one fifth of the visitors at YNP and a sixth of the visitors at RMNP reported that their interactions with NPS staff were the most satisfying aspect of their stay. Virtually no visitors reported unsatisfying experiences with NPS staff. As will be discussed shortly, helpfulness of the park's staff plays a prominent role in visitors' beliefs that the NPS cares about their trip enjoyment and values their contribution to NPS's mission. Some of the comments made by visitors at each park follow:

Canyon

- Overall all park and concession staff are sensitive to visitors, as they seem to be a unique group of environmentally minded people.
- The rangers-friendly, informed, and eager to help!
- I like the friendliness and atmosphere because when employees are happy customers and guests will be too.

Fall River

- The feeling that I was in the good hands of competent, knowledgeable people, who wanted me to get what I wanted form the experience and to advise if I didn't know.
- Visiting with the staff at the desk. Could tell me things to look for and answered questions well.
- Good public relations and questions answered politely.

Figure 1.

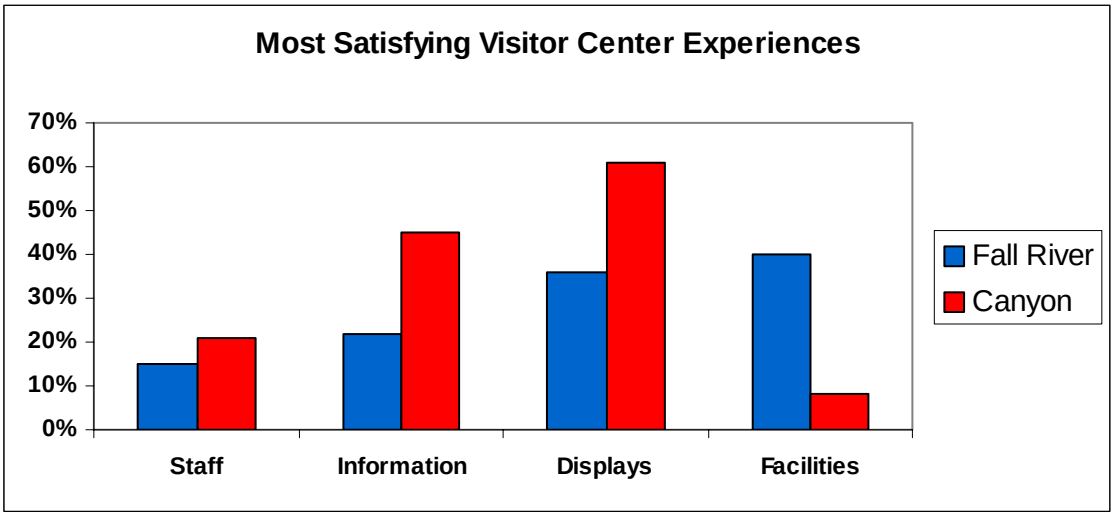
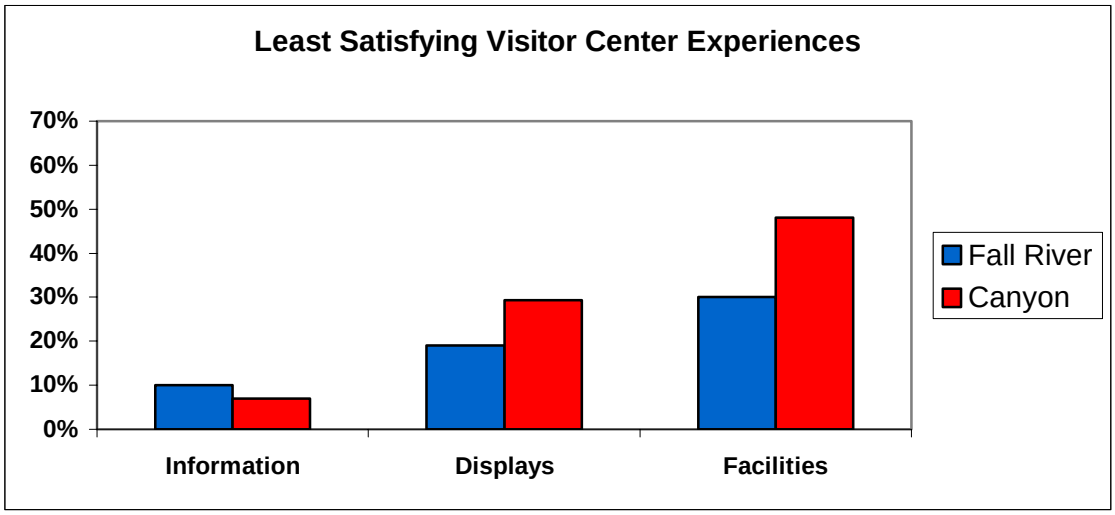


Figure 2.



C. Description of Visitor Center Displays

At Canyon and Fall River visitor centers, visitors were asked to evaluate and rate their enjoyment of several displays. At Canyon, visitors examined the Wallowing Buffalo and Buffalo Safety displays. At Fall River, visitors commented on the Natural Quiet and Historical Clothing and Artifacts displays. A brief description of each display is presented below:

- Wallowing Buffalo

The Wallowing Buffalo display features a large bison on its back in the act of rolling in a wallow. This display is surrounded by a naturalistic landscape and provides a brief explanation as to why bison wallow and how wallows are made.

- Buffalo Safety

The Buffalo Safety display consists of a video monitor set in a display panel that shows a video involving several incidents of bison chasing or attacking humans. The display is meant to inform visitors of the dangers associated with approaching bison in the park, and is accompanied by text about the perils of getting too close to bison.

- Natural Quiet

The Natural Quiet Display features a photograph for each of the four seasons, along with information pertaining to the types of sounds heard throughout the park in each of the seasons.

- Historical Clothing and Artifacts

The Historical Clothing and Artifacts Display is a collection of garments worn by park rangers throughout the park's history, along with tools and other accessories. This highly interactive display allows visitors to touch and try on these garments and accessories, but does not provide much contextual or historical information.

D. Effects of Contextual Information Display Enjoyment and Suggestions for Improvement

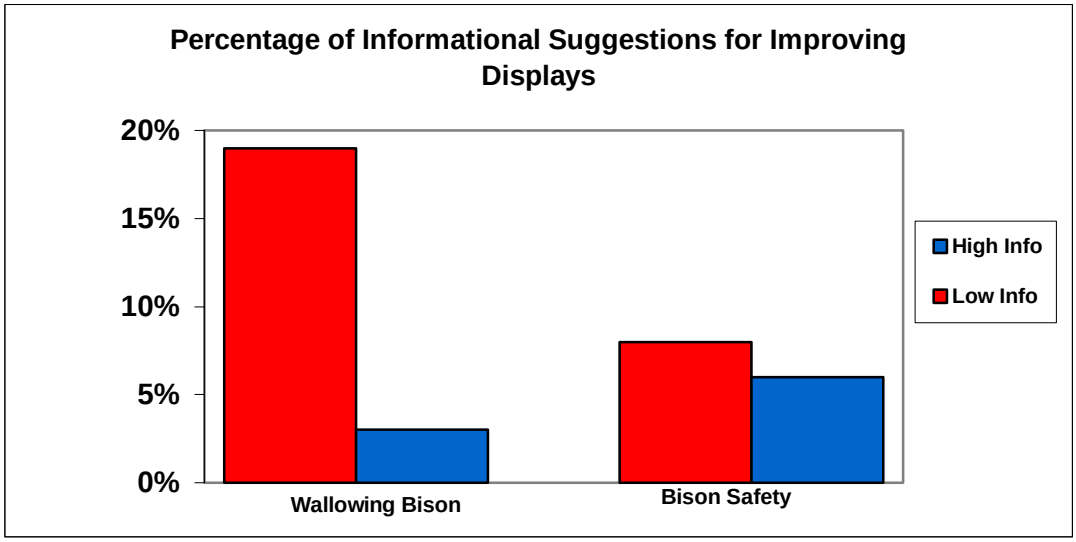
In visitor centers, text is commonly used to provide context and meaning to a display's pictorial content. However, simple information can often be effectively conveyed in pictorial form with little or no text. It is well known from museum research that visitors typically attend to only a small fraction of the textual information present in displays (Serrell, 1977). Therefore, having pictorial safety displays, which carry informational content that can be understood without text, has a substantial advantage.

The Buffalo Safety Display at Canyon featured a soundless video that conveyed a safety message implicitly by showing clips of visitors being chased or harmed by bison. Visitors viewed the display either with or without accompanying text describing the unpredictability and danger of bison. We hypothesized that the pictorial safety presentation would be fully adequate to carry the safety message and that the presence of text would produce little additional interest.

We compared the effects of textual information in the safety display with the presence or absence of text in a second display in which textual information was necessary for a full understanding of the display. The latter, Wallowing Buffalo display was dominated by a stuffed buffalo lying on its back. The display was presented with and without the identifying term wallowing buffalo and the accompanying textual information that wallowing provided a coating of dust that allowed protection from insect bites and that wallowing might also serve as an energy release during mating season.

As shown in Figure 3, the visitors made many informational suggestions in the low-information wallowing buffalo display but few informational suggestions in the low-information safety display. Evidently, well-designed visual displays may convey certain simple concepts visually (e.g., safety) without auditory or textual supplement. Because only a minority of visitors typically read display information in detail, this finding is important for the communication of safety information. When designed appropriately, important displays, such as the Buffalo Safety display, can convey information effectively through visual representations.

Figure 3



E. General Suggestions for Display Improvement

At both Canyon and Fall River Visitor Centers, visitors were asked to record ways in which visitor center displays could be improved. At YNP, visitors commented on the Wallowing Buffalo and Buffalo Safety displays, while visitors to RMNP commented on the Natural Quiet and Historical Artifacts and Clothing displays. The purpose of this investigation was to aid the NPS in the design and implementation of future displays that will maximize visitor satisfaction. A summary of visitors' suggestions for improving the displays is presented below.

- Wallowing Buffalo Display

As described earlier, the Wallowing Buffalo display provided a strong sensory component, along with a brief explanation regarding wallowing behavior. Nevertheless, many visitors felt that the display should provide a better-rounded sensory experience. Twelve percent of visitors felt that a video depicting an actual bison wallowing would greatly enhance the display. Ten percent of visitors suggested that the park service should add an audio component to the display. Some even suggested providing personal audio devices that could guide visitors through the center and provide useful information and sound effects for the displays. In sum, displays may have the most impact on visitor enjoyment when they appeal to more than one sense.

- Buffalo Safety Display

The Buffalo Safety display featured strong sensory and informational components as well. Twenty-five percent of visitors made suggestions concerning how to improve the crowding situation around this popular display. Visitors suggested that the display be positioned in a more open area where it could be viewed from several different angles, as one visitor commented that the "buffalo safety exhibit should be more prominent. Need to put the whole exhibit in a better location – everyone wants to see the videos and it gets really crowded there." Moreover, visitors asked that the central component of the display, specifically the video monitor, be larger and placed high enough to enable many visitors to access it at a given time. Displays that attract a large audience, then, should be placed in open, prominent locations in order to relieve crowding. Additionally, central aspects of displays, such as video monitors and information plaques, should be large and placed just above eye level to maximize visitor comfort and allow many visitors an unobstructed view. It is sometimes difficult to predict which displays will be more popular or less popular. Therefore, visitor center designs allowing for flexibility in movements of displays seems advisable.

- Natural Quiet Display

The Natural Quiet display was highly informational, as it provided extensive information concerning sounds in the park, but lacked a strong sensory component. For the Natural Quiet Display, 50% of visitors suggested that an audio component should be added to the display, and 13% suggested that the display should be more interactive. Information about the sounds of the seasons could easily be supplemented with sound effects triggered with the touch of a button, as one visitor commented that "examples of the noises would be

nice (push button), more than sight." Suggestions for making the displays more interactive also included adding things to touch, such as animal furs or artifacts from the mountains. Eight percent of visitors suggested adding more pictures to the display to supplement the information. One visitor suggested that designers "enlarge pictures and place [them] at eye level." These suggestions highlight the importance of providing visitors with a well-rounded experience. Even when a display is primarily informational in nature, providing a sensory component as well can heighten visitor satisfaction.

- Historical Clothing and Artifacts Display

While the Historical Clothing and Artifacts display provides an interactive, sensory experience, it does not provide much contextual or historical information. Over 20% of visitors suggested that better explanations be provided for the Historical Clothes and Artifacts display. Visitors wanted more historical information about the time periods from which the artifacts and clothing came. Moreover, they requested a rationale for why specific types of clothing were used in the different time periods covered by the display. Twelve percent of visitors also commented that this display was disorganized and disheveled because visitors were not returning the clothing to their proper locations. Many felt that positioning a park ranger in the area to answer questions and make sure that visitors return items to their proper places could solve this problem. One visitor suggested that "it would help to have a sign asking people to put clothing back in the proper place." Because this display did not provide visitors with any contextual or historical information, visitors made suggestions for improvement that were directed toward improving the impoverished informational component of the Historical Clothing and Artifacts display.

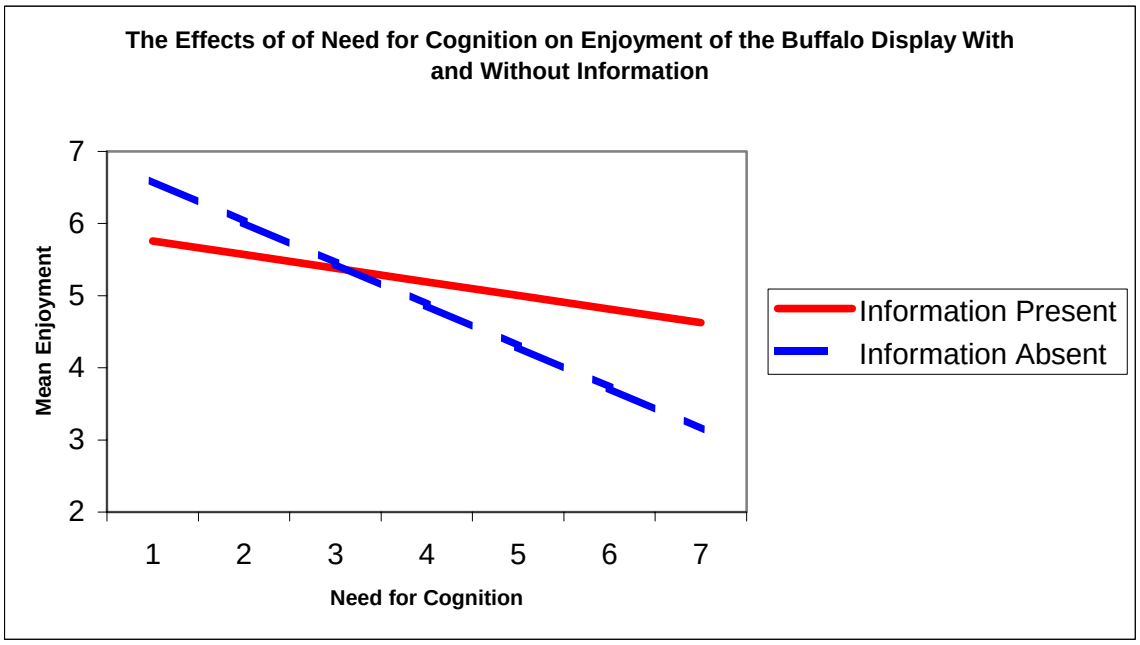
Based on our investigation of the displays at each park several general conclusions can be drawn. First, visitors express a desire for contextual information when it is absent from the display. Second, some displays may not require additional textual information as the display's meaning and message are inherent to the display itself, as was the case with the Buffalo Safety display, which conveyed its message with a video presentation. Third, visitors would like for displays to appeal to many of their senses. As such, many visitors suggested adding sound, movement, and touch to the Wallowing Buffalo display. Last, crowding around displays is highly undesirable and whenever possible measures should be taken in the design and placement of displays to limit the possibility of crowding.

F. Influence of Visitor's Personality Traits on Display Enjoyment and Suggestions for Improvement

The aspects of displays that are most pleasing may differ depending upon personality traits. We have already noted that individuals with high NC prefer strenuous cognitive activities. High NC individuals should be most satisfied by displays that provide sufficient information, allowing for a significant amount of learning. Using the Wallowing Buffalo display, we examined the influence of NC on visitors' enjoyment and suggestions for display improvement. As shown in Figure 4, when textual information was absent from the wallowing buffalo display, visitors with a low NC found the display enjoyable whereas visitors with a high NC found the display unenjoyable. Adding a moderate amount of information about the purpose of wallowing made the display mildly enjoyable for the high NC individuals, although still not as enjoyable as for the low NC individuals. Even more textual information might have been required to produce a high degree of enjoyment among the high NC individuals.

Evidently, high NC individuals are satisfied only when there is the opportunity for high cognitive effort even in backwoods settings where learning opportunities might be expected to be limited as compared to other learning centers such as museums or libraries. Thus, the concern by museum researchers about providing layers of increasingly complex information for those who may be particularly interested in a display are also applicable to more naturalistic settings – especially in the case of high NC individuals. In order to satisfy both visitors high and low in NC, we suggest using information layering to supplement visual displays. Low NC individuals need to be able to obtain the limited information they wish without wading through detail. High NC individuals need to be able to progress through increasingly complex details to obtain a level of understanding with which they will feel comfortable.

Figure 4.



We also examined the influence of personality traits on the kinds of suggestions that the visitors made to improve the Wallowing Buffalo display. As shown in Figure 5a, informational suggestions increased with NC. NSE also influenced the kinds of suggestions visitors made for improving the display. As shown in Figure 5b, sensory suggestions (e.g., providing the visitor with a buffalo fur to touch, improving the lighting, repositioning the display or enlarging it for better viewing) increased with NSE. Thus, visitor center displays need to incorporate both high-quality sensory properties and high-quality informational properties to satisfy visitors with differing personality traits. Just as information can be layered in increasing degrees to satisfy individuals with varying degrees of NC, we suggest that displays provide multiple opportunities for sensory experience so that individuals with a high NSE can pursue their enhanced sensory interest.

Figure 5a.

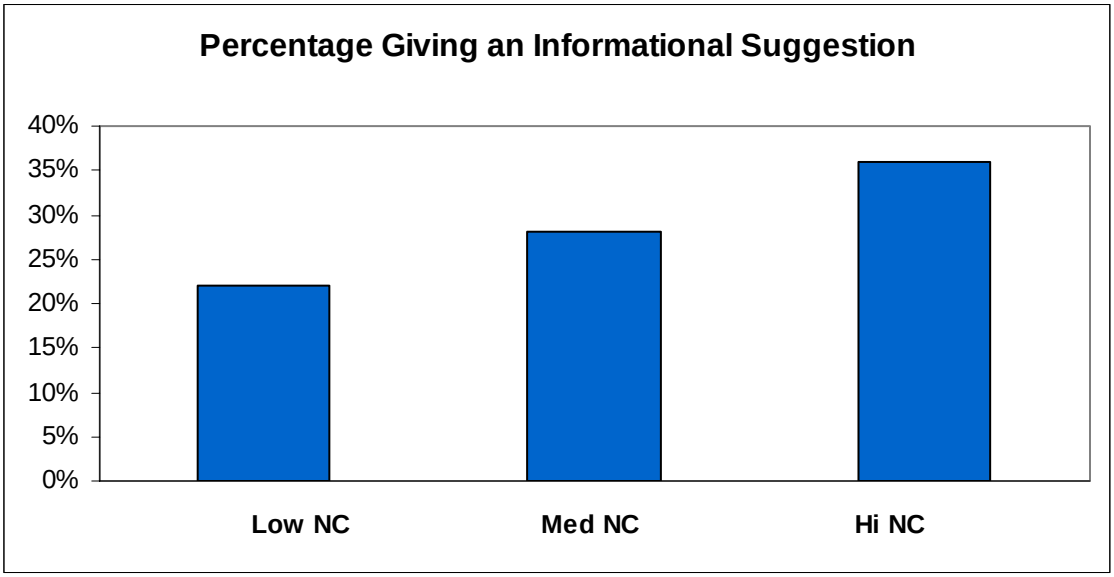
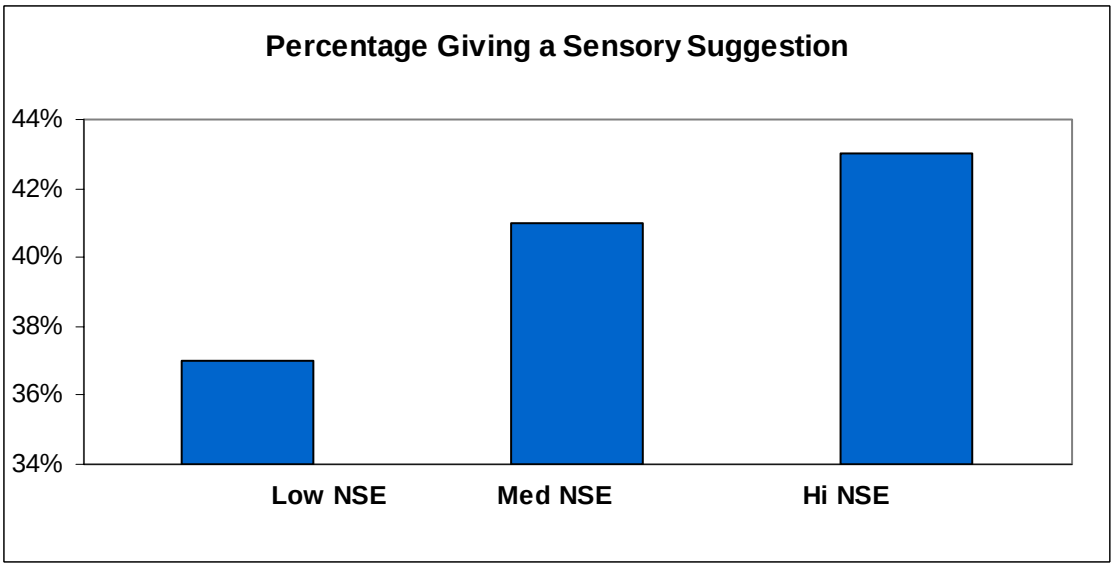


Figure 5b.



G. Perceived Client Support.

Perceived client support (PCS: Eisenberger, 1999) refers to the extent to which clients believe that an organization responsible for providing goods or services to them values their contribution to its success and cares about their well-being. We selected four items to assess visitor's perception that NPS values their well-being and their contribution to its success. Two examples of items designed to measure PCS are as follows: The National Park Service really cares about my satisfaction while I am here, and The National Park Service is willing to go out of its way in order to help me get the most out of my visit. The NPS achieved high average levels of PCS among the visitors: 8.4 and 8.5, out of a possible score of 10, at the RMNP and YNP National Parks, respectively.

Table 2 gives the extent to which each of five visitor center conditions contributed to PCS, combining the visitor responses across the two parks. The visitor center condition making the strongest contribution to PCS was the friendliness and helpfulness of the rangers at the information desk. Next came the quality of available information and the presence of a pleasant atmosphere that promoted conversation. The availability of convenient and comfortable places to relax and lack of crowding had the least effect on PCS. These findings indicate the importance of direct contact between visitors and park rangers for maintaining the high level of esteem in which the public currently holds the NPS.

Owing to the reciprocity norm, clients who are well treated and have their socioemotional needs met by an organization show an increased loyalty to the organization and a willingness to help the organization fill its goals. Consistent with this view, we found that when visitors at the Canyon visitor center at YNP were given the opportunity to give a quote that could be used to promote park attendance, the number of individuals providing a quote was an increasing function of their PCS ($p < .05$). This suggests that favorable treatment received from park rangers has positive consequences both upon visitors' attitudes and behaviors.

Table 2. Antecedents of Perceived Client Support

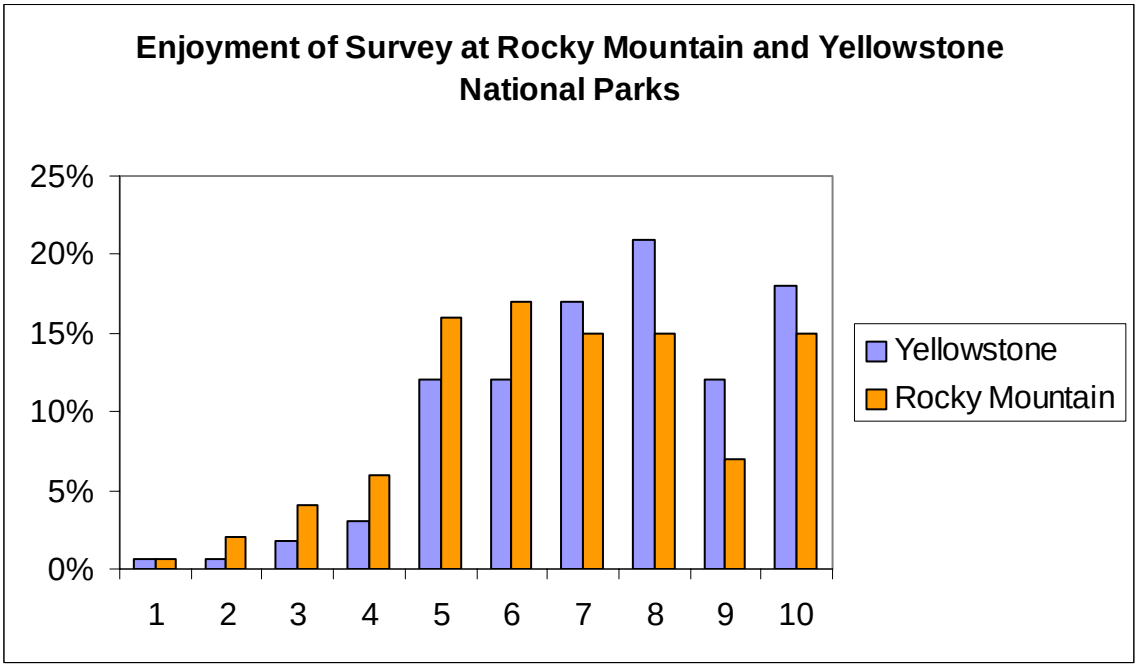
Antecedent	**Beta**	**Sig.**
Friendliness and helpfulness of people at information desk	.265	.000
Information allowing me to make informed decisions about park activities	.189	.000
Presence of pleasant atmosphere that promoted conversation	.166	.000
Availability of convenient and comfortable places to relax	.130	.001
Lack of crowding in display areas	.088	.018

H. Satisfaction with survey

Proposed research projects involving visitors are required to report the total number of "burden hours" required of visitors. This pejorative term supposes that visitors find survey projects unpleasant. In the case of research projects that allow visitors to have their views heard about important issues, to interact with staff in interesting ways, or to think about their experiences with new perspectives, research projects might be enjoyable rather than aversive.

Therefore, we asked participants at YNP and RMNP how much they enjoyed taking the survey, using a 10-point scale (1 = highly unenjoyable; 10 = highly enjoyable). The average levels of enjoyment were 7.39 at YNP and 6.79 at RMNP. As shown in Figure 6, most visitors reported that taking part in the survey was enjoyable; only a very small percentage found it unenjoyable. These data suggest that a substantial majority of visitors enjoy the opportunity to express their views about important issues. Properly conducted research can be beneficial both to the NPS and the visitor.

Figure 6.



VII. Outdoor Experiences

Upon arriving at the parks, visitors were asked by rangers if they would like to participate in the survey. Those agreeing to participate were given directions to a turn-out point beyond the entrance gates where survey crews were administering the survey. Visitors filled out the first page common to all surveys (described in General Methods) on site, and then were given one of two surveys. In the first survey, visitors were exposed to a variety of media combinations in order to examine how to best influence visitor behavior. In the second survey, visitors received a questionnaire in which they were asked to record what they enjoyed most at regular time intervals in order to examine what visitors were doing, and most importantly, what they were enjoying. In addition, all visitors wrote down their most and least satisfying park experiences and indicated how much they enjoyed their trip that day.

A. Most Satisfying Outdoor Park Experiences

Visitors at the entrances to both parks were also asked to record their most satisfying experience during their visit that day. At both YNP and RMNP, scenery, wildlife, and hiking constituted the three most enjoyable experiences reported by visitors. However, the pattern of preferences differed between the parks. As shown in Figure 7, viewing scenery was the most popular experience at both parks. However, viewing wildlife was the second most satisfying experience at YNP whereas hiking was the second most satisfying experience at RMNP. Approximately twice as many visitors found viewing wildlife to be their most satisfying experience at YNP as compared to RMNP. Visitor comments suggest that greater numbers of unusual animals may attract the interest of visitors at YNP than at RMNP.

Approximately three times as many visitors found hiking to be their favorite activity at RMNP as compared to YNP. Perhaps these differences in satisfaction between the parks for hiking emerged because people generally visit Yellowstone to see nationally

recognized natural phenomena, and as a result, satisfaction stems mainly from viewing pleasurable sights. At Rocky Mountain, however, visitors may come to the park primarily for the backwoods experience; therefore, satisfaction is based on both scenery and outdoor activities such as hiking.

The fourth most enjoyable outdoor activity at both parks involved contacts with staff, which is notable in view of the limited number of opportunities for contacts with staff within the parks. Visitors generally felt that the staff members were easily accessible, knowledgeable, and friendly. Visitors are able to learn about additional aspects of the parks when staff members are both available to guests and knowledgeable about the parks.

For both parks, the total percentage of most and least satisfying experiences exceeds 100%, as many visitors named more than one experience. Details concerning satisfying outdoor experiences at both YNP and RMNP follow.

1. *Scenery*

At both Yellowstone and Rocky Mountain National Parks, viewing scenery was the most frequently mentioned as the most satisfying park experience (Yellowstone, 61%; Rocky Mountain, 51%). For many visitors, the sights of the park landscapes provided a unique and memorable park experience. Below are typical statements made by visitors to the parks regarding enjoyment of scenery.

Yellowstone

- Hiking into Pelican Valley and being able to enjoy the solitude, the beauty of the scenery and its pristine quality.

- Scenery- Epitome of American beauty.

- The scenery. The landscape and wildlife is like no other.

- Seeing the beautiful mountains, valleys, trees, green grass, animals, geysers and beautiful rivers.

- Firehole Canyon Drive. The scenery was spectacular. Truly breathtaking!!

Rocky Mountain

- I love the scenery and seeing and experiencing nature.

- The beauty of the park, the waterfall and hike from Bear Lake to Glacier Gorge Campground.

- Enjoying the many panoramic vistas, we are reminded of not only the awesome majesty we can observe, but the awesome majesty of the one who created it.

- Scenery along Lava Cliffs, Rainbow curve, Iceberg pan, etc. Outstanding beauty of views.

- We love the beautiful scenery. We enjoyed the tundra which is so different.

2. *Wildlife*

In addition to scenery, viewing wildlife seemed to be an important component of visitor satisfaction at both parks. However, substantially more visitors mentioned wildlife as their most satisfying experience at Yellowstone (42%) than at Rocky Mountain (22%).

Yellowstone

- Interesting to see unusual animals.
- Wildlife viewing. Not everyday do you get to see a bull moose in a pond. Three massive elk racks (with elk!), bison being herded from road by a ranger vehicle, and a grizzly bear grazing his way up the road.
- Viewing the wildlife, the only place I've been that has the variety and numbers of animals.
- The elk and buffalo. I enjoy seeing the wildlife in their own habitat.
- Watching a herd of elk (all female) grazing and resting because viewing wildlife for a lengthy period is always a joy.

Rocky Mountain

- Seeing moose momma and 2 babies crossing Colorado River.
- I enjoyed seeing the marmots play.
- Seeing wildlife (elk, moose, chipmunks, marmots, etc. in their natural habitat.
- The baby ducks and chipmunks because they're cute.
- Elk, deer, fish, birds. To see wildlife is part of why I come here.

3. *Hiking*

At Yellowstone, 9% of visitors mentioned that hiking was their most satisfying experience, while 28% of Rocky Mountain visitors mentioned hiking to be their most satisfying experience

Yellowstone

- I enjoyed hiking on the Artists Paint Pots trail and the Mary Mountain trail. both of these trails were quiet and I enjoyed seeing the thermal features and bison herd respectively.
- Hiking above the line of the forest. There were wonderful views and no people.
- Walking through the geyser trail at Porcelain Basin. It was beautiful and peaceful and a nice walk for the family.

- Hiking to the bottom of Tower Falls and watching an osprey interact with the young bird still in a nest.

- Hiking with companion because of the sights, sounds, and the peace.

Rocky Mountain

- Hiking-it was nice walking. Camping- I like to camp here.

- Hike up to top of Estes Cone. One of the nicest trails we've been on so far. Person handling survey did a great job!

- Walking off trail and seeing no one. Silence looking for birds.

- Beirdstat Lake hike – Awesome views and good workout.

- Walking through the forests, peaceful, relaxing, inspirational.

4. *Staff*

Even though extended contact with park rangers is probably infrequent for most visitors, 6% of visitors at Yellowstone and 5% of visitors at Rocky Mountain commented that interactions with the park staff was their most satisfying park experience.

Yellowstone

- The park employees are all very friendly and service-oriented.

- I always enjoy the tours and lectures by the park rangers. I learn more from them than any other way and they always teach me something new.

- Meeting knowledgeable and entertaining employees.

- Ranger walk at West Thumb Geyser Basin. Well planned and articulate.

- All the employees are friendly and willing to help.

Rocky Mountain

- Ranger led programs. We went to several very interesting programs, great information. Rangers were all great speakers.

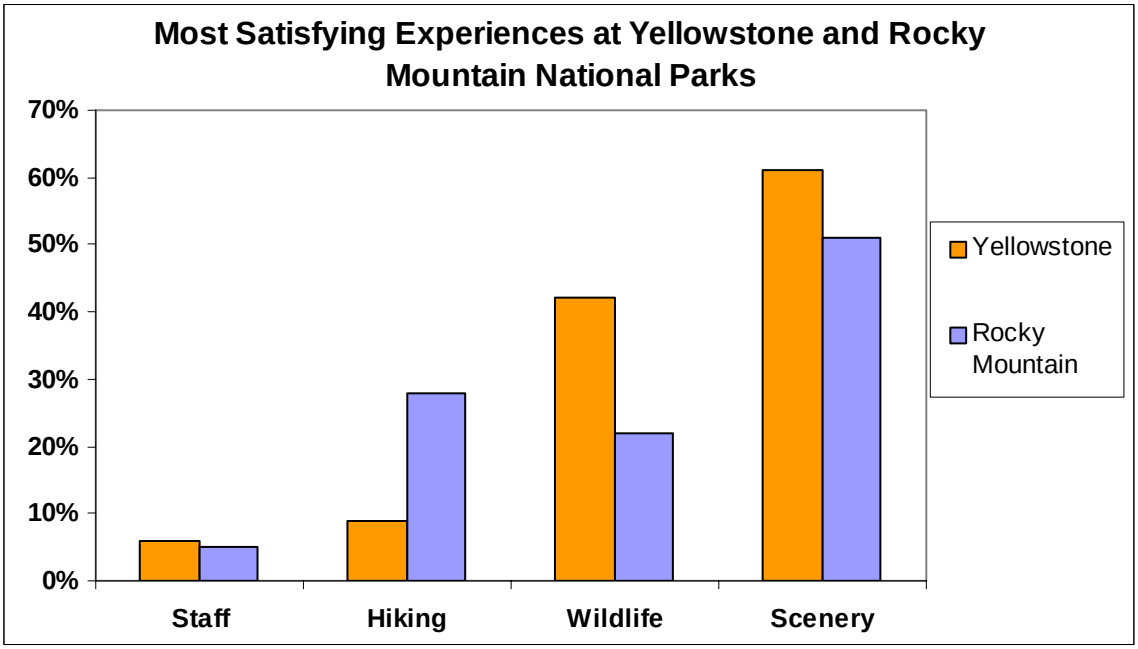
- I really enjoyed the ranger's Morain Park history talk.

- I enjoyed the helpful staff, as always.

- Park rangers – very helpful and knowledgeable about the park.

- Wildflower walk lead by ranger at Lily Lake.

Figure 7.



B. Least Satisfying Outdoor Park Experiences

The experiences found least satisfying by visitors are given in Figure 8. Roadwork constituted the strongest source of dissatisfaction among Yellowstone visitors. Many of the visitors who were familiar with the park stated that the improvements would be worth the inconvenience. Perhaps handouts to park visitors concerning the factors contributing to construction delays would be helpful.

Crowding and heavy traffic taken together constituted a major source of dissatisfaction among approximately a quarter of the visitors to both RMNP and YNP. The frequent complaints of crowding may be related to administration of the survey during the busy summer season. Nevertheless, it should be a source of particular concern when a large park such as RMNP and one of the largest national parks (YNP) cannot sustain feelings of peace and solitude that are a fundamental part of the unique park experience. Many visitors commented that the implementation of a more extensive shuttle system throughout the parks could help relieve the traffic problem. Additionally, perhaps both parks could provide guests with literature suggesting possible places to visit that are off the beaten path.

Damage to the environment was a frequent source of concern to RMNP visitors but not YNP visitors. Because the frailty of the environment at YNP and absolute necessity to avoid walking on or otherwise damaging restricted land is stressed in a variety of media, the low percentage of reports of such damage is reassuring. In contrast, a worrisome proportion of visitors reported being upset concerning damage to the RMNP environment. Almost all these complaints involved visitors viewing others walking on the tundra in violation of park rules.

The next major source of disappointment was the lack of wildlife. The ratio of individuals reporting their most favorable-versus-least-favorable experience involving wild life was approximately 6:1 for YNP and 3:1 for YNP. Realistic information in newsletters

and contemporary information about when and where animals of interest can be viewed might help reduce such disappointment.

The final notable source of dissatisfaction occurred for approximately 7% of YNP visitors (as opposed to 3% for RMNP) who complained that there were too few restrooms or that they were poorly maintained. We suggest that either more attention be given to bathroom construction and maintenance or that visitors be given a more salient explanation in the park newspaper and other park media explaining the reasons for the present restroom conditions. Details concerning least satisfying park conditions are given below.

1. *Road Work*

At Yellowstone, approximately 20% of visitors commented that the road work within the park was their least satisfying park experience. Even though visitors commented that the construction was a hindrance, many noted that it was necessary given the condition of the park roads.

- The road construction. It held us up from seeing some of the sights.
- Road construction, but the improvements will be worth the inconvenience.
- Road construction. Very dirty and slowed down travel.
- The road construction – was dusty and delayed our trip.
- The road work made the time we had very minimal.

2. *Traffic*

Visitors from both Yellowstone and Rocky Mountain felt that there were too many cars along the park roads (12%, Yellowstone; 15% Rocky Mountain). Moreover, some of these guests commented that the amount of cars in the park made it terribly difficult to find parking spots around some of the popular stops.

Yellowstone

- Sitting in traffic.
- Traffic caused congestion along roads.
- Traffic jams due to people looking at animals.
- Traffic – too hard to pass, too few passing zones.

Rocky Mountain

- Amount of traffic in afternoons. Buses seem to help.
- Crowds and bumper to bumper cars.
- High Amount of traffic on roads.

- Traffic. People are not aware how to drive in the mountains.

3. *Crowding*

At both Yellowstone and Rocky Mountain, park guests found crowding to be the least satisfying component of their park experience (10 %, Yellowstone; 10%, Rocky Mountain). Generally, guests felt that crowding detracted from their overall enjoyment of the park environment. Visitors with the expectation that they will be able to fully experience nature seemed a bit disappointed when they were distracted by other park visitors.

Yellowstone

- Crowded areas like Tower Falls. The falls are beautiful, but fighting way through gift shop crowd ruins the area.

- Areas of the park were more congested than Disney World. The focus should be returned to the natural aspects of this Park.

- Number of people visiting the park – too crowded, but what can we do about it? (issue a limited number of permits?)

- As always, too many people, but that can't be helped.

- All the people – didn't feel like I was in the mountains.

Rocky Mountain

- Large group making loud noise. I come here to hear peacefulness.

- Too many tourists!

- Too many people in the park.

- Many people on the trail during our return trip.

- So many people (but that's what it's for).

4. *Damage to the Environment*

Only at Rocky Mountain did a significant number of visitors comment that witnessing others damaging the environment was the least satisfying park experience (13%). A great majority of these comments were directed toward visitors who walked along the tundra.

- Watching people walk on the tundra. A flagrant disregard for rules and regulations damaging to the ecosystem.

- People (especially teenagers) not obeying the park rules (no walking on the tundra) and being disrespectful to the park rangers (we observed this in our campground).

- Even though there are signs everywhere, people insist on walking on the tundra. It is unfortunate that people don't pay closer attention.

- People out on the tundra oblivious to the damage they were doing to plants there.

- Visitors off trails, in restricted areas, climbing rock formations.

5. *Wildlife*

Even though many visitors commented that viewing wildlife was their most satisfying park experience, 6% of visitors at Yellowstone and 7% of visitors at Rocky Mountain found the wildlife to be their least satisfying park experience. Apparently, many visitors seemed to believe that the park would be teeming with wildlife, and were disappointed when their expectations were not met.

Yellowstone

- Not able to see many types of wildlife in spite of visiting three days.

- No elk- get rid of the wolves!

- Saw very little wildlife – no buffalo. Few elk.

- Not seeing any bears or wolves.

- Not seeing as many wild animals as I remember seeing as a child, specifically bears.

Rocky Mountain

- Not enough wildlife seen.

- The Bighorn sheep were not around. Of course nothing can be done about that.

- No bighorn sheep. No beaver in Beaver Meadows.

- Poor bird watching – saw no birds of prey.

- Did not see bears.

6. *Restrooms*

At Yellowstone, 7% of visitors commented that the restrooms were their least satisfying park experience, while at Rocky Mountain, 3% of visitors commented on the restrooms. These visitors commented that the restrooms were not well maintained or that there were not a sufficient number of restrooms throughout the park. Many of these

comments were directed toward the smell of the restrooms with non-flushing toilets. Even though visitors are in the wilderness, they apparently expect spotless, fully functioning restroom facilities.

Yellowstone

- The restrooms! Most of them have not been cleaned in a very long time or had the trash emptied recently. If you are paying to have this done you are being ripped off.

- The non-flushing toilets at the picnic areas need to be pumped out and cleaned more often. Why? Go smell for yourself!

- The stank toilets with flies. And I would like to add that sulfur smells very good after smelling the restrooms.

- Bathrooms – no seat liners, even in visitors center.

- The outhouses! Yuck! They smelled bad, were full of flies, the seats had urine on them and there was no place to wash hands.

Rocky Mountain

- The ladies room at Alluvial Fan had no lock.

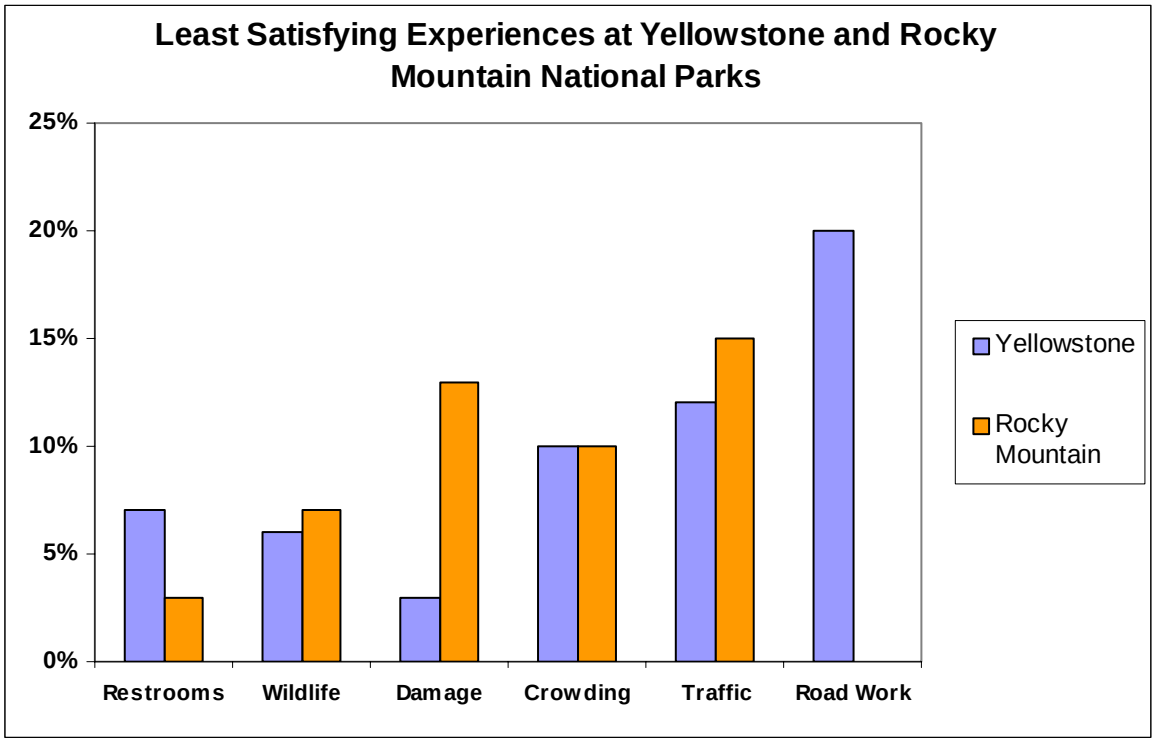
- Restrooms without plumbing

- Stinky chemical toilets at the picnic area by falls road.

- Need of restrooms.

- Restrooms stink.

Figure 8.



C. Experience Sampling of Visitor Activities

Some of the YNP visitors were asked to keep track of their activities at half hour intervals for three hours as they progressed through the park from the north and west entrances. This experience sampling methodology (ESM) is used to obtain repeated naturalistic observations of individuals' behaviors over time. A typical ESM questionnaire asks individuals to provide reports of the activities they are engaging in and poses questions about their emotional state or enjoyment of the activities. In the present study, visitors indicated the activity they were engaged in by choosing from among nine options: sightseeing from a car, sightseeing from an outdoor location, walking, hiking or climbing, picnicking, shopping, attending a ranger-led activity, photography, viewing visitor center exhibits, or "other," in the event of which visitors were asked to indicate what this other activity was. In addition, visitors indicated how much they enjoyed the activity at a given time period and how favorable the activity was for meeting a variety of individual needs, such as interesting things to see, smell and hear, opportunities for learning, opportunities for exercise, opportunities for sharing experiences with others, and opportunities to experience peace and quiet.

Figure 9 gives the frequencies with which the three most frequently reported outdoor activities were carried out at half hour intervals during the visitors first three hours in the park. Figure 10 gives the same information for the next five most frequently reported activities. As may be seen from the two figures, most of the first half hour was spent on sightseeing from a vehicle with lesser reports of outside sightseeing and photography. At subsequent time intervals outside sightseeing and other activities increased. However, over time, sightseeing whether from one's vehicle or outside, was the predominant activity.

Visitors' personality traits did not have a measurable effect on what activities visitors said they enjoyed or the activities they said they carried out. This lack of influence of personality traits may be contrasted with the visitor center findings which showed that need for sensory experience was associated with a desire for enhanced sensory properties of displays, whereas need for cognition was associated with a desire for enhanced informational properties of displays. Perhaps the outdoor features of YNP result in individuals spending most of their time sightseeing, producing limited variability in what visitors report they are enjoying.

Figure 9.

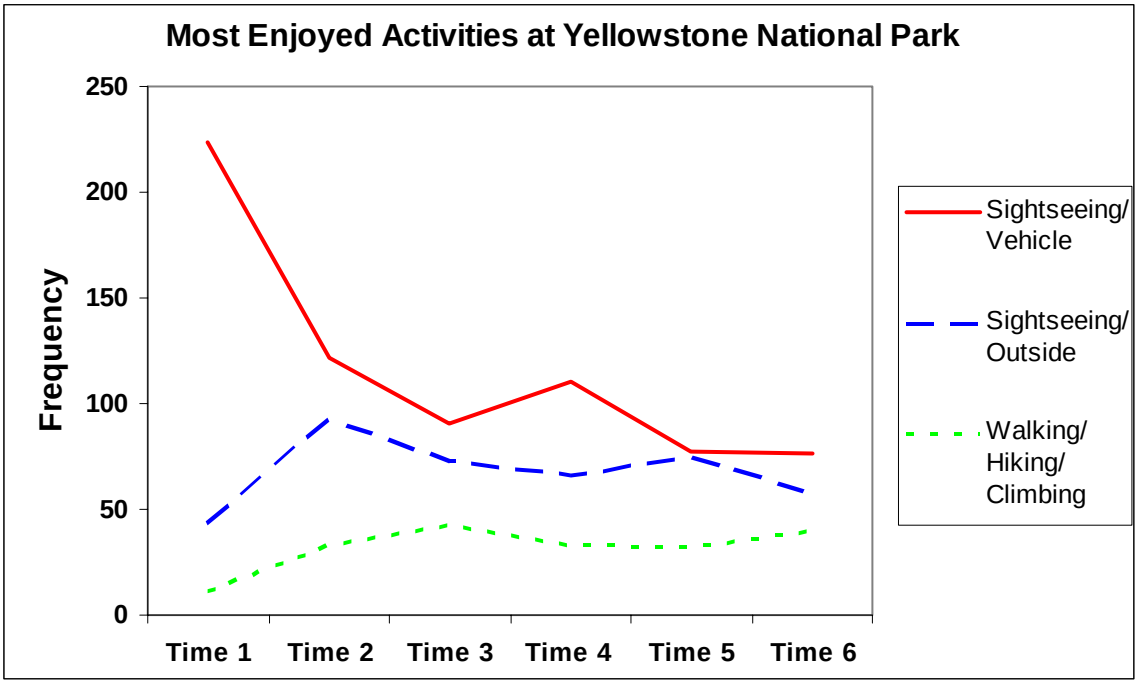
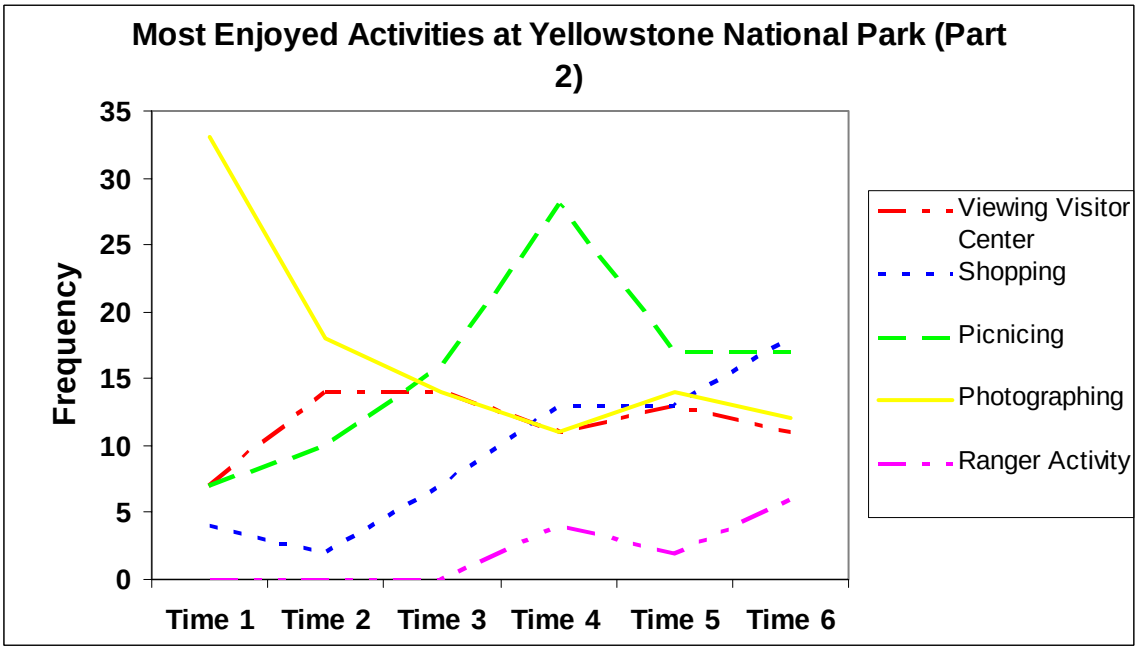


Figure 10.



D. Interest in Textual Media: Influences of Pictures and Personality

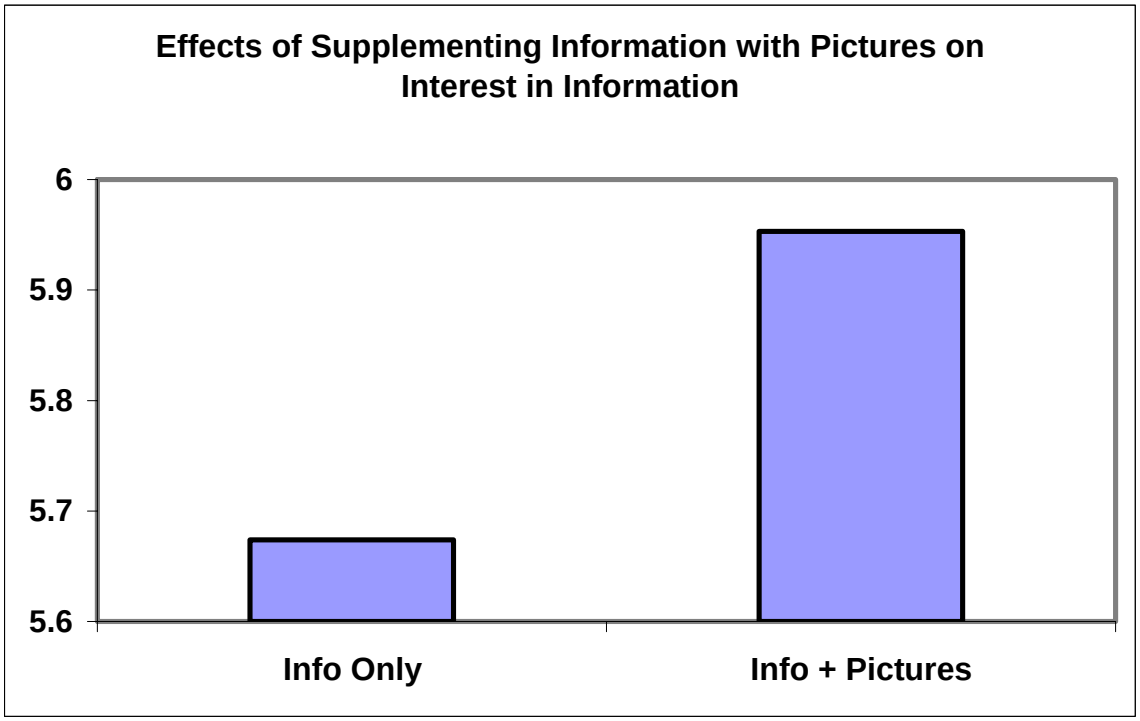
Providing photographs to accompany text in park pamphlets, newspapers, and other media is expensive. Do such photos add to reader interest? One purpose of the present phase of the study was to investigate whether pictures would enhance interest in information about a possible place to visit in the park. A second purpose was to test the prediction that such an effect would be heightened among individuals with a high NSE. We have found in unpublished research that high NSE individuals show greater interest in learning when information is accompanied by pictures. Therefore, the enhancing effect of pictures on interest in information should be greater among high NSE individuals than among low NSE individuals.

A third purpose of the study was to examine the extent to which different combinations of media would influence where visitors would choose to go in the park. At each park, visitors were randomly assigned to one of four media conditions concerning possible places to visit in the parks: a map only, pictures of particular sites, information about the sites, or both pictures and accompanying information. Visitors in the latter three conditions were provided with maps as well, in order to direct them to the suggested sites. At Yellowstone, a visitor in the information and pictures condition, for example, received a glossy page that contained a photo of Grand Prismatic Spring, information about the spring, such as "Rainbow colors streaming from its edges are colonies of microbes thriving in scalding water," and a map detailing where to find the spring in the park. A separate survey asked visitors to indicate if they visited any of the sites suggested by the provided media.

After visitors were exposed to one of the four types of media, they were asked to answer several questions concerning the content of the media. Depending upon the assigned condition, visitors were asked to rate their enjoyment of each pictures and interest in each piece of information. Figure 11 shows interest in the information on a scale of from 1 to 7. Pictures increased visitors' interest in the information about the sites. Also, the effect was stronger for individuals with a high NSE. The fact that the finding was particularly strong for visitors high in NSE, coupled with the notion that a large number of visitors to the national parks are high in NSE, suggests that parks should consider providing visual representations of any important information they wish to provide to visitors. Pictures serve to enhance interest in information, and may therefore make information visitors receive in the parks more memorable. The promotion of ranger talks, conservation efforts, special events, and safety warnings are but a few of the countless types of information that may be significantly enhanced by the inclusion of contextual pictures.

A series of statistical tests revealed that none of the media conditions significantly influenced the number of suggested sites visited at either park. There are several possible reasons why this media manipulation did not significantly influence visitors' behavior. It is possible that the information provided simply was not compelling in nature because it did not contain sufficient details about the sites. Perhaps visitors looked to other media, such as the parks' newspapers for more specific, detailed information on places to visit in the parks. An alternative explanation is that many visitors arrived in the parks with plans already in place, and the provided media did not alter their decisions about places to visit.

Figure 11.



VIII. Specific Park Information

Information of specific value to the individual parks (YNP and RMNP) follows.

A. Newspaper Utilization

Presented below in Figure 12 is the percentage of visitors at each park who reported that they used the newspaper for each of the four types of information included in the questionnaire. At both parks less than 50% of all visitors reported using the newspaper for any given type of information and a smaller number of individuals reported using the newspaper at Rocky Mountain than at Yellowstone. Figure 13, however, reveals that visitors who used the newspaper at either of the parks found it to be a very useful informational source, indicated on a 1-7 scale.

Figure 12

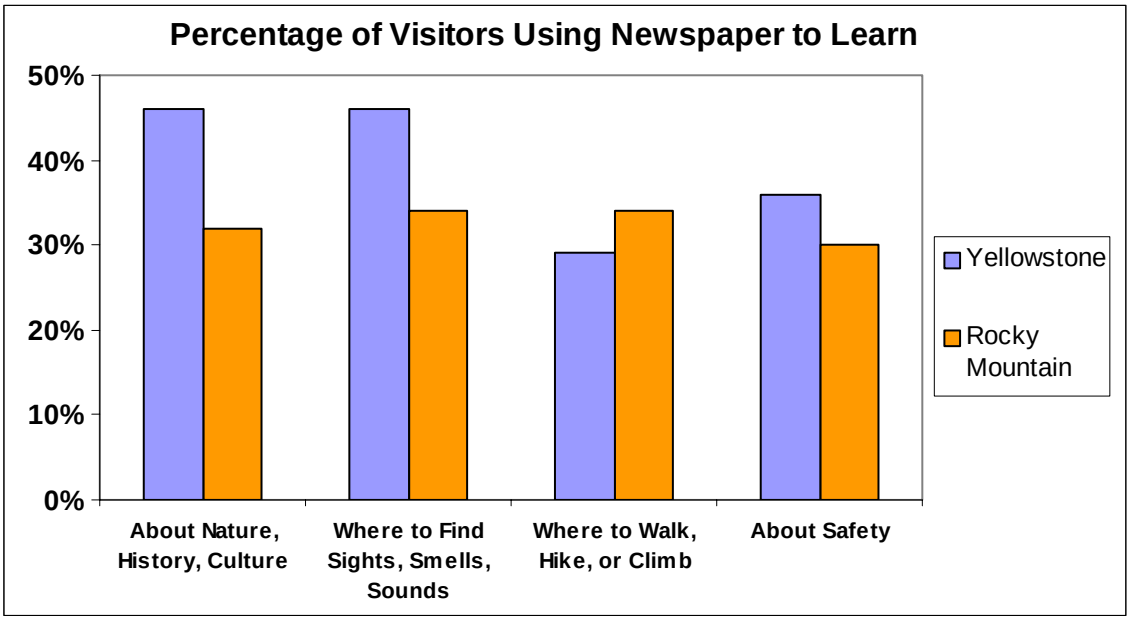
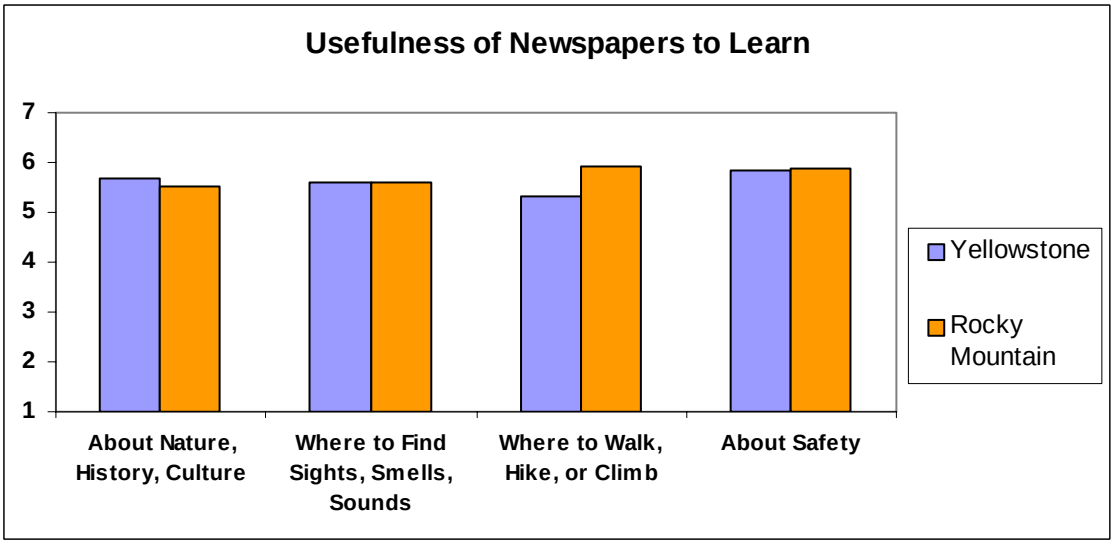


Figure 13.



B. Visitor Profiles

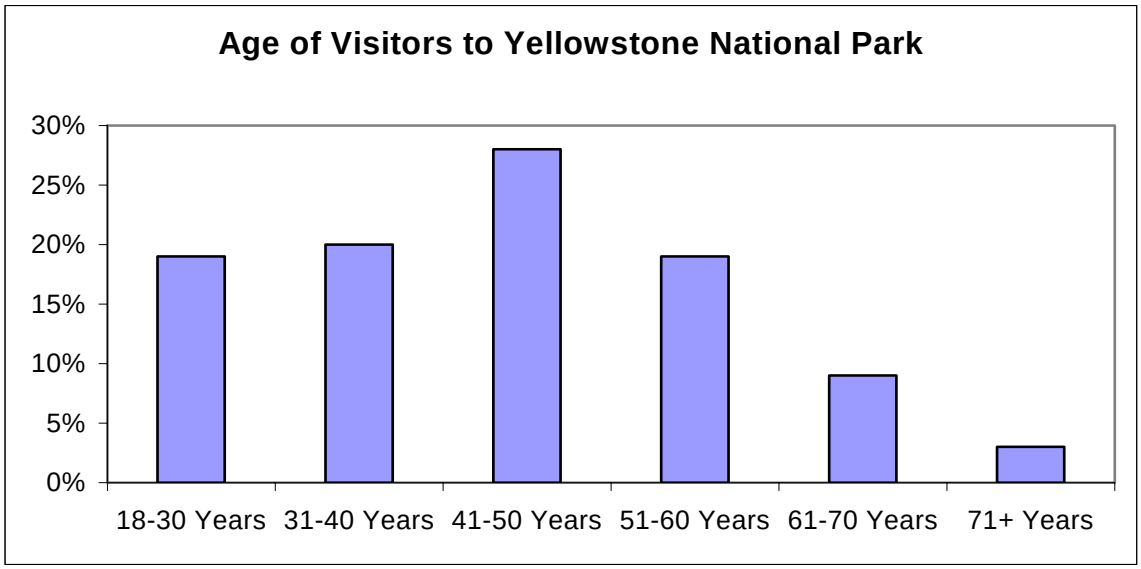
All visitors that were surveyed at both parks answered a series of questions that are telling of the types of individuals that visit each of the parks. These questions included the age of visitors, with whom visitors came to the park, how far they traveled, how long its been since they last visited the park, and how often they visit national parks each year. Presented below are profiles of the visitors to each park who participated in the survey. *Note that tour groups are underrepresented since such visitors often lacked the time to fill out questionnaires. Also, only those at least 18 years old were surveyed.*

1. *Yellowstone National Park*

A total of 1739 visitors, were surveyed both in the visitors center and at the entrances to Yellowstone. Forty-nine percent (49%) of the responding visitors were male

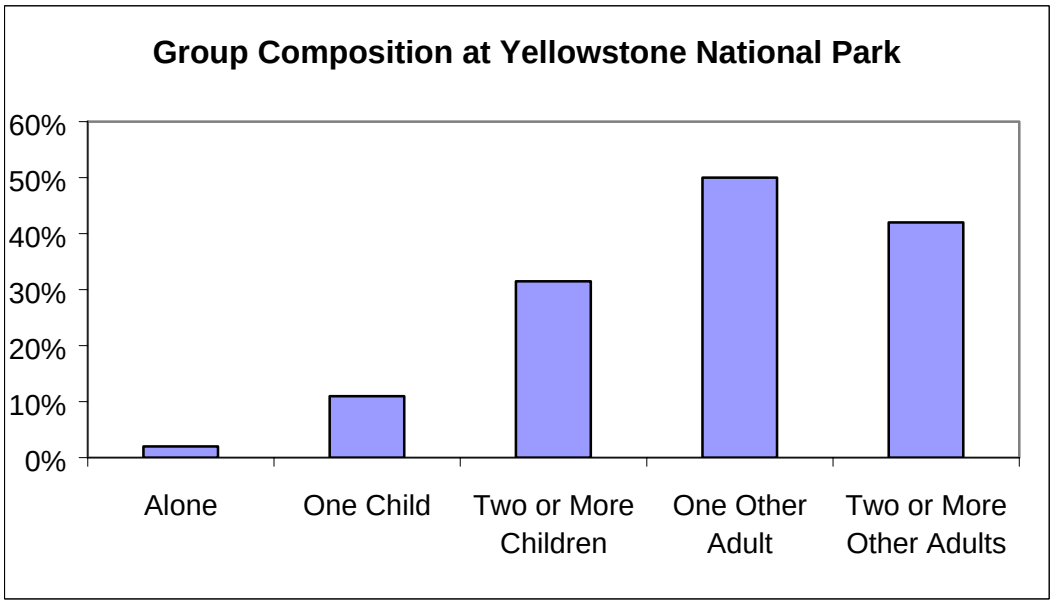
and 51% were female. The average age of the visitors surveyed at Yellowstone was 44 years. Percentages of visitors' ages are presented below in Figure 14.

Figure 14



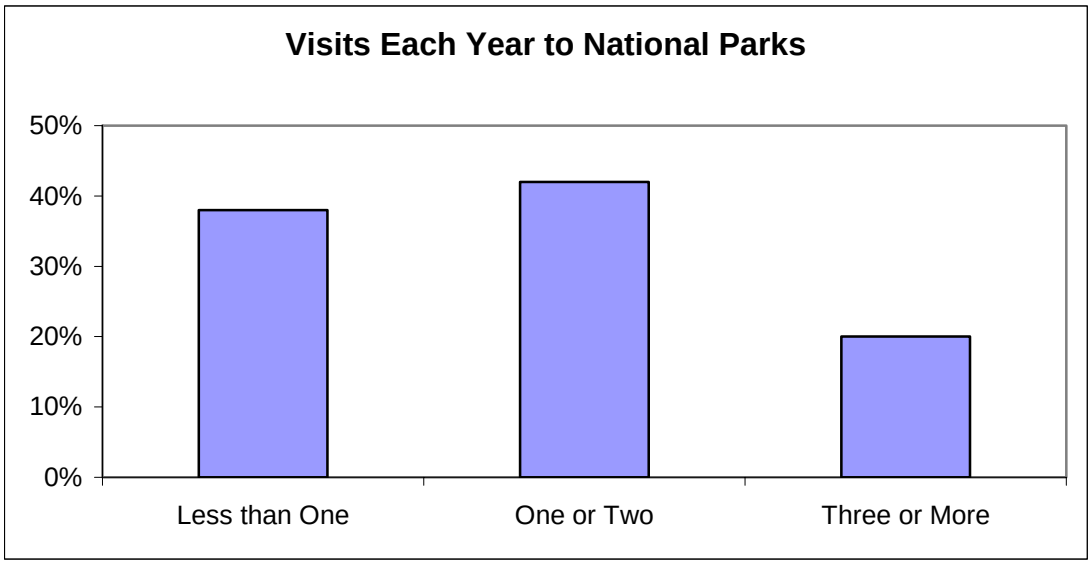
Visitors to Yellowstone were asked to indicate whether they were visiting the park as: part of a tour group, alone, accompanied by another adult, accompanied by two or more other adults, accompanied by one child, or accompanied by two or more children. The percentage of visitors indicating with whom they were visiting is presented in Figure 15.

Figure 15.



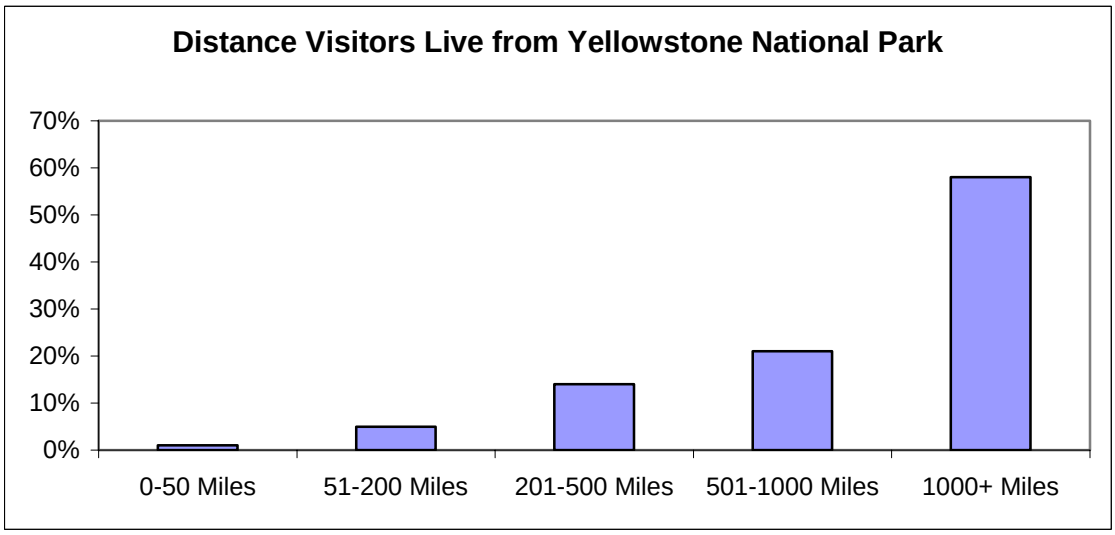
Visitors to Yellowstone were asked to indicate how often they visit national parks: less than once a year, once or twice a year, or three or more times each year. The percentage of visitors indicating how often they visit national parks is presented below in Figure 16.

Figure 16.



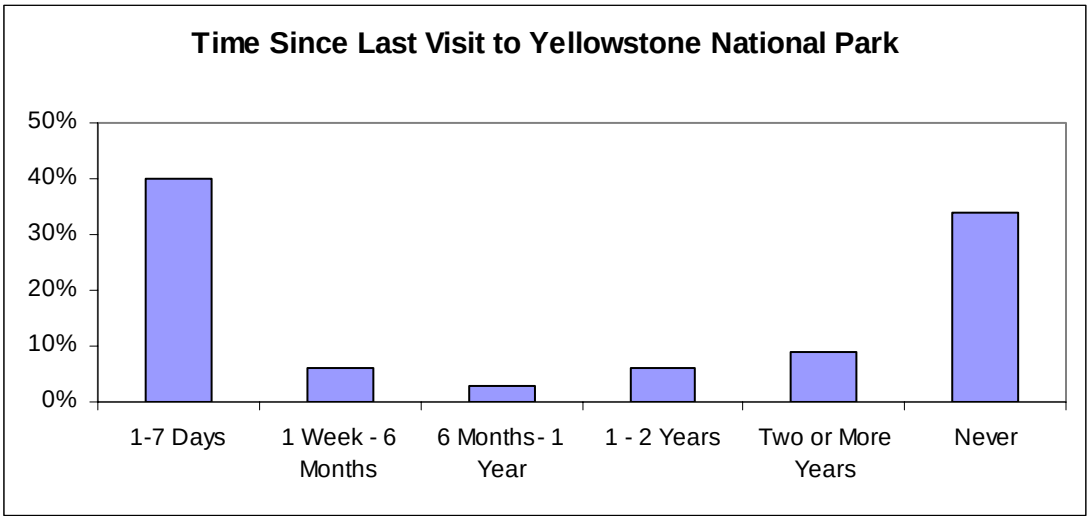
Visitors to Yellowstone were asked to indicate how far they live from Yellowstone National Park. The percentages of visitors living at each of the five distances from the park are presented below in Figure 17.

Figure 17.



Visitors were also asked to indicate how long it had been since they last visited Yellowstone. Percentages of responses are presented below in figure 18 for each of the six time periods.

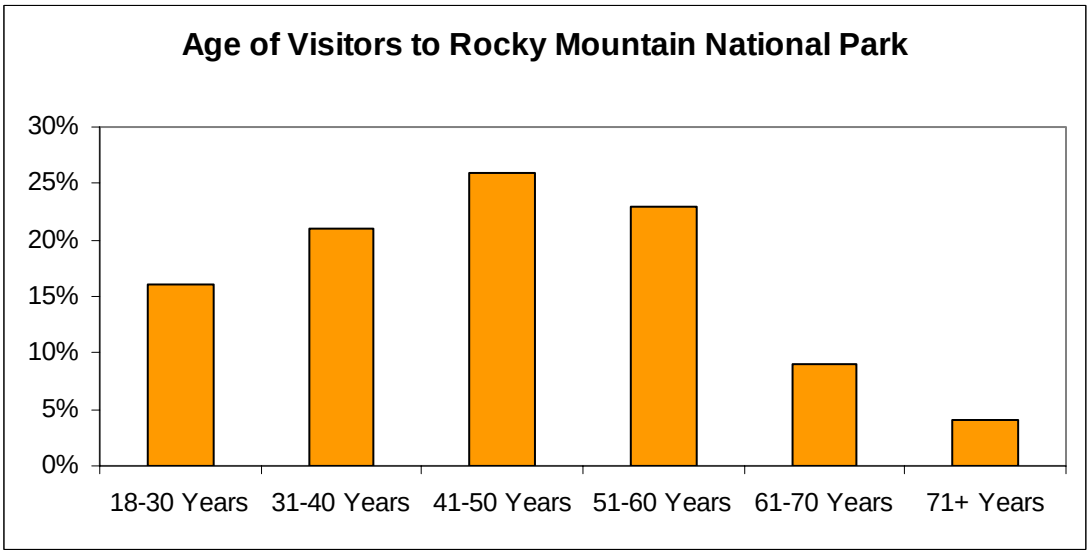
Figure 18.



2. *Rocky Mountain National Park*

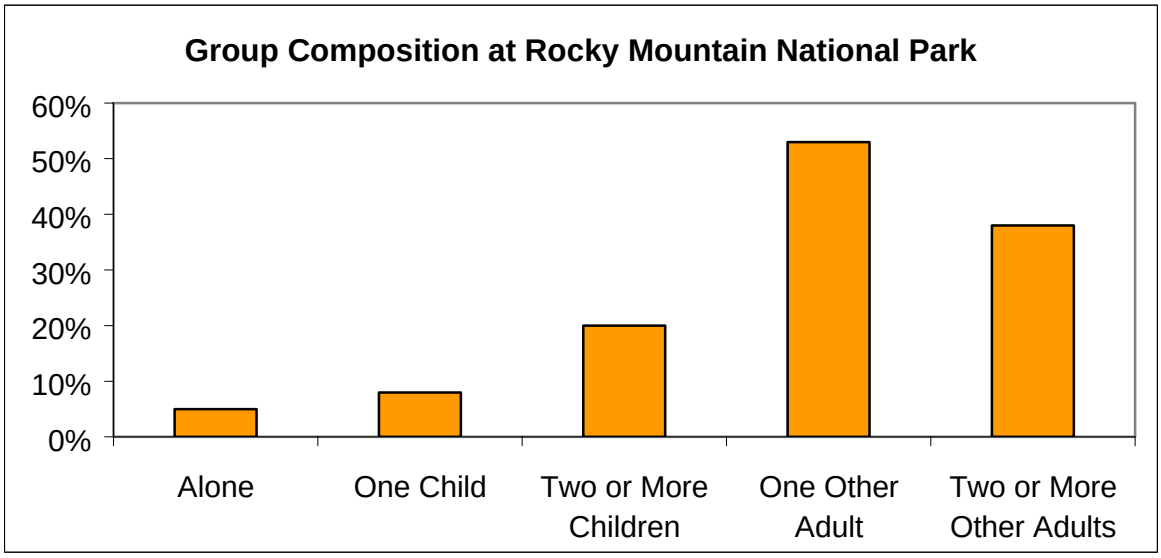
At Rocky Mountain National Park 848 responses were obtained at both the visitors center and at the park's entrance. Of these visitors 49% were male and 51% were female. The average age of the visitors to Rocky Mountain was 45 years. Percentages of visitors' ages are presented below in Figure 19.

Figure 19.



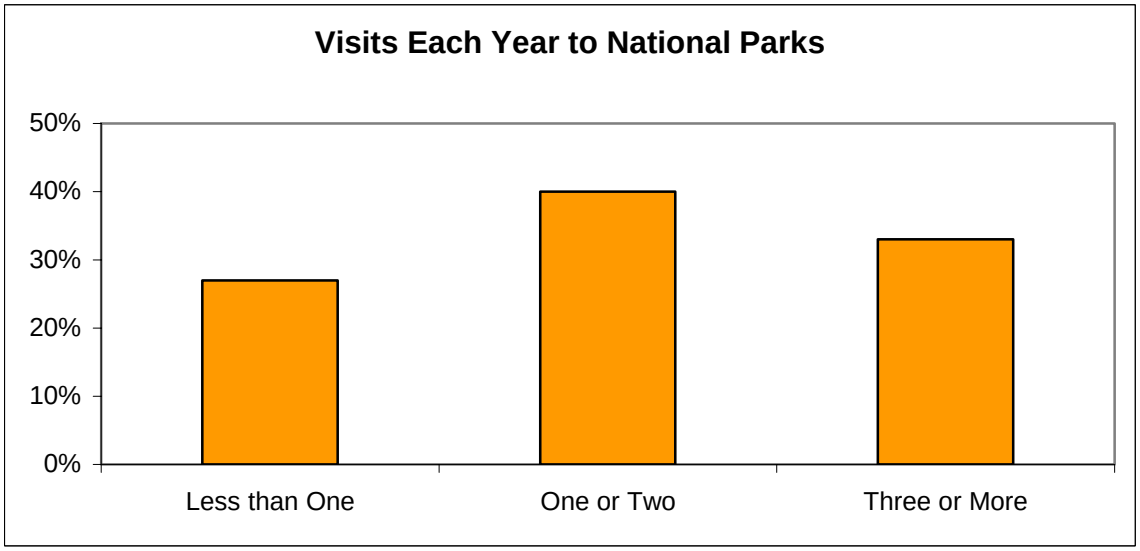
Visitors to Rocky Mountain were asked to indicate whether they were visiting the park: as part of a tour group, alone, accompanied by another adult, accompanied by two or more other adults, accompanied by one child, or accompanied by two or more children. The percentage of visitors indicating with whom they were visiting is presented in Figure 20.

Figure 20.



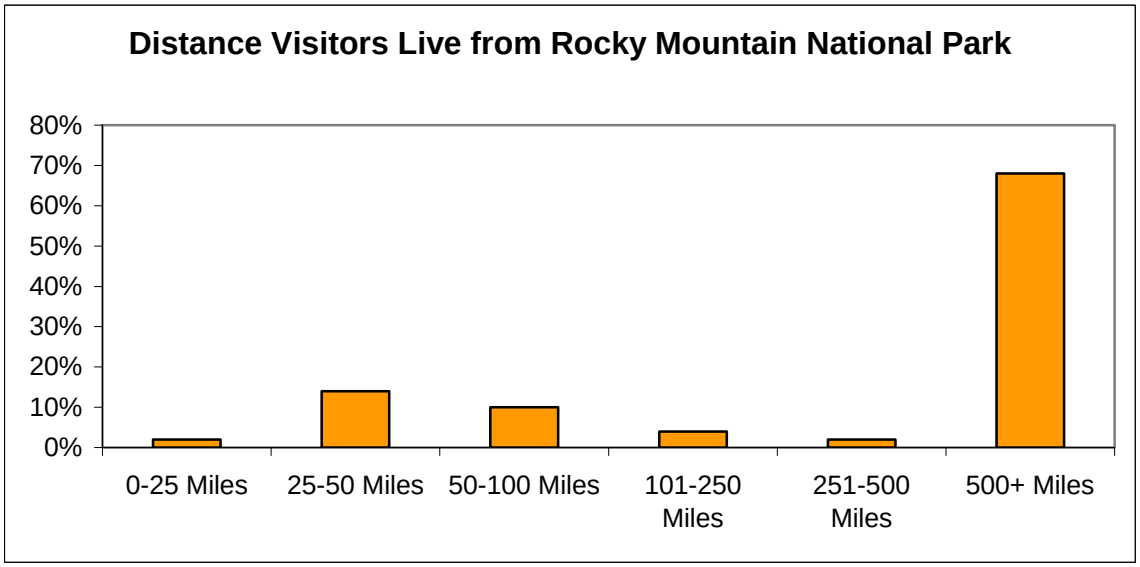
Visitors to Rocky Mountain were asked to indicate how often they visit national parks, less than once a year, once or twice a year or three or more times each year. The percentage of visitors indicating how often they visit national parks is presented below in Figure 21.

Figure 21.



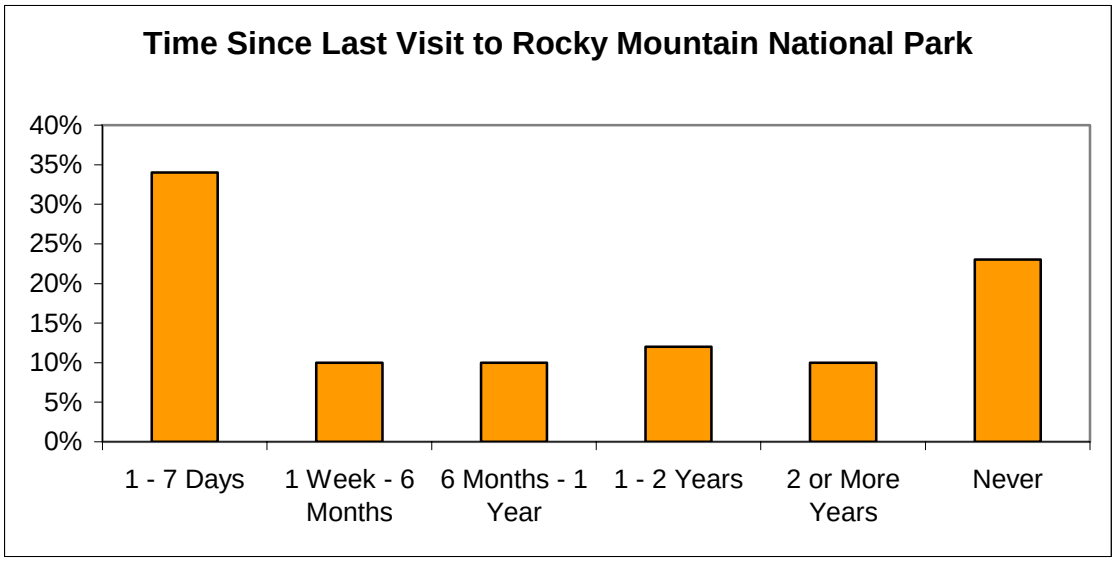
Visitors to Rocky Mountain were asked to report the distance they lived from Rocky Mountain National Park. The percentages of visitors living at each of five distances from the park are presented in Figure 22.

Figure 22.



Last, visitors were answered a question about how long it had been since they last visited Rocky Mountain National Park. Percentages of visitors' responses for each of the six possible time periods are presented below in Figure 23.

Figure 23.



C. Visitor's Suggestions for Improving Yellowstone and Rocky Mountain National Parks

At Yellowstone and Rocky Mountain National Parks, visitors were asked, "Do you have any suggestions for what the National Park Service might do to improve enjoyment of your trip?" Specific suggestions by visitors for consideration by the parks are listed below.

Yellowstone National Park

- More turnouts in both directions just to stop for unexpected wildlife encounters.
- Abolish snowmobile traffic, replacing with snow coaches.
- Stop light at Madison junction would have helped for the particular time of day and amount of traffic.
- A road into the Grotto and Morning Glory Pool. We use to enjoy them but cannot do so now as we cannot hike that distance now, as I am 81 and have had heart surgery.
- Direction signs are hard to read/find. They are different color and height from norm. Often somewhat shielded by vegetation.
- For everyone – Please add more multilingual signs – especially the warnings!
- More detailed trail maps. $0.50 guides weren't that useful.
- Possibly provide daily or weekly itineraries for must see or interesting attractions. Different itineraries could be planned for a variety of interests such as hiking, fishing, general sightseeing, etc. This might allow people to visit sites that they might not find on their own.
- Listing and description of short walks, e.g. Wraith Falls, Trout Lake. Sheet showing 10-15 most common flowers, birds, small animals, trees (pen and ink sketches).
- Suggested itinerary for 1, 2, 3 day visits – could be very helpful – too many sights – confusing to try to figure out best routes and sights.
- Include restroom locations on map – when traveling with young children it is nice to know where the closest one is.
- Assign a designated rafting (float) area(s) on a mild stretch of river-"quiet floating!" As in the designated swim area on the Firehole.
- There was occasional debris within the ponds, geysers and mud pots. Obviously impossible to remove it "instantaneously" but would be great if it could be removed relatively promptly.

- There should be trails constructed to form more loop trails so that hikers in small groups can cover a lot of terrain and come back to the original trailhead. Distribute more free info on hiking trails so visitors can avoid paying high prices for books on the subject of hiking trails.

- Handicap doors need to swing in, not out. Wheelchairs do not allow door closure when they swing in. More restrooms with soap.

- Hand sanitizer in the outdoor bathrooms!

- Have AMFAC improve their reservation system. You spend 20 minutes on the phone to find out you can't get a campsite. Install an 800 or 888 phone number.

- Possibly more biking areas. Adjust or alternate road-closing hours to allow people to view all parts of the park. The 9am –9pm limited us form viewing the North Loop in the morning (staying West Yellowstone) and driving the whole South Loop into the evening. More stringent fines for defacing geysers and hot springs.

- Back rests on the benches around Old Faithful. Wooden prediction clock outside in front of Old Faithful.

- More guardrails in the very steep areas.

- Naturalistic areas for kids to play in a couple of places.

- Food/drink/snack bars at major stops (Norris Basin).

- If it were possible to have a source of drinking water or bottled water throughout the park. The heat sneaks up on you and the altitude.

- Break the monopoly of the concessions- different merchandise and better prices would result. (Competition)

- I saw lots of people leaving dogs in their cars. Since dogs aren't allowed on the trails maybe the park could provide some sort of dog kennel so they aren't locked in cars all day.

- Emergency phones to the ranger station on the long stretches where public phones aren't available.

Rocky Mountain National Park

- More signs on the trails identifying the plants and the animals.

- It would be helpful if you listed the mileage and elevation of the trails at the trailhead. I didn't know where to get this info except for Moraine Park and Bear Lake areas.

- A more detailed map that lists all the sites, stops, scenic areas and such. We bought a tape (CD) with a commentary at the visitors center and had a very difficult time.

- Warn people who have fear of heights not to drive Trail Ridge Road. Take a tour instead.

- Give out simpler maps that highlight special attractions. For ex. Alluvial Fan, Lava Cliffs with simple explanations.

- Begin visitor education on habitat conservation. Why aren't you explaining there are too many elk for the carrying capacity of the park? This step #1 to controlling them.

- Offer newspaper to visitors entering. Give info on Kid-Friendliness or kid difficulty ratings for trails. Offer interactive PC demos at visitor centers with mix or adult and child themes.

- Make some "hands on" exhibits for kids- science experiments about glacier movement or soil erosion etc. Live animals for the kids to see. Have a miniature Bear Lake showing different trees etc., on each side, etc.

- I love it up here and try to come 10 times a year – you need to extend the shuttle through September (to Bear Lake from overflow) to accommodate the color and elk people.

- Make more areas accessible to mountain bikes.

- Enter park more quickly with 7 day pass.

- We were slowed down at entrance gate! Have a designated Golden Eagle pass lane only- and other lanes pay or pass, might help speed up entering in the morning. (similar to some toll plazas with multiple lanes.)

- The buses are a great idea, but diesel? Why not switch to propane or natural gas?

- The new buses are wonderful! What about bus service to Trail Ridge Road? Even a $1 charge per person would be worth it.

- Limit horseback riding to non-pedestrian trails.

- Making Trail Ridge Road safer for bicycles. Maybe even an uphill bike lane.

- Sponsor limited guided tours to some of the out of the way place in the park. Either on horseback or biking for the more physically inclined. Maybe some rock climbing seminars.

- More information about what is on hiking trails to see and how the public rates them on beauty and difficulty.

- More info on individual hiking trails as labeled flora and fauna

- Put 5-6 more picnic tables at Sprague Lake to prevent people from setting volleyball nets and playing ball games in picnic areas.

- Stop loud music in picnic areas. Put up many more signs about dogs, rules, and consideration of others.

- Add a few more signs telling people not to walk on alpine tundra (e.g. at Forest Canyon.)

- How do you use those trash cans? They're animal proof and people proof too! (please label how to lift top.)

- Guard rails on Trail Ridge road. Signs identifying wildflowers, etc.

- The telephone didn't work on 1-800 numbers.

IX References

Cacioppo, J. T., Petty, R. E., Feinstein, J. A., & Jarvis, W. B. G. (1996). Dispositional differences in cognitive motivation: The life and times of individuals varying in need for cognition. Psychological Bulletin, 119, 197-253.

Eisenberger, R. (1999, August). Keynote Address: The museum goer's motives: The social and the sublime. Visitor Studies Association, Chicago, IL.

Eisenberger, R. (2001, August). The Need for Sensory Experience. Visitor Studies Association. Orlando, Florida.

Eisenberger, R., Knuth-Folts, J., Loomis, R, Vaughn, S., Visty, J., & Yalowitz, S. (2002, August). The National Park Experience. Visitor Studies Association, Cody, WY.

Hill, C. A. (1987). Affiliation motivation: People who need people . . . but in different ways. Journal of Personality and Social Psychology, 52, 1008-1018.

Serrell, B. (1997). Paying attention: The duration and allocation of visitors' time in museum exhibitions. Curator, 40, 108-125.

Yalowitz, S. S., & Loomis, R. J. (1999). What cognitive characteristics tell us about visitor satisfaction. Current Trends in Audience Research, 12, 61-71.

X. Appendix A

I. Strongest Reasons for Visiting National Parks (Figure A1.1).....43

II. Correlations of Visits to Visitor Centers with Age, Personality, Number of Visits to National Parks per Year, and Reasons for Visiting (Figures A2.1 - A2.4)..... 44-45

III. Mean Visitor Perceptions of Visitors Centers (Figures A3.1 & A3.2).....46

IV. Correlations of Enjoyment of Visitor Center Displays with Reasons for Visiting, Age, Visits to National Parks per Year, and Personality (Figures A4.1 - A4.4)..... 47-48

V. Visitor Center Conditions Correlated with Age, Personality, Number of Visits to National Parks per Year, and Group Composition (Figures A5.1 - A5.14)..... 49-55

VI. Mean Favorableness of Opportunities at Yellowstone National Park (Figure A6.1).....56

VII. Correlations of Favorableness of Opportunities at Yellowstone National Park with Age, Personality, Number of Visits to National Parks per Year, and Group Composition (Figures A7.1 - A7.5)..... 56-58

VIII. Choice of Most Satisfying Park Activity Correlated with Age, Personality, Number of Visits to National Parks per Year, and Group Composition (Figures A8.1-A8.8)..... 59-62

IX. Choice of Least Satisfying Park Activity Correlated with Age, Personality, Number of Visits to National Parks per Year, and Group Composition (Figures A9.1-A9.11)..... 63-68

X. Percentage of Visitors Visiting Each Area Listed in the Survey and Mean Enjoyment of Each Area (Figures A10.1-A10.4)..... 69-70

Note: All statistically significant relationships are indicated by an asterisk.

Figure A1.1

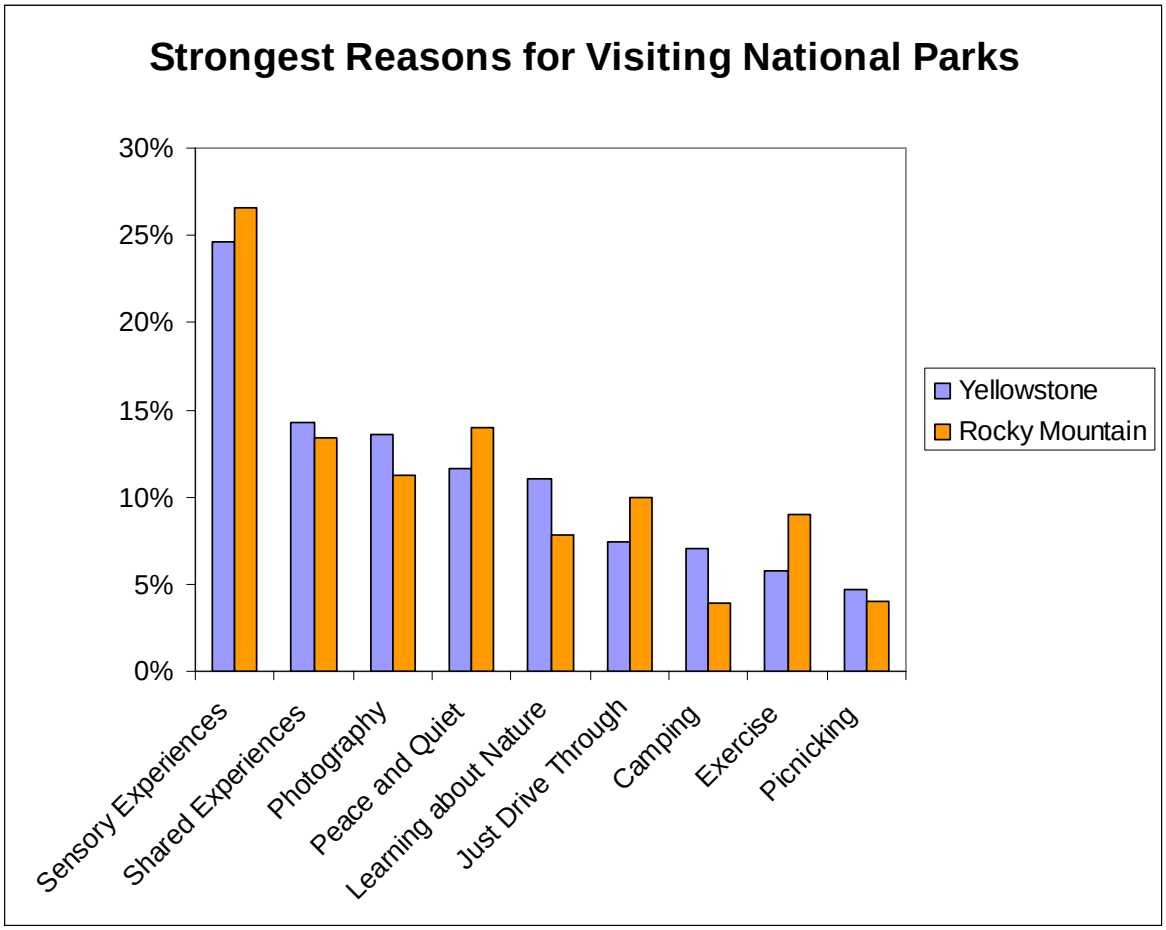

Strongest Reasons for Visiting National Parks
30%
25%
20%
15%
10%
5%
0%
Sensory Experiences
Shared Experiences
Photography
Peace and Quiet
Learning about Nature
Just Drive Through
Camping
Exercise
Picnicking
Yellowstone
Rocky Mountain

Figure A2.1

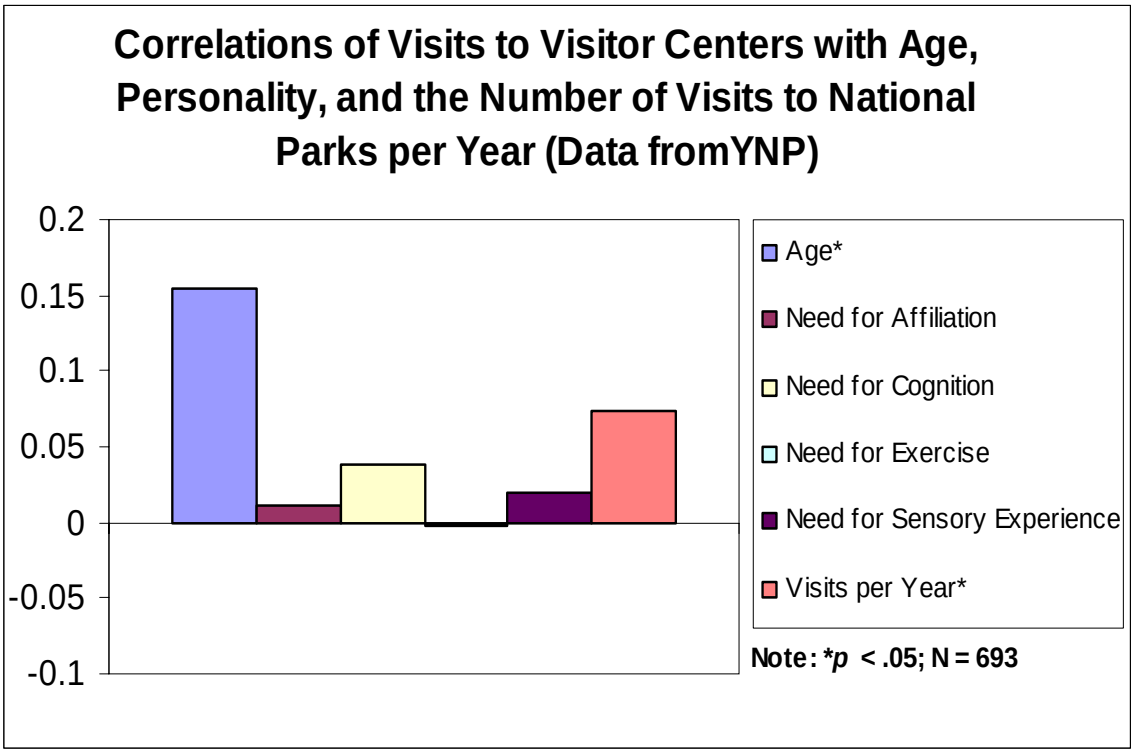


Figure A2.2

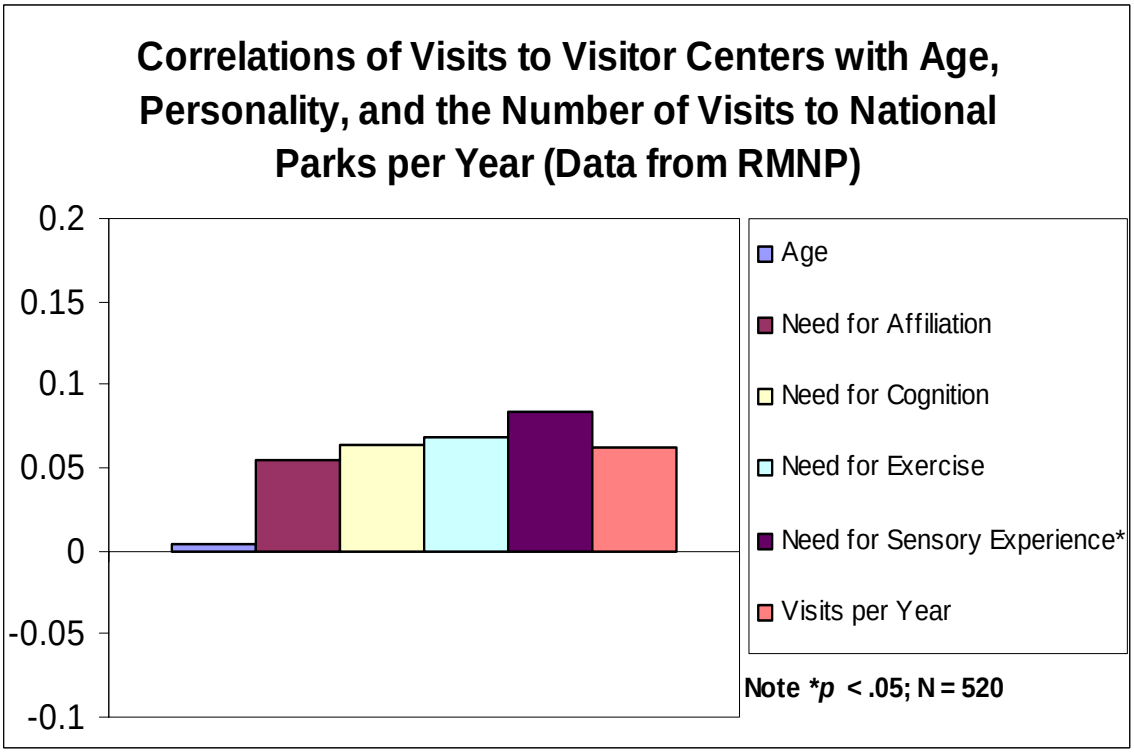


Figure A2.3

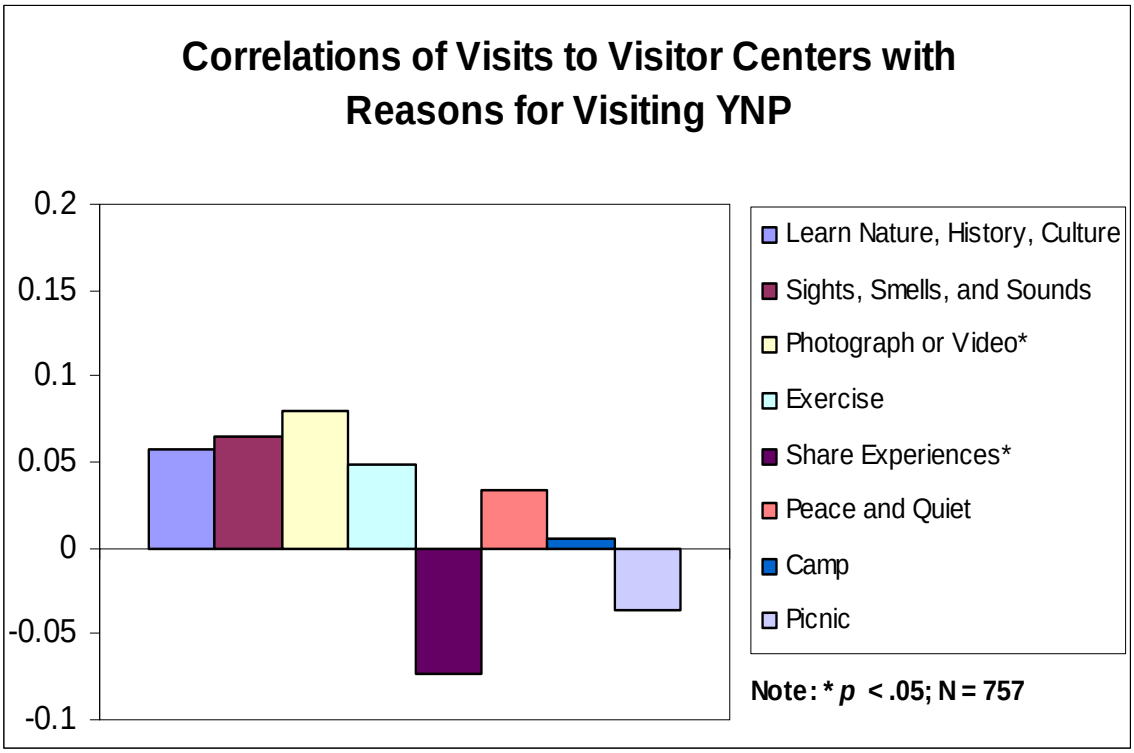


Figure A2.4

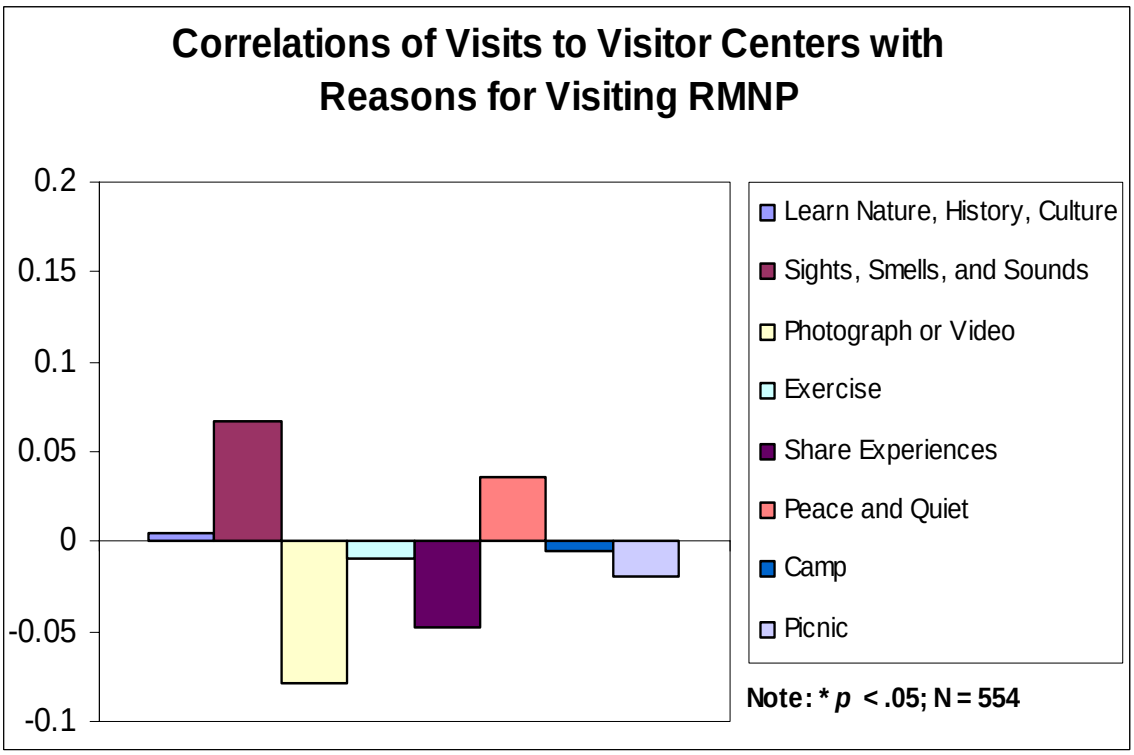


Figure A3.1

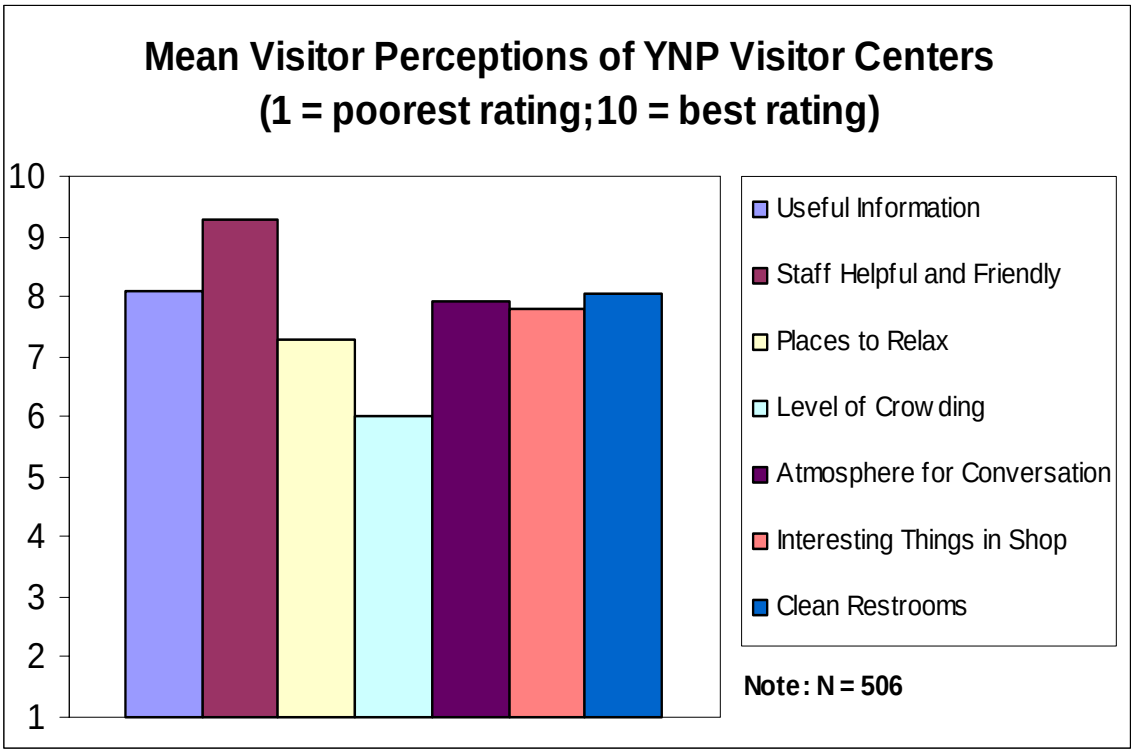


Figure A3.2

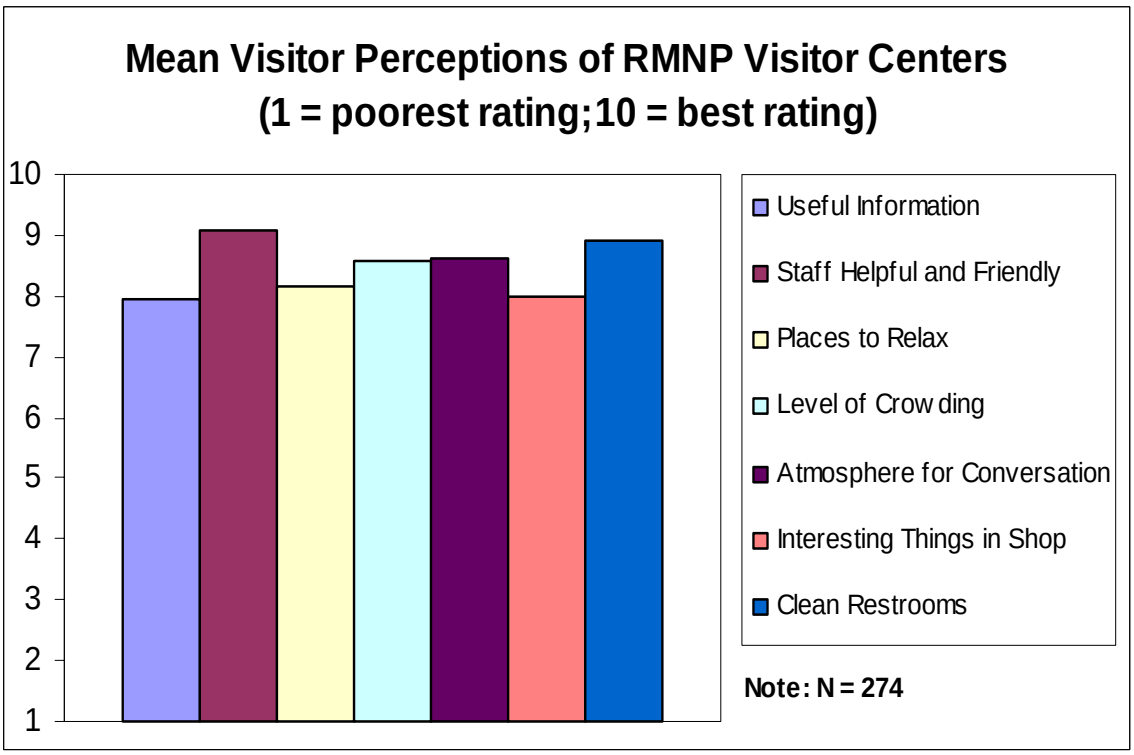


Figure A4.1

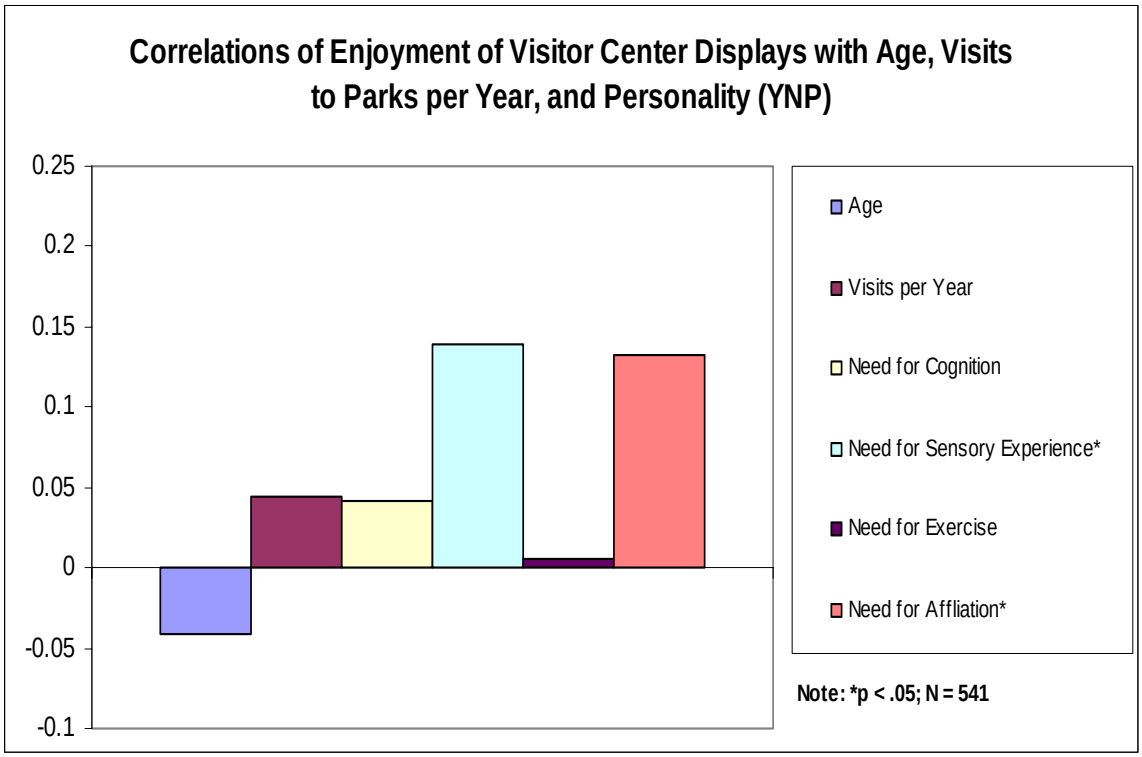


Figure A4.2

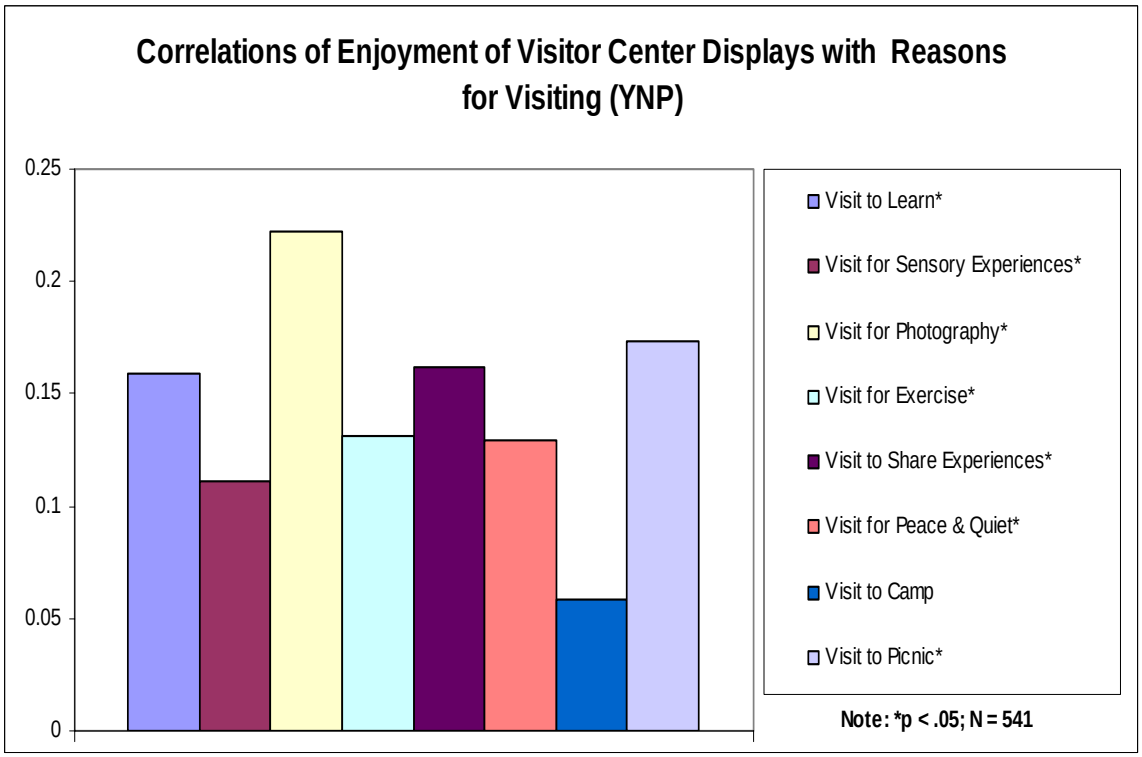


Figure A4.3

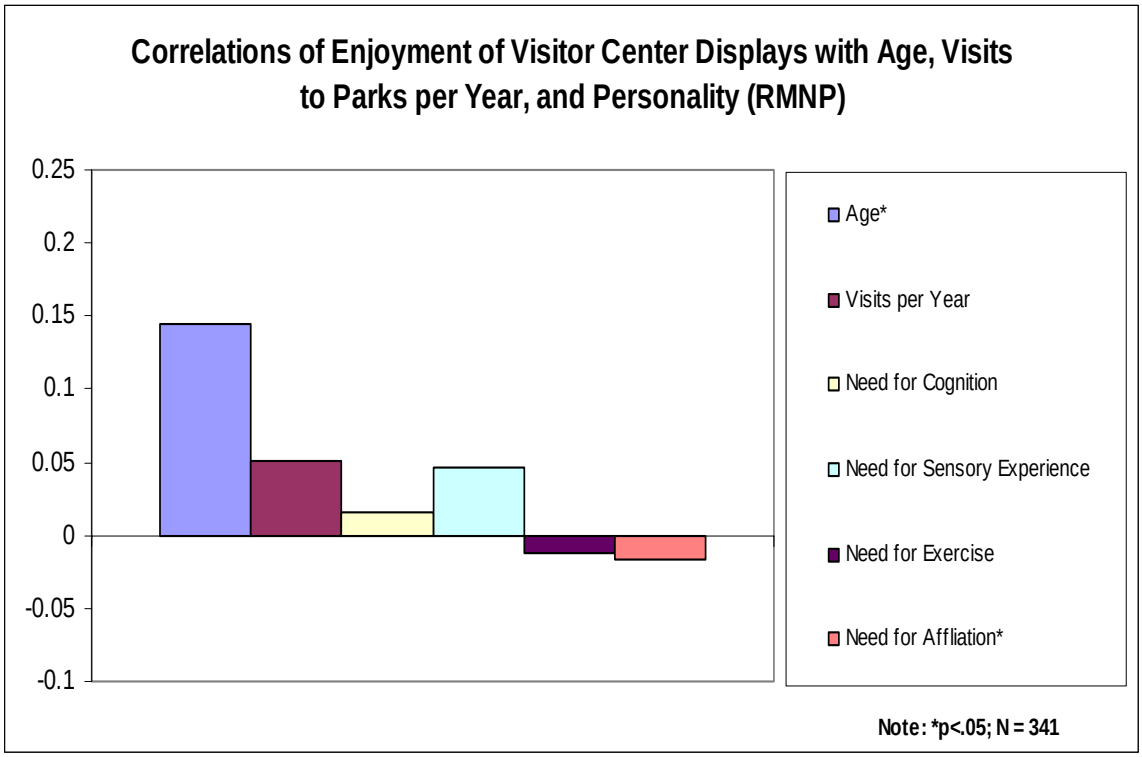


Figure A4.4

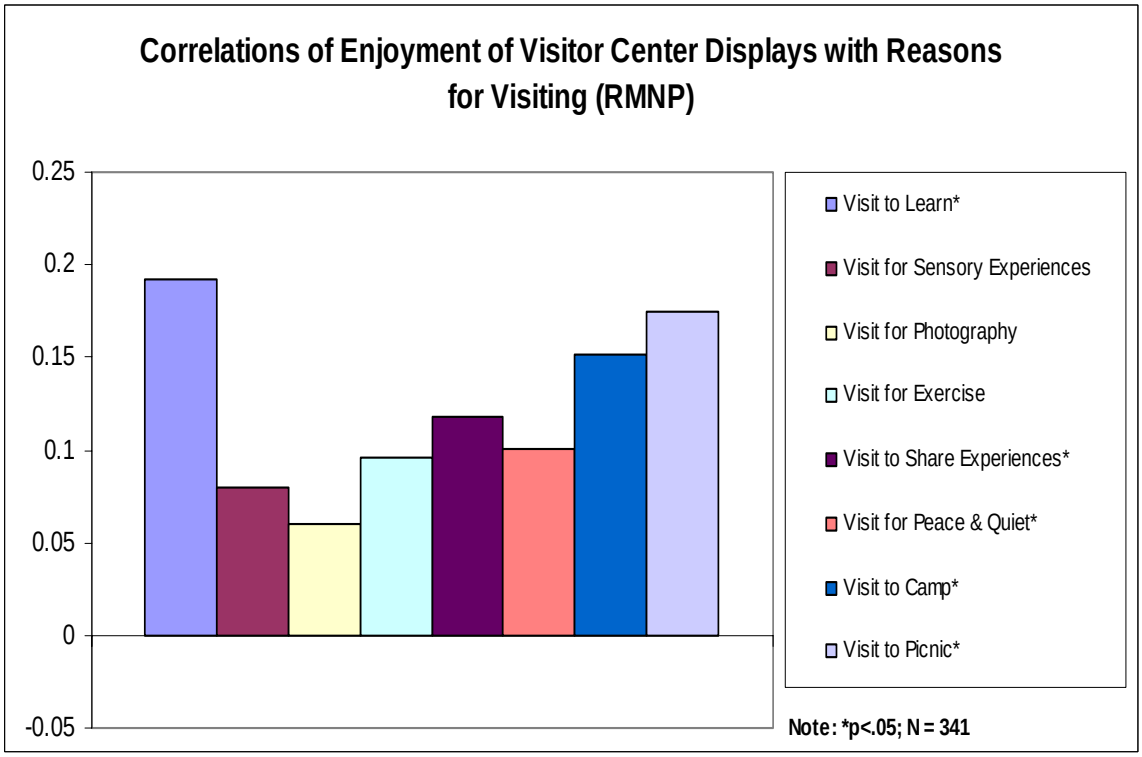


Figure A5.1

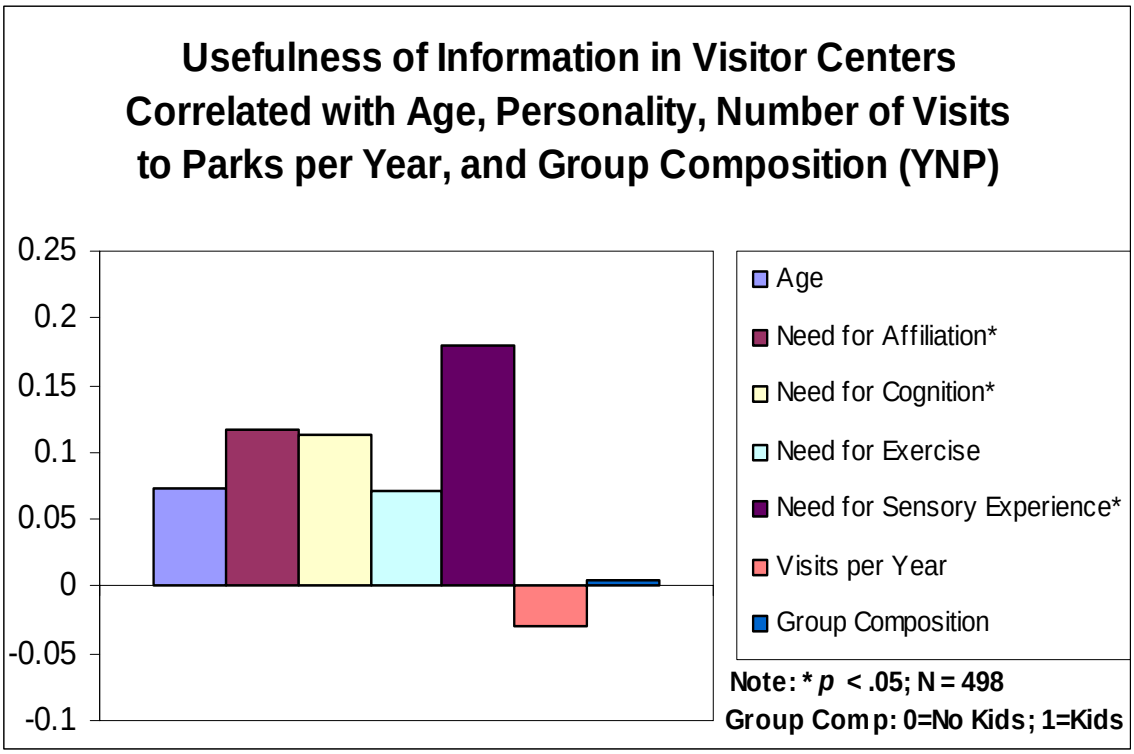


Figure A5.2

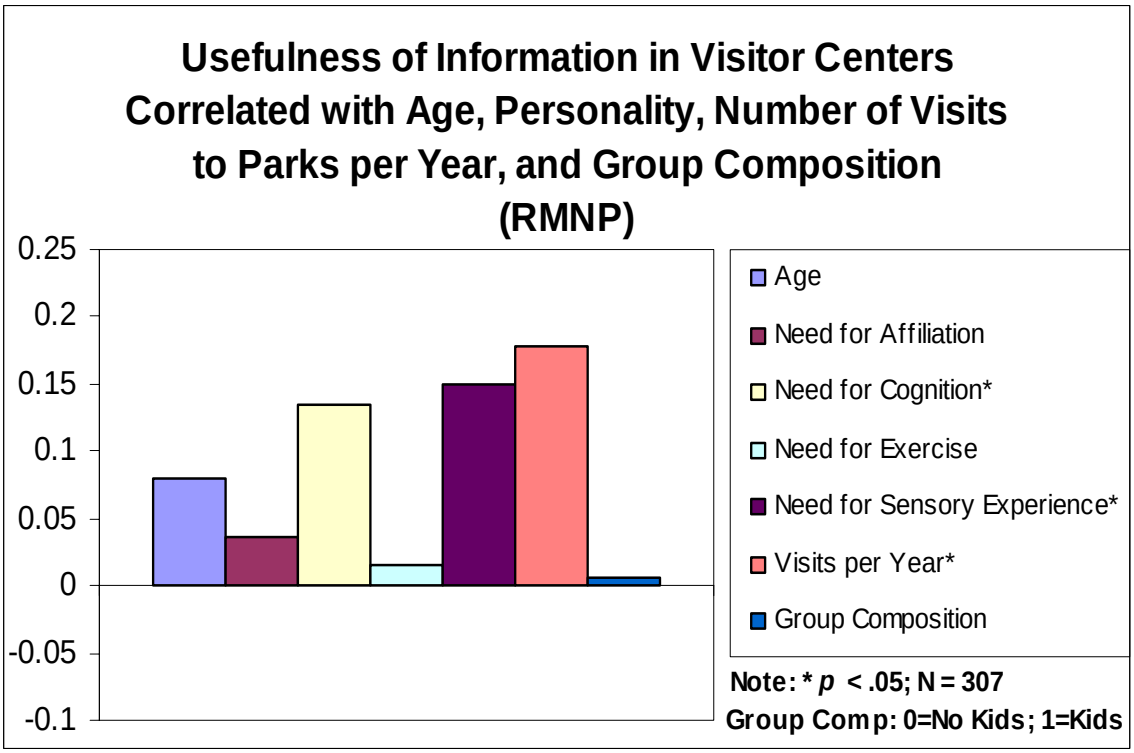


Figure A5.3

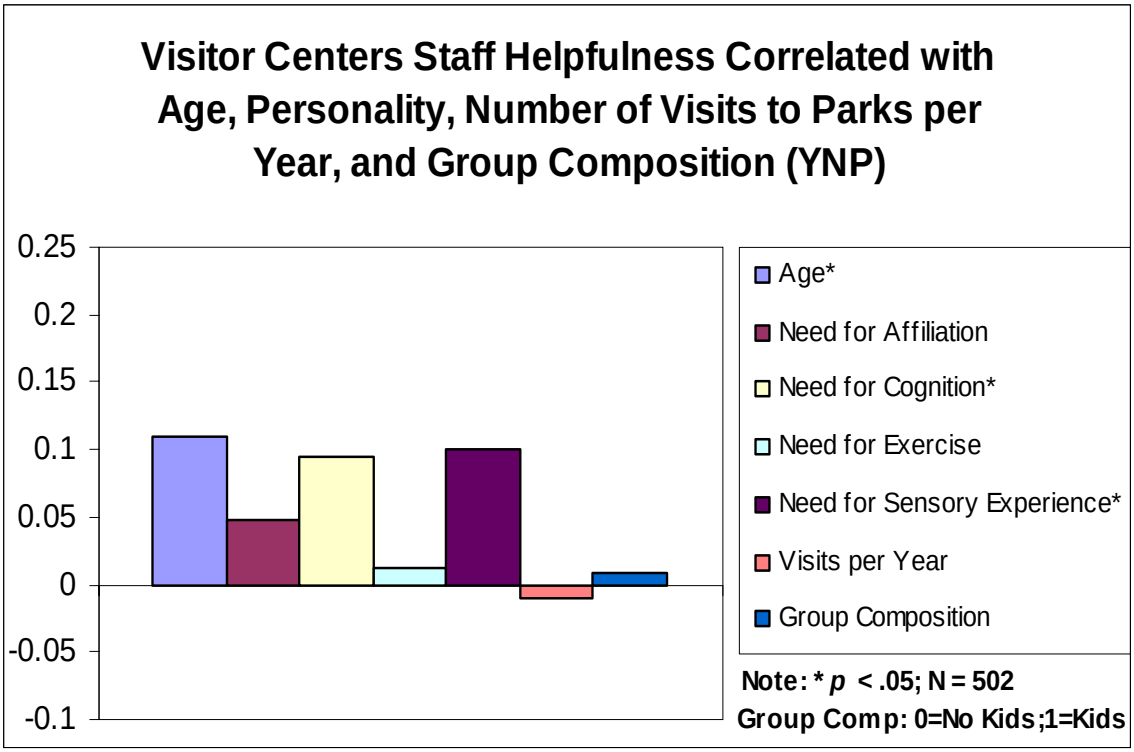


Figure A5.4

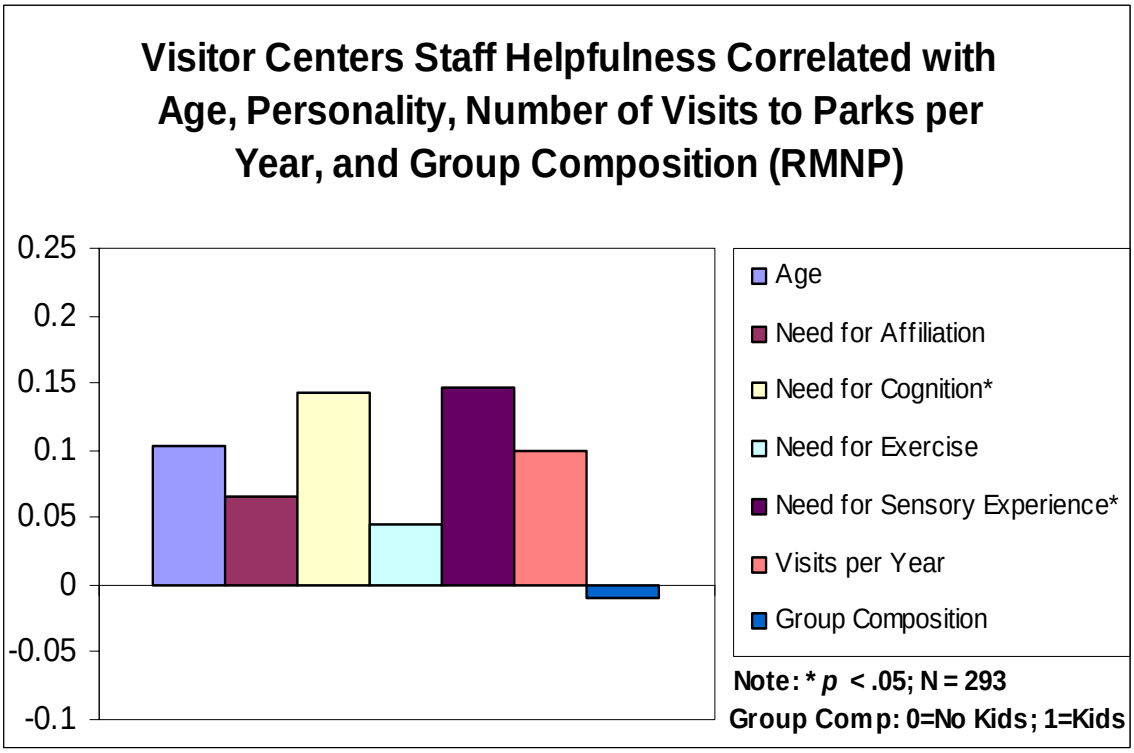


Figure A5.5

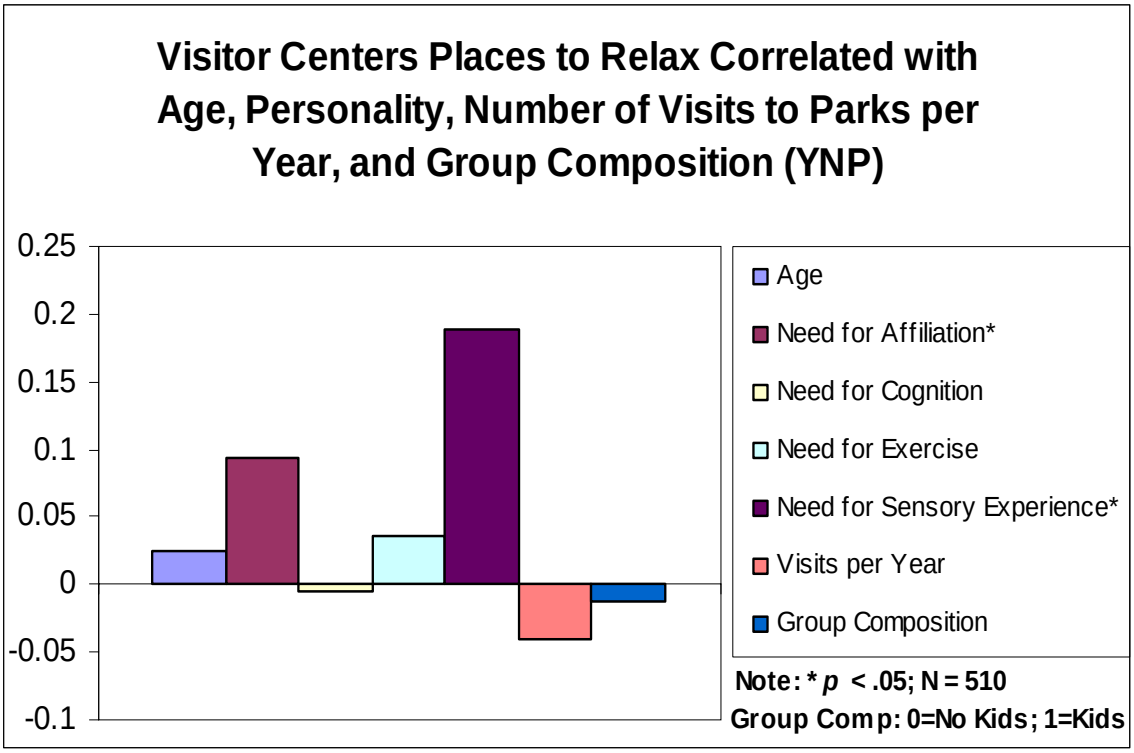


Figure A5.6

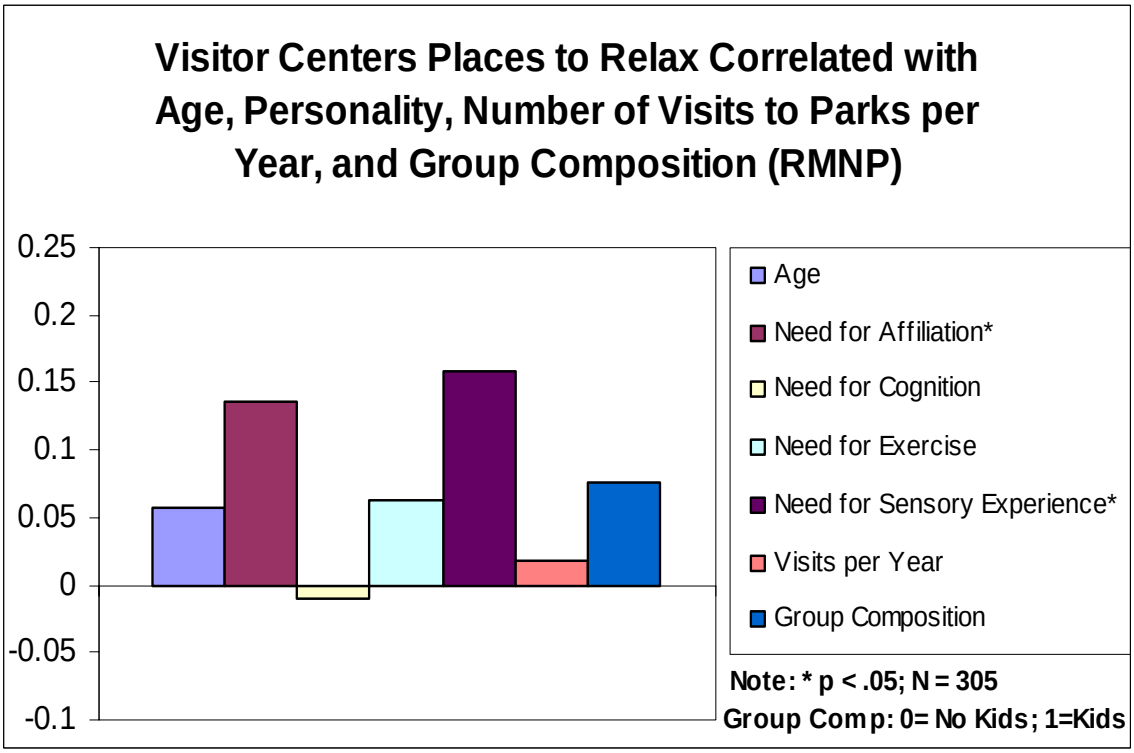


Figure A5.7

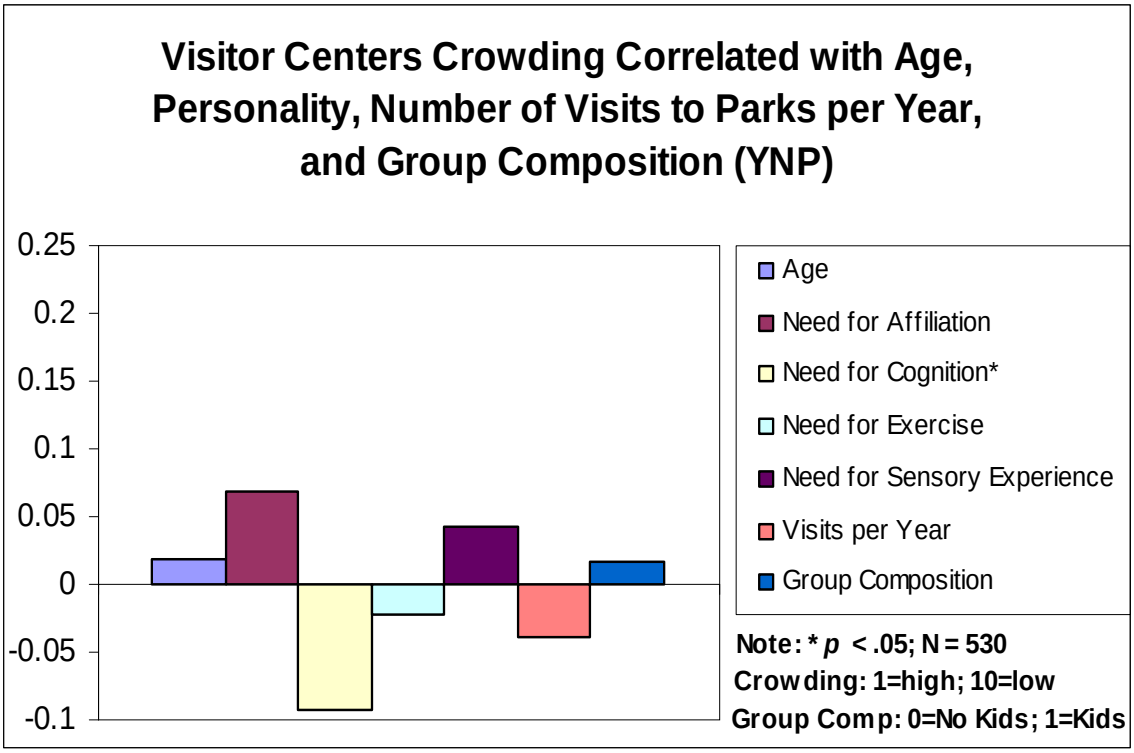


Figure A5.8

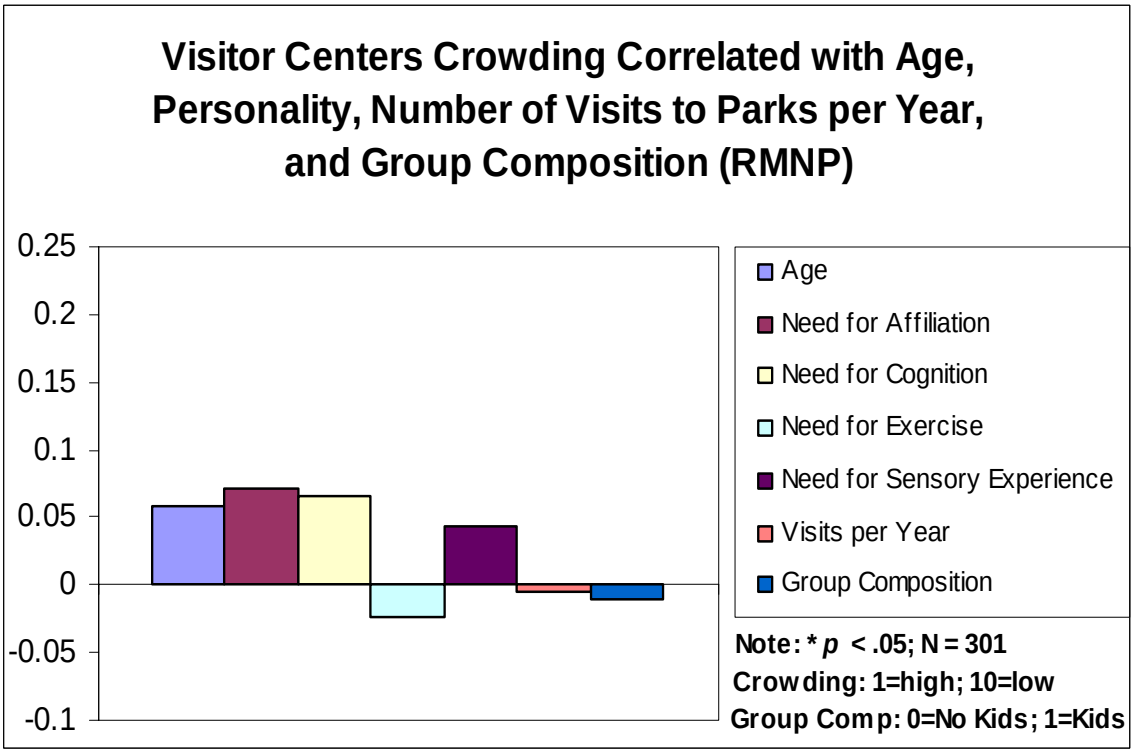


Figure A5.9

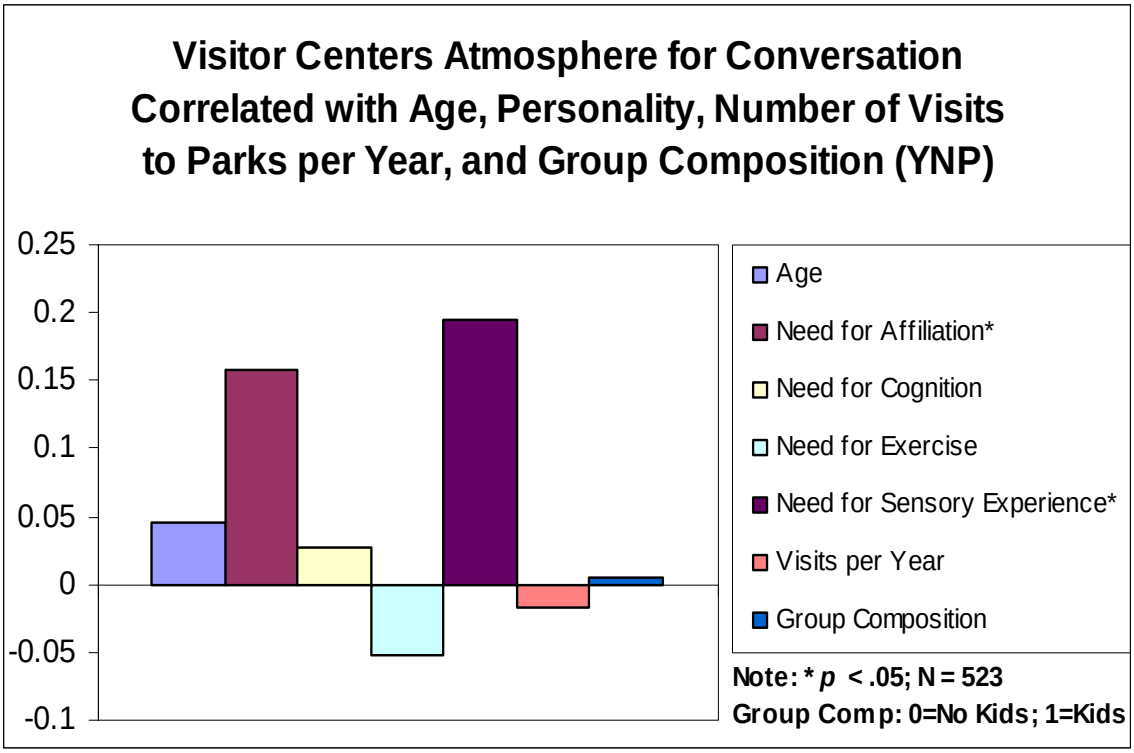


Figure A5.10

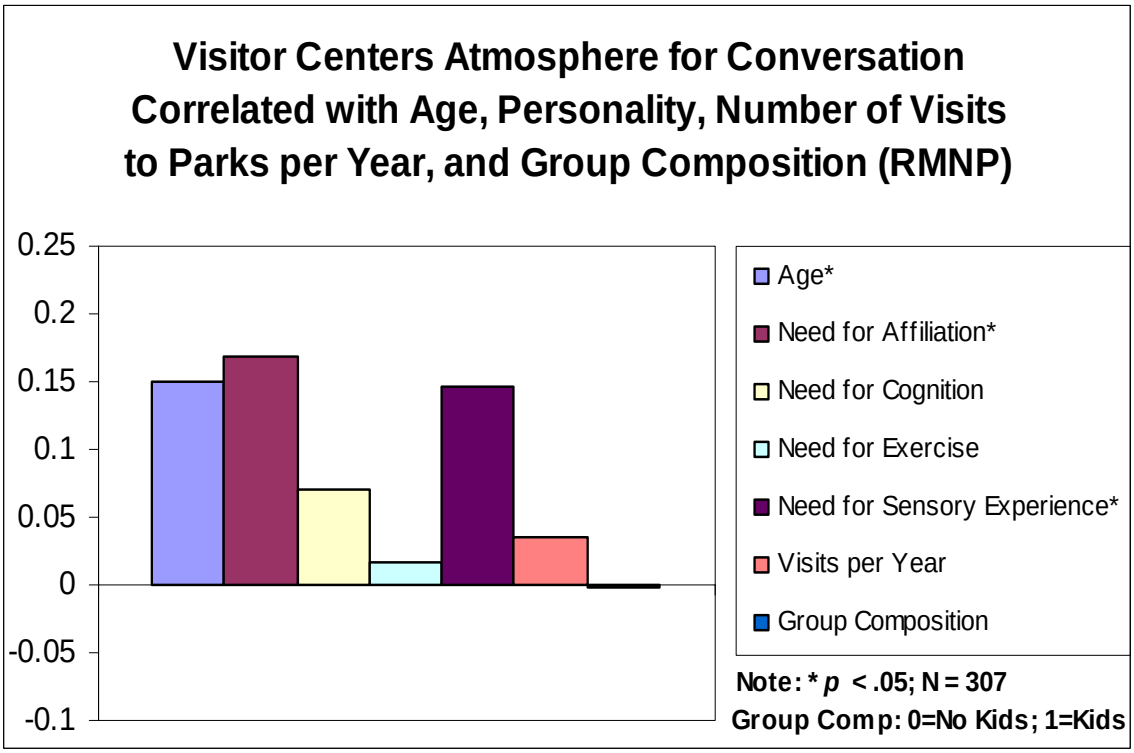


Figure A5.11

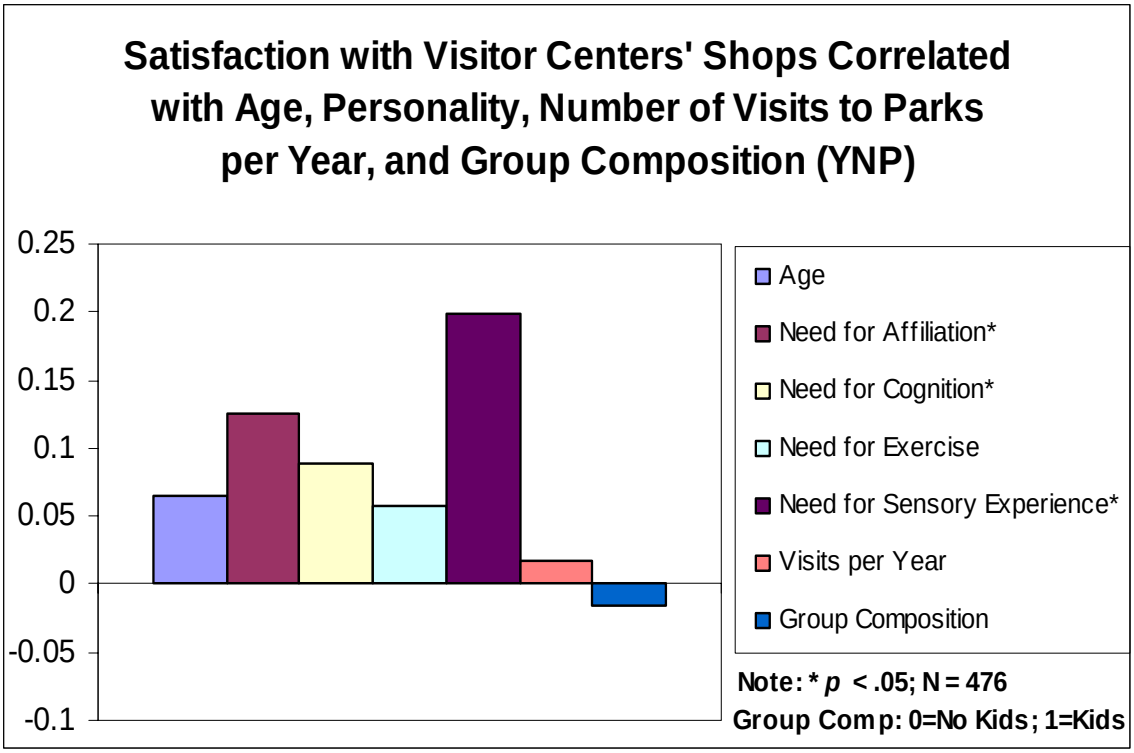


Figure A5.12

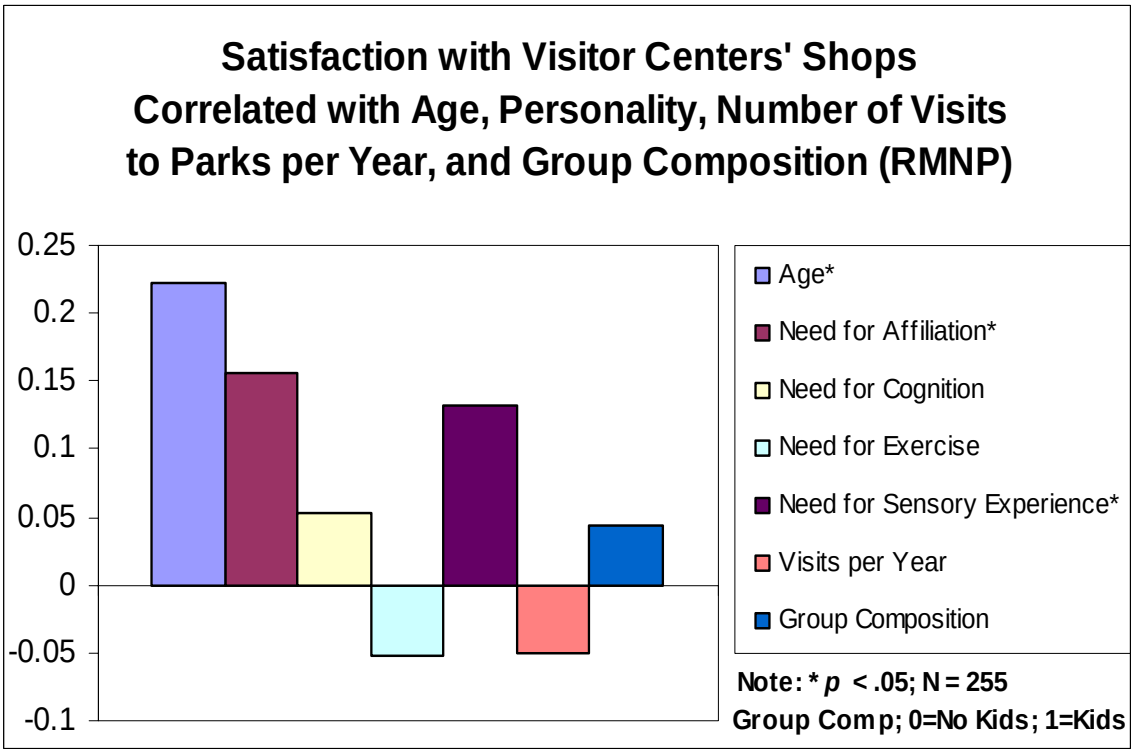


Figure A5.13

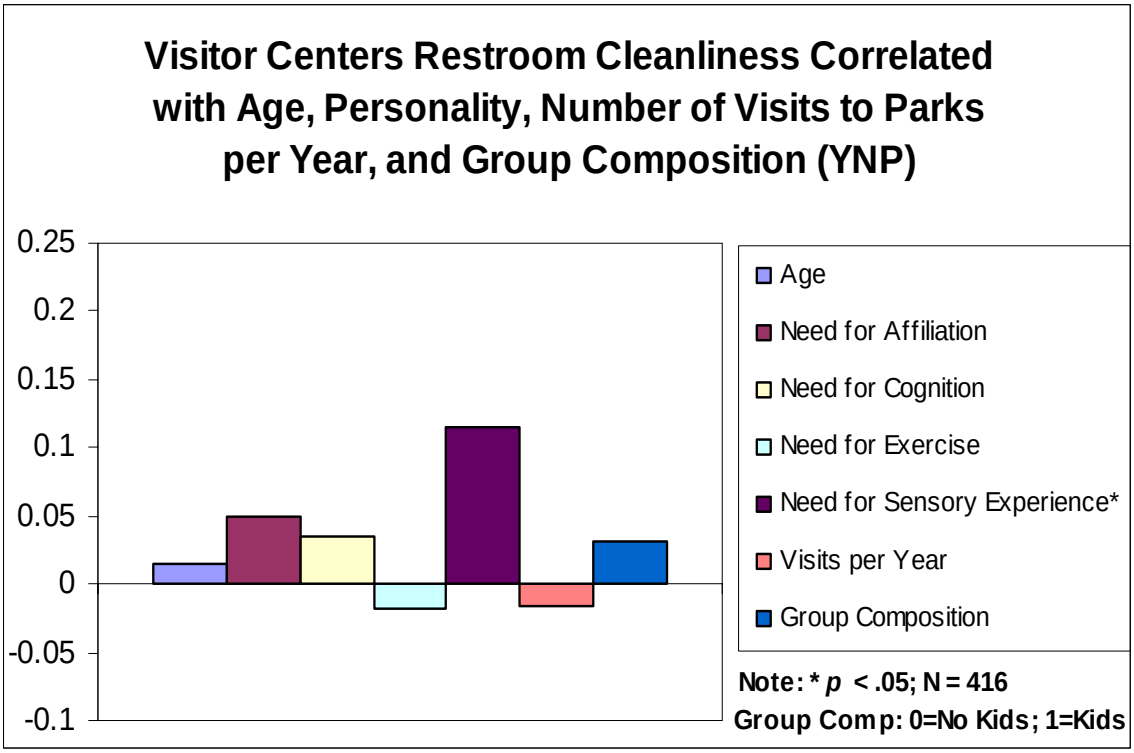


Figure A5.14

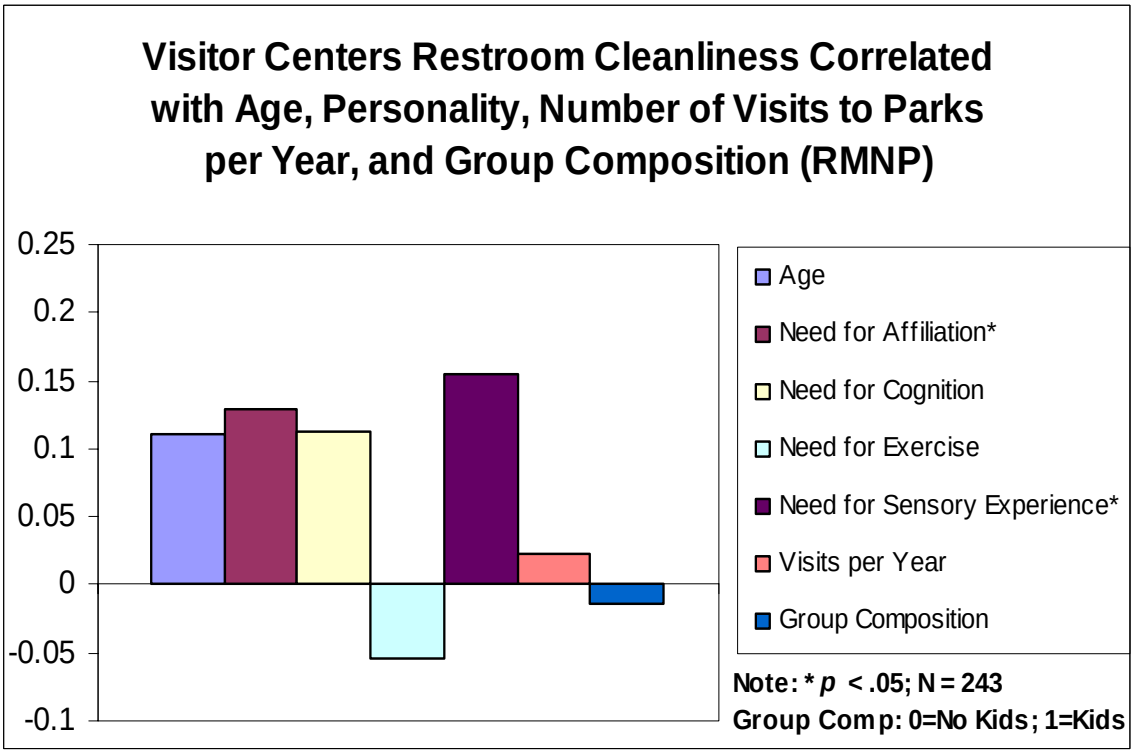


Figure A6.1

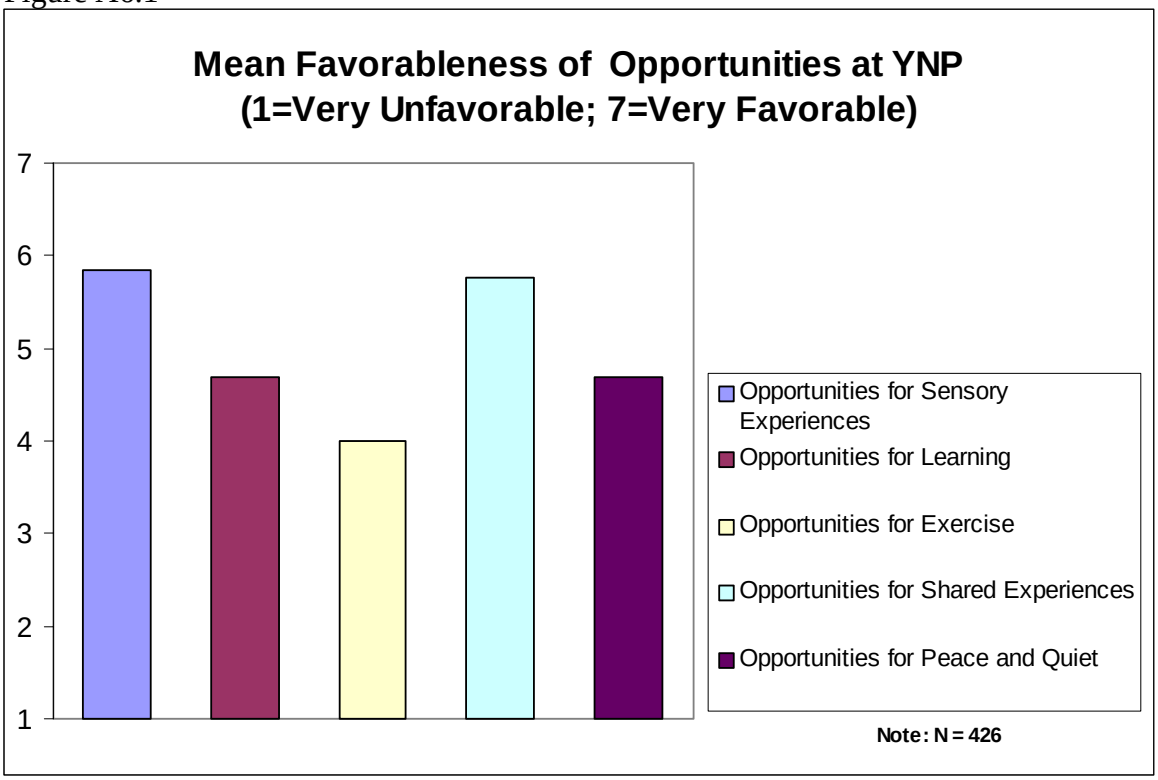


Figure A7.1

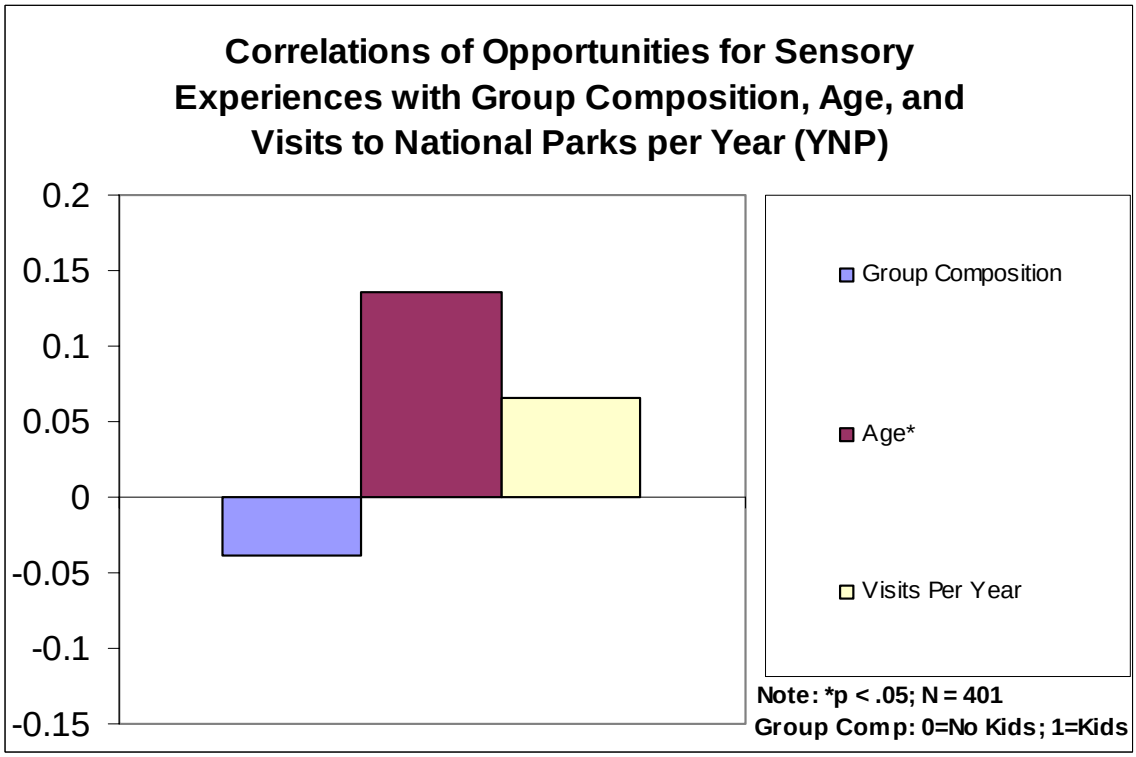


Figure A7.2

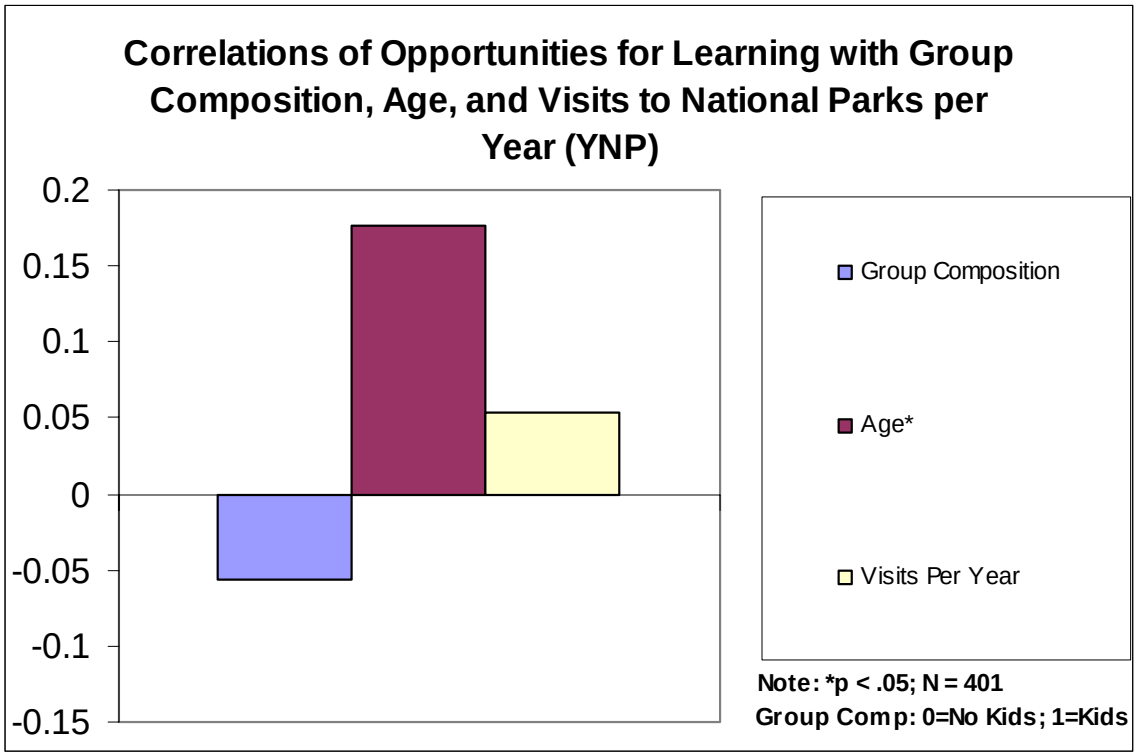


Figure A7.3

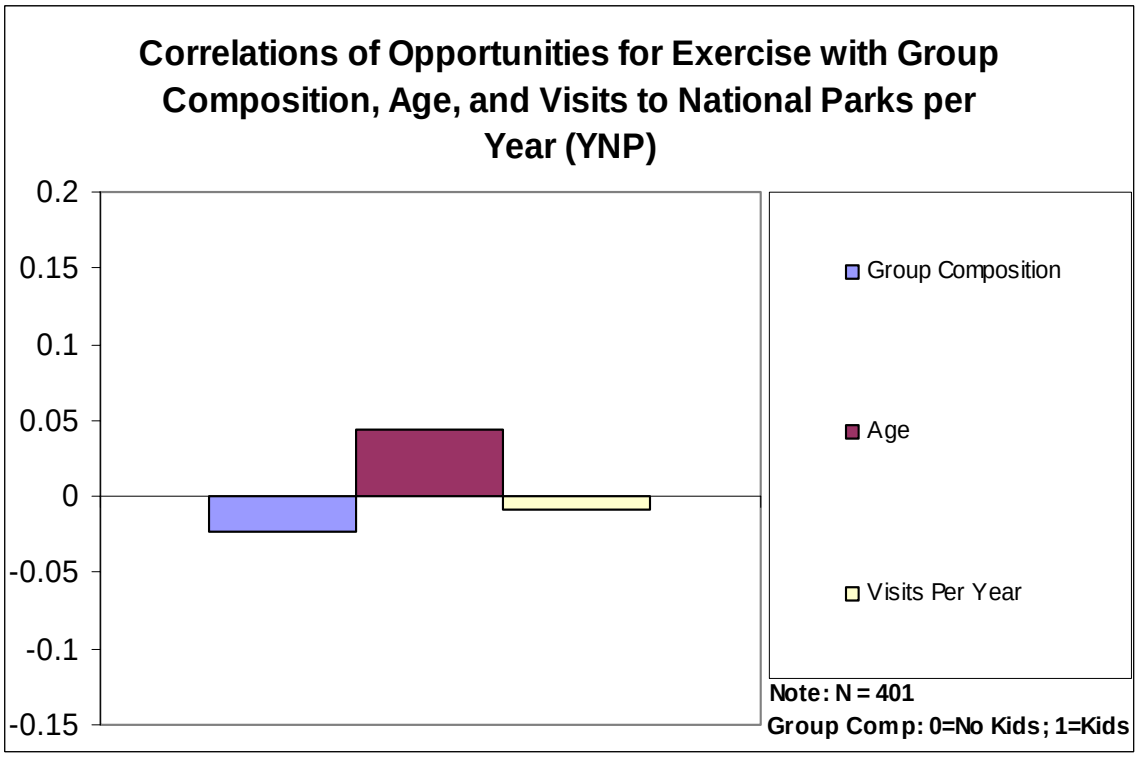


Figure A7.4

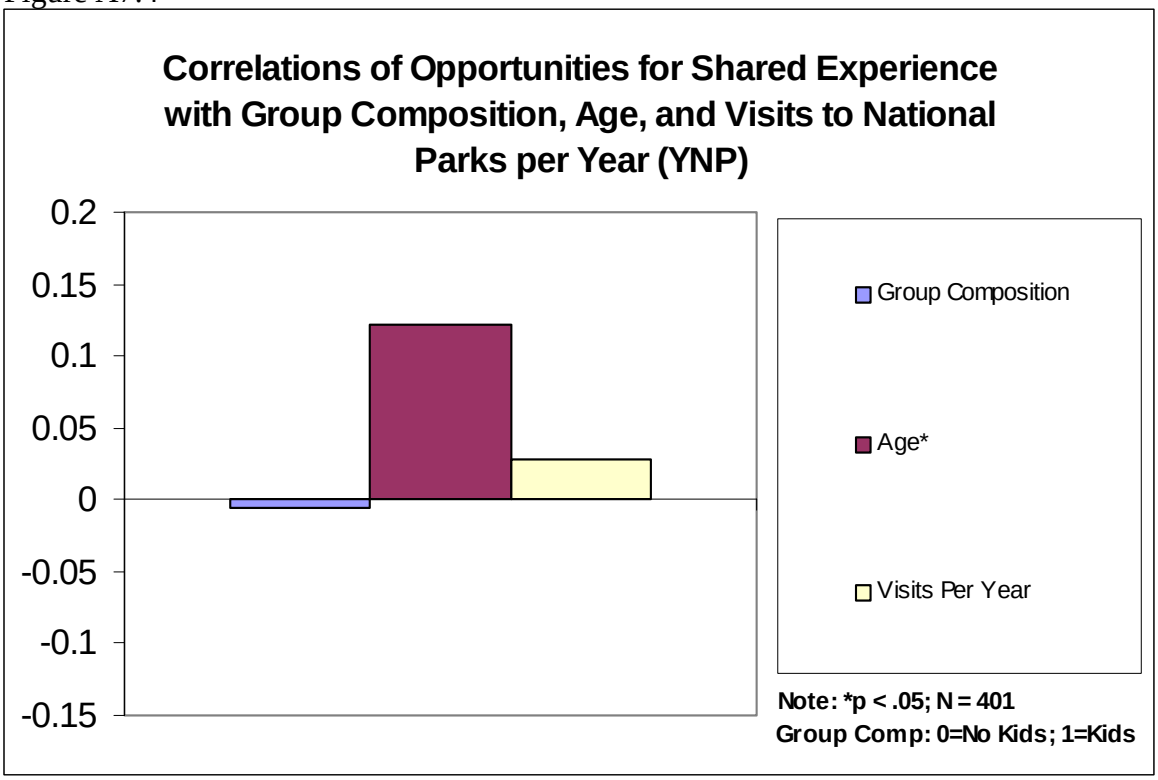


Figure A7.5

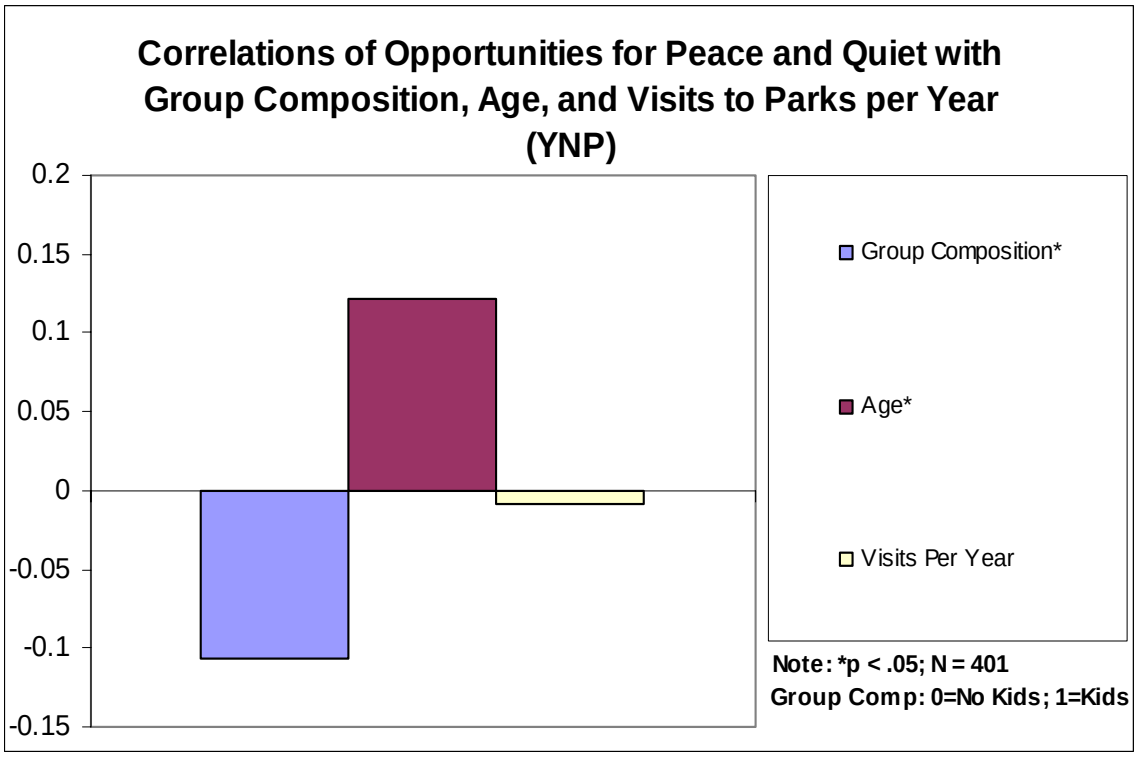


Figure A8.1

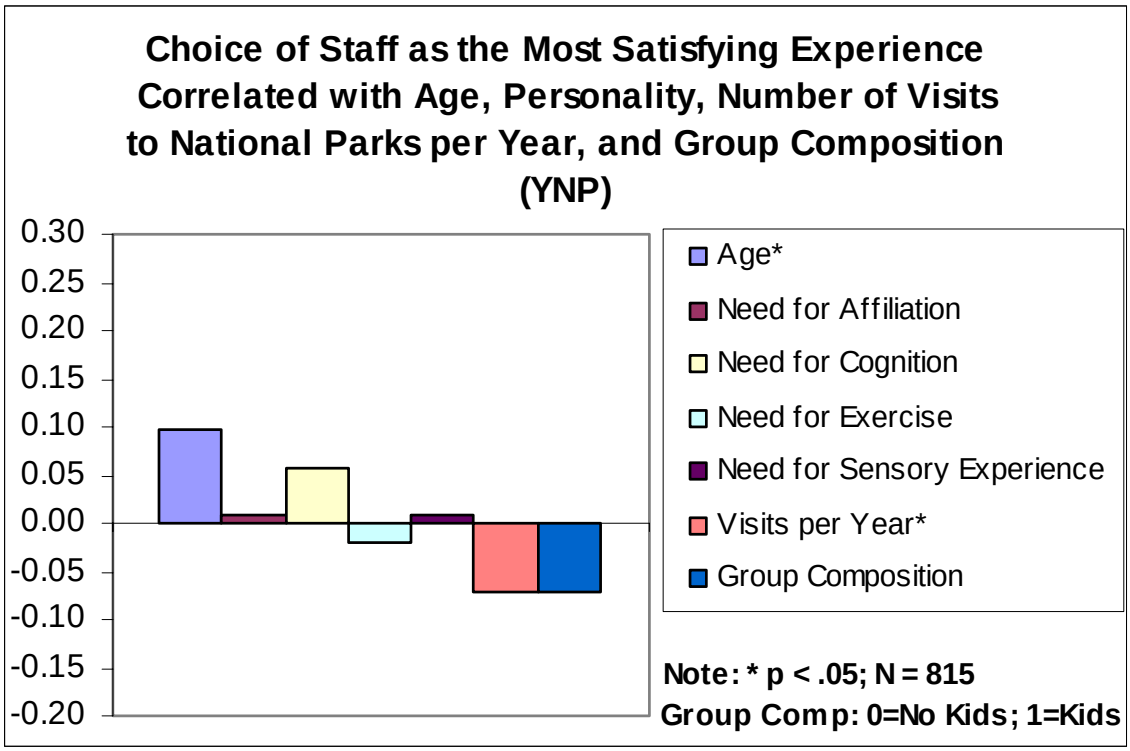


Figure A8.2

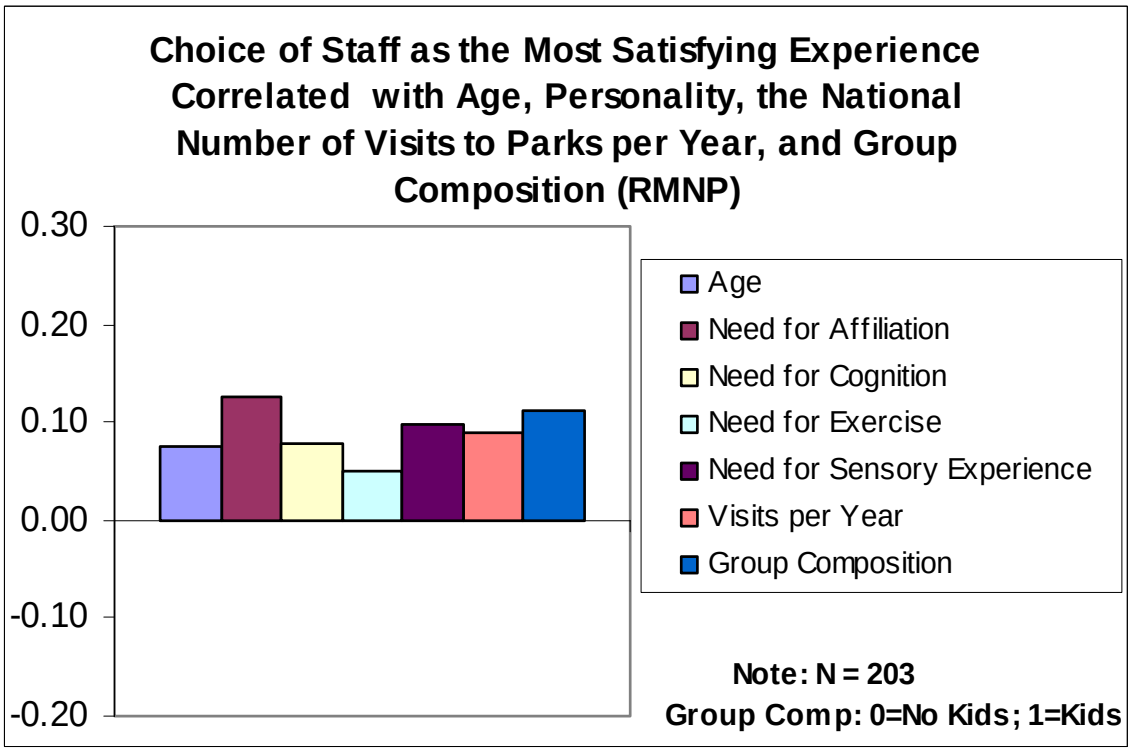


Figure A8.3

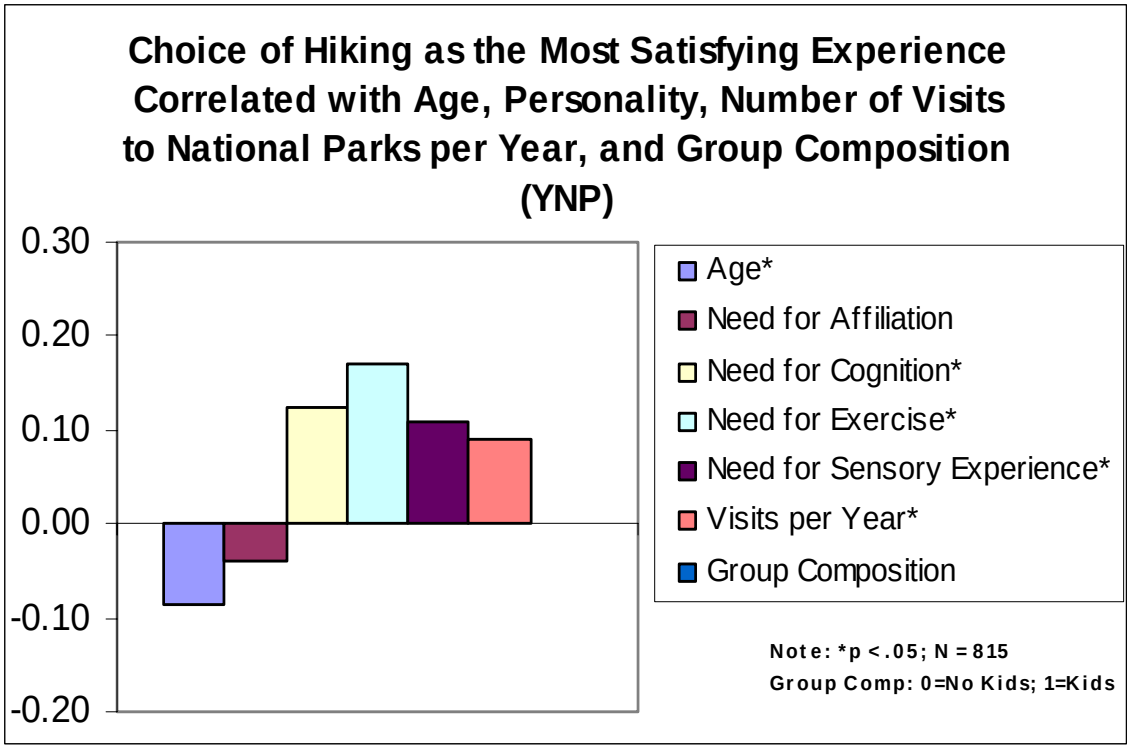


Figure A8.4

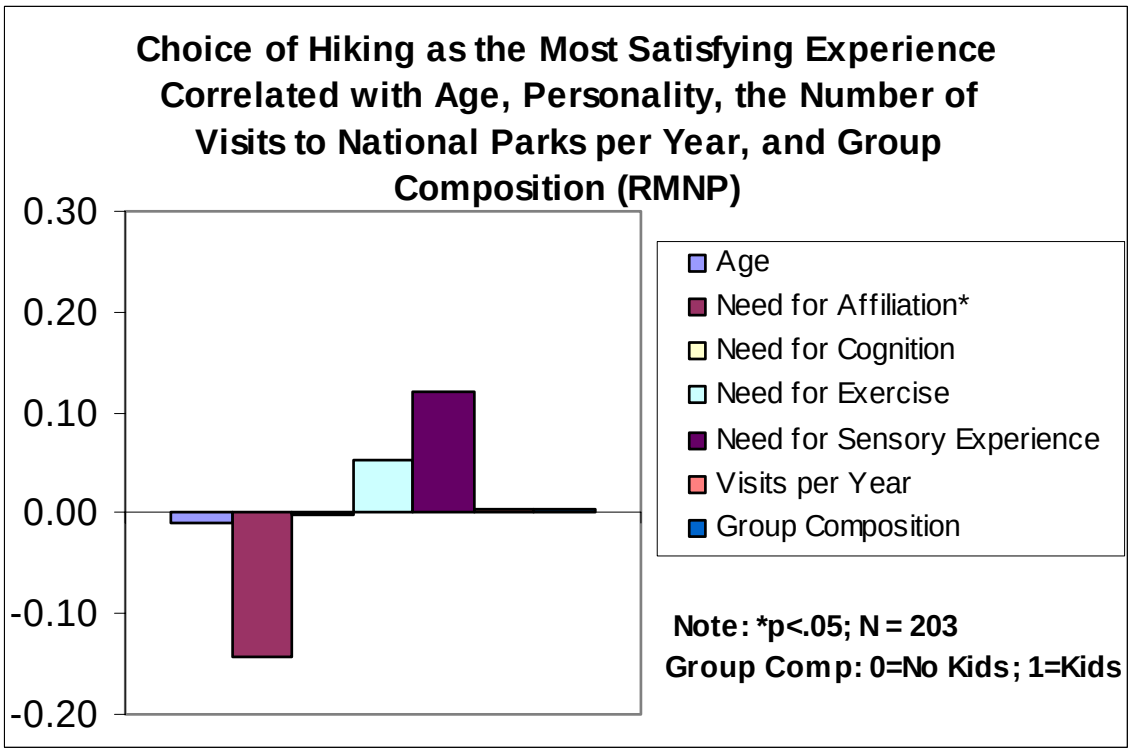


Figure A8.5

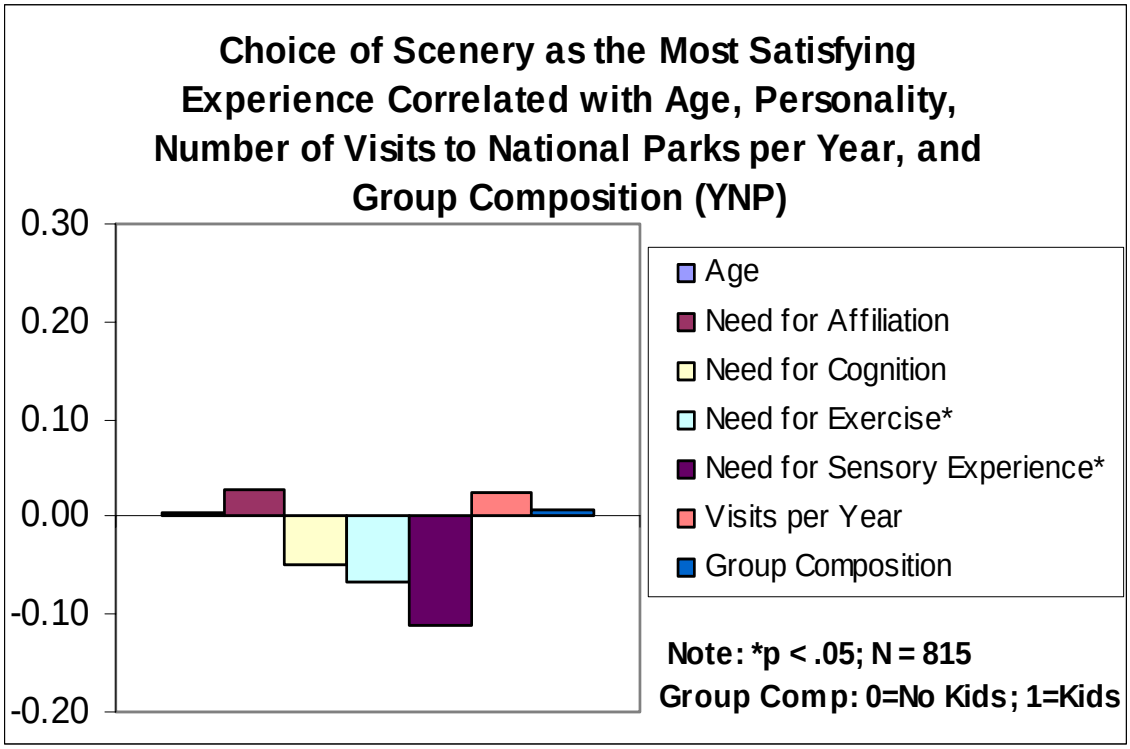


Figure A8.6

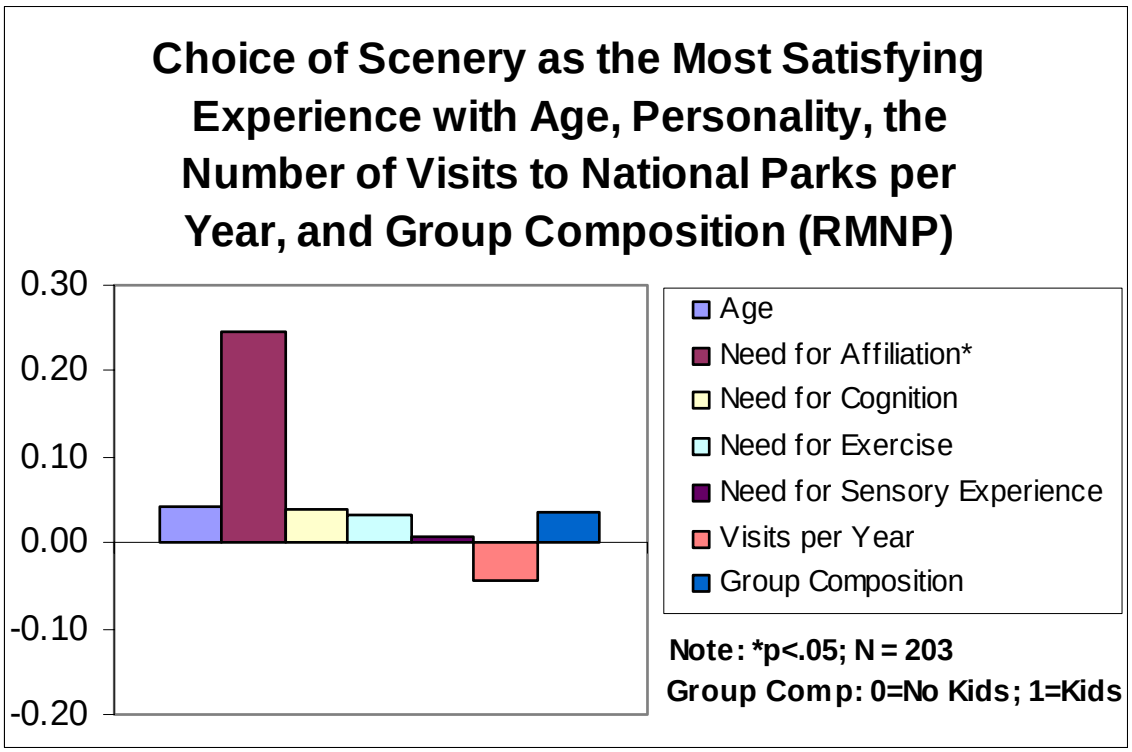


Figure A8.7

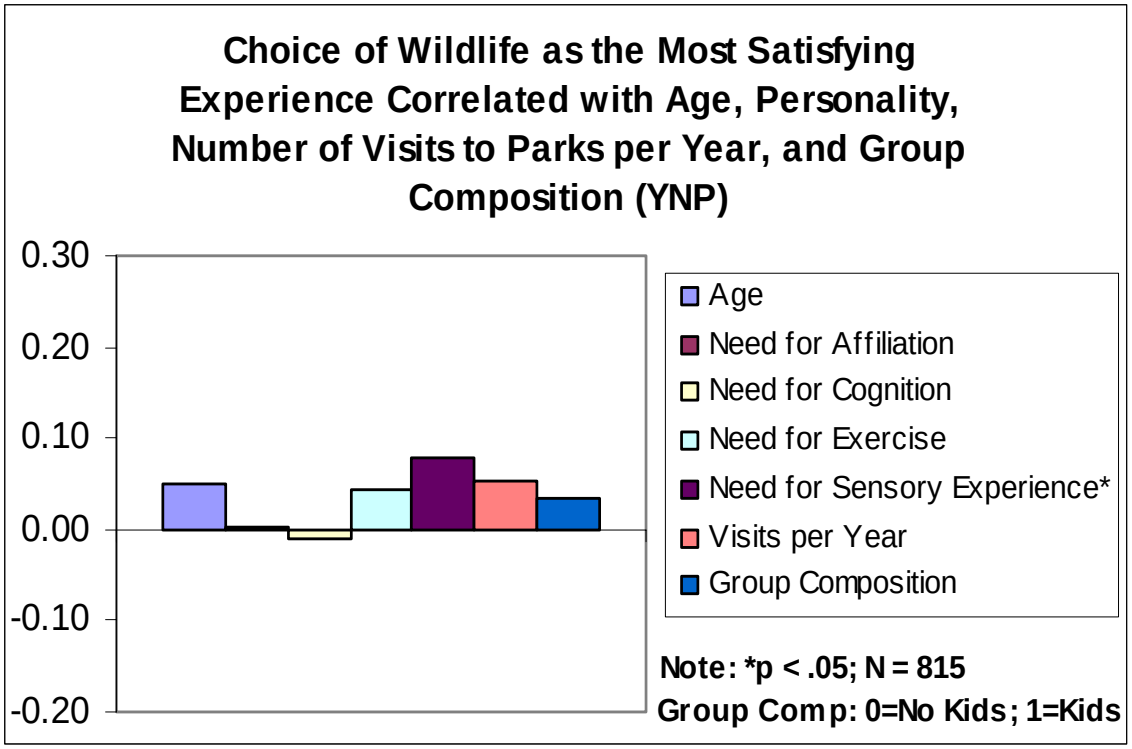


Figure A8.8

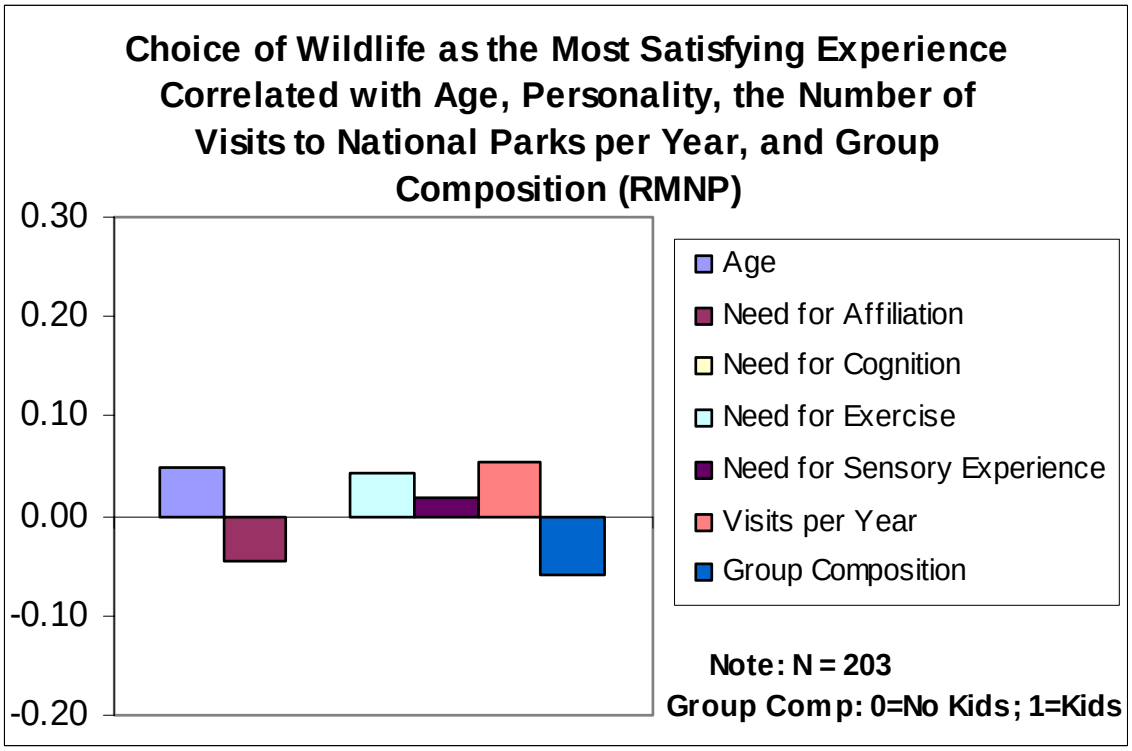


Figure A9.1

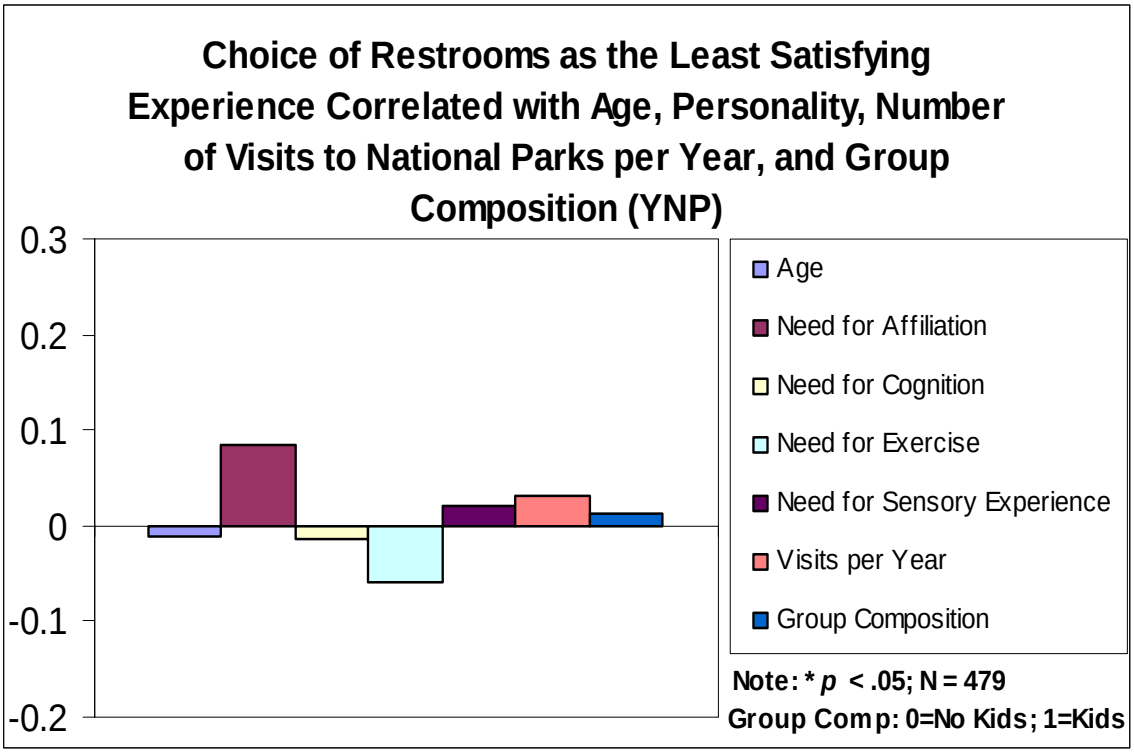


Figure A9.2

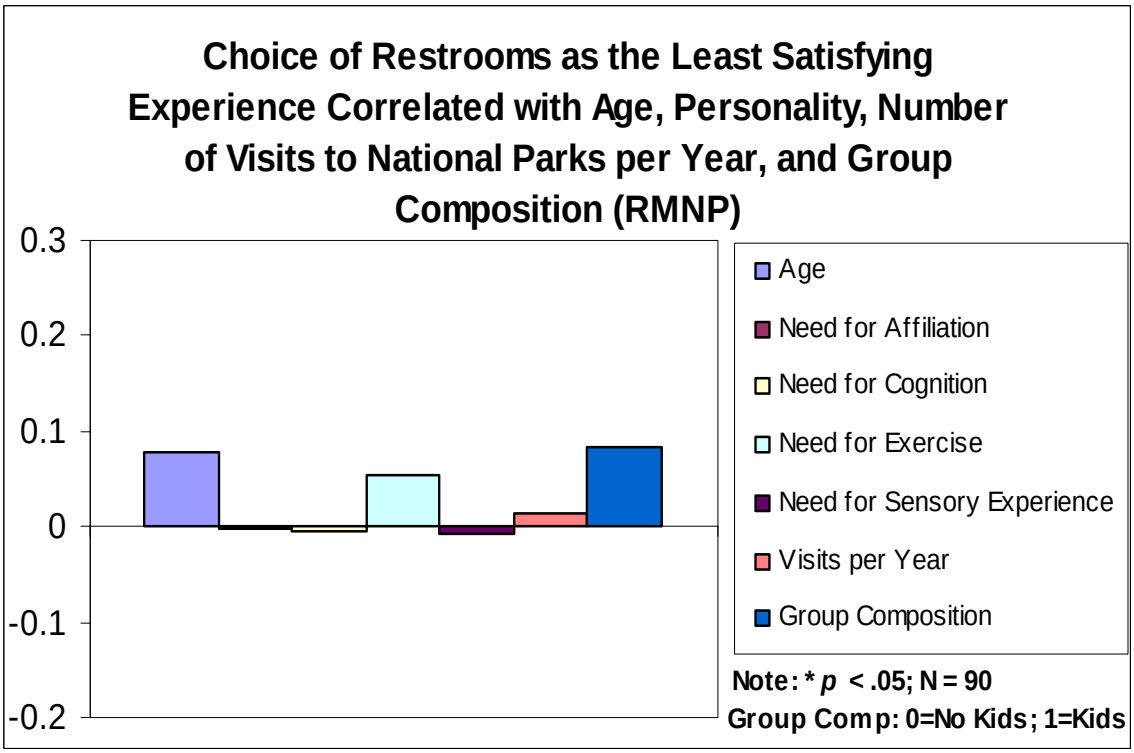


Figure A9.3

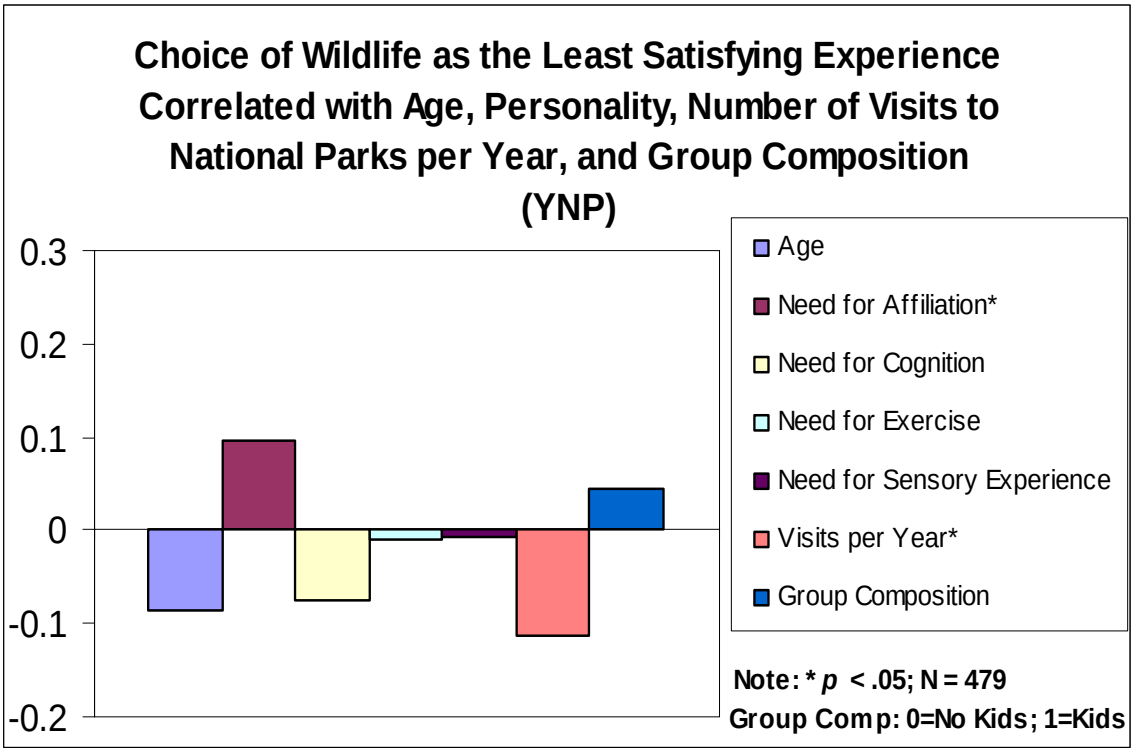


Figure A9.4

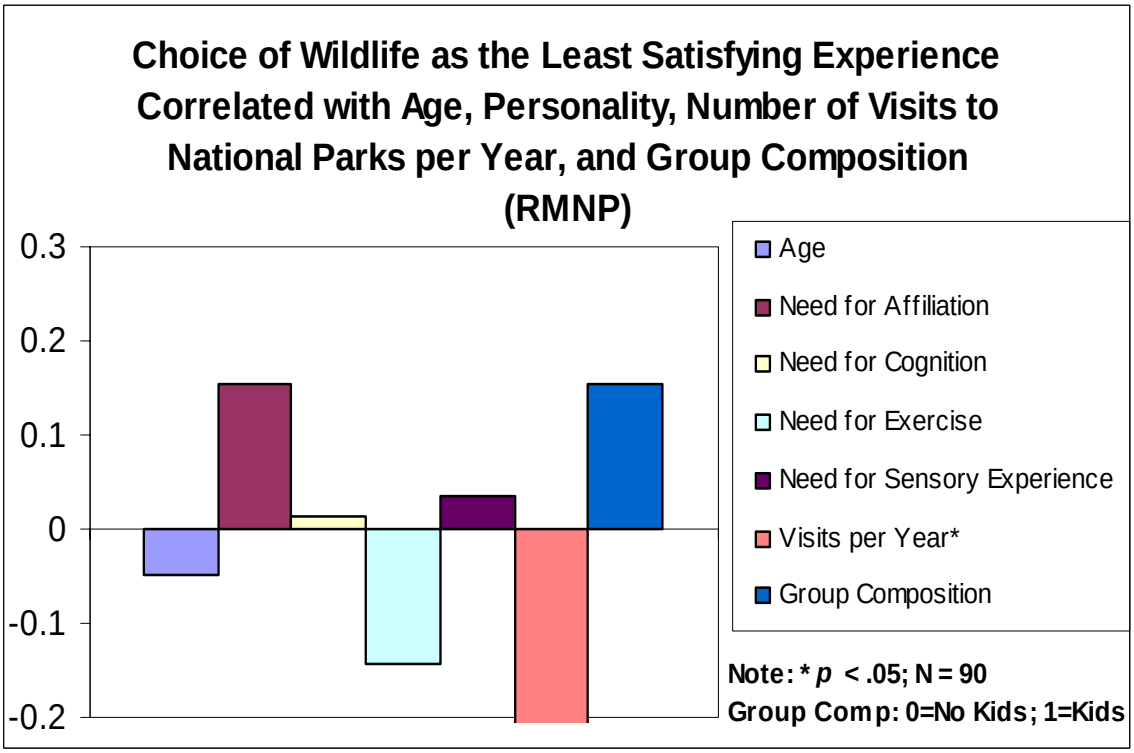


Figure A9.5

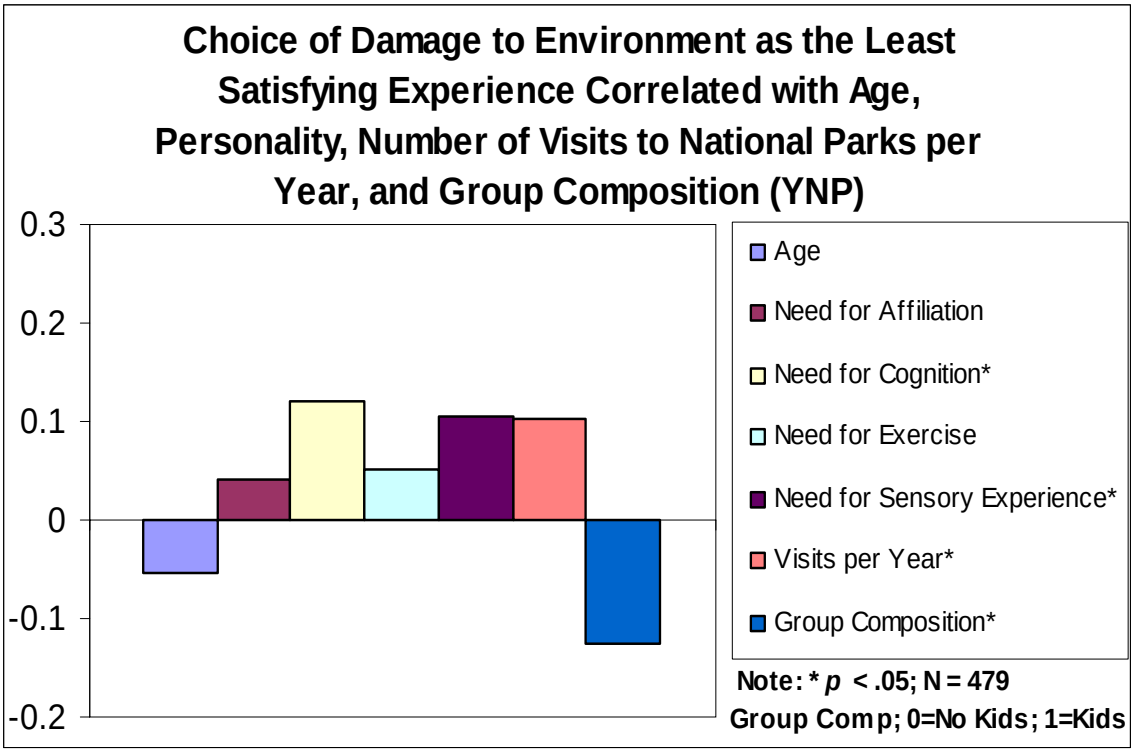


Figure A9.6

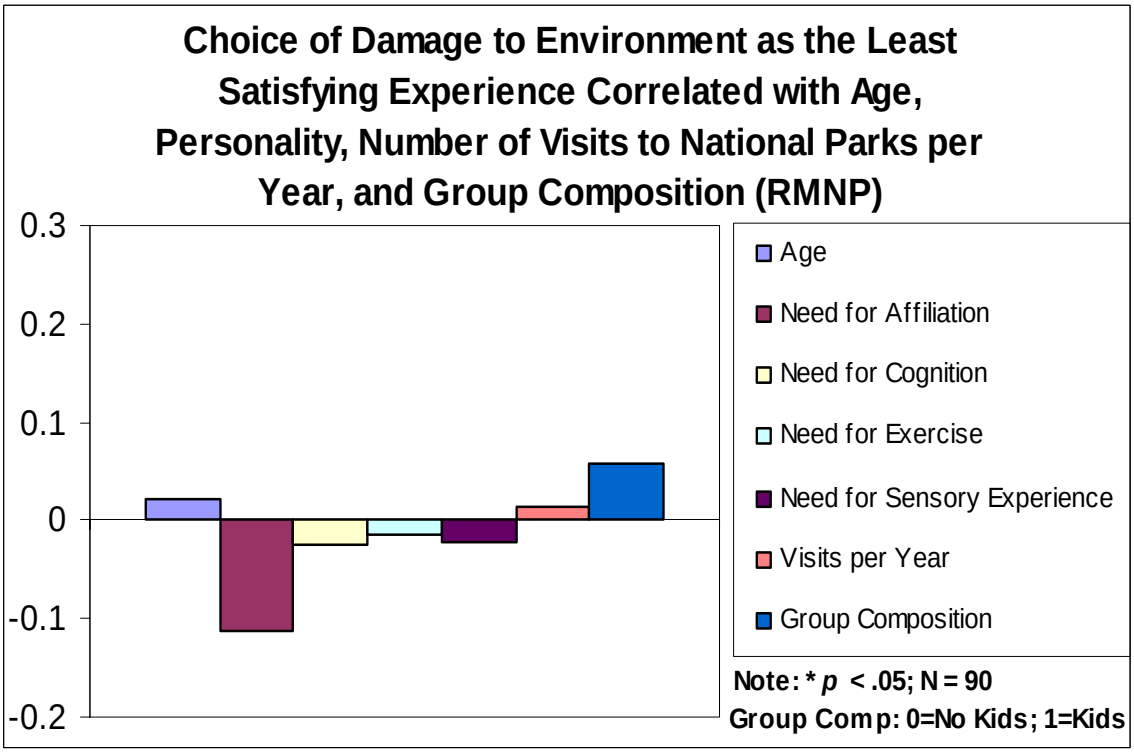


Figure A9.7

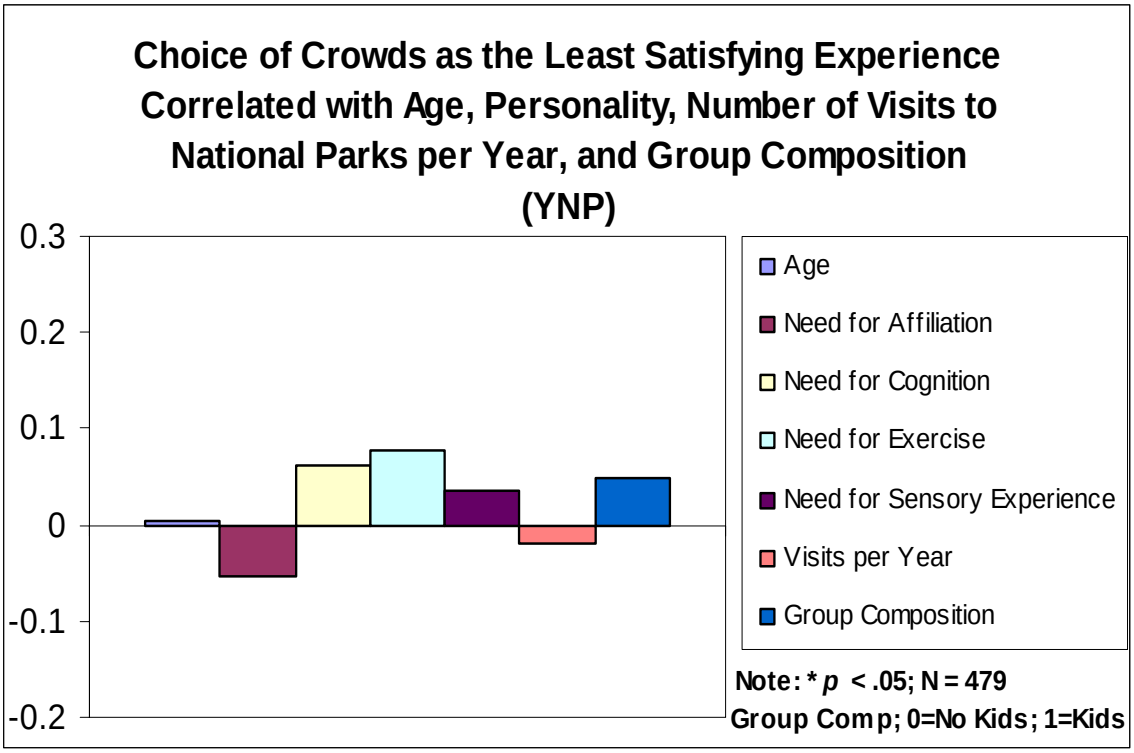


Figure A9.8

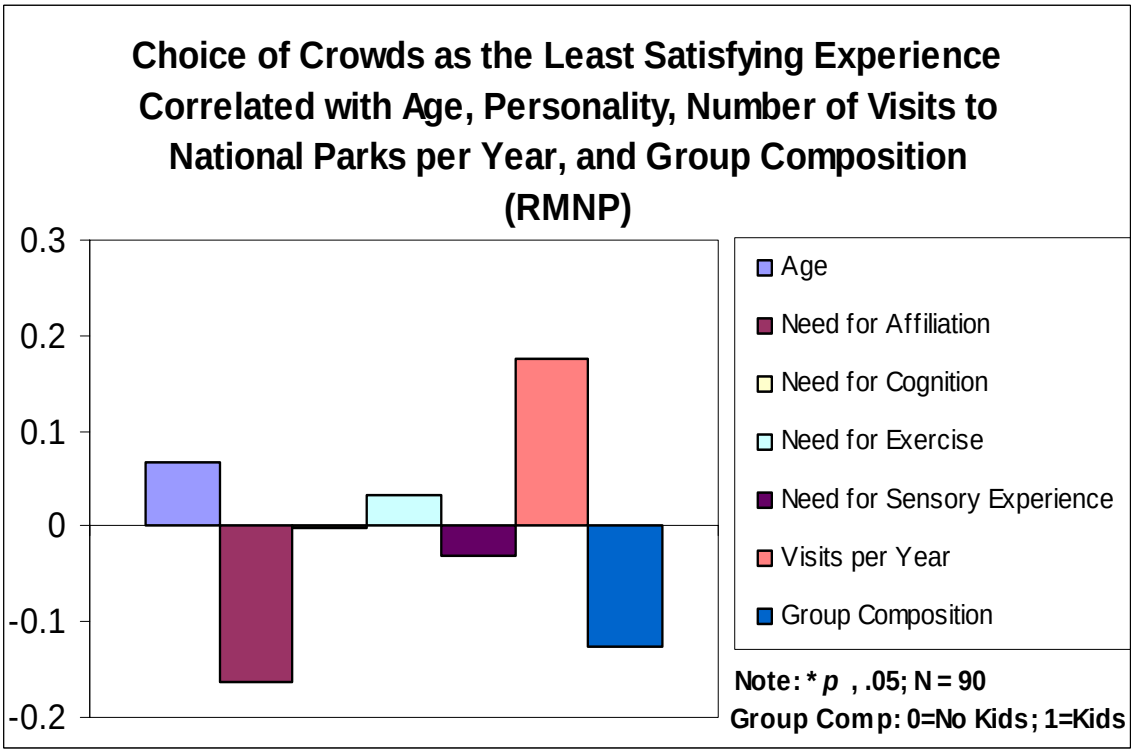


Figure A9.9

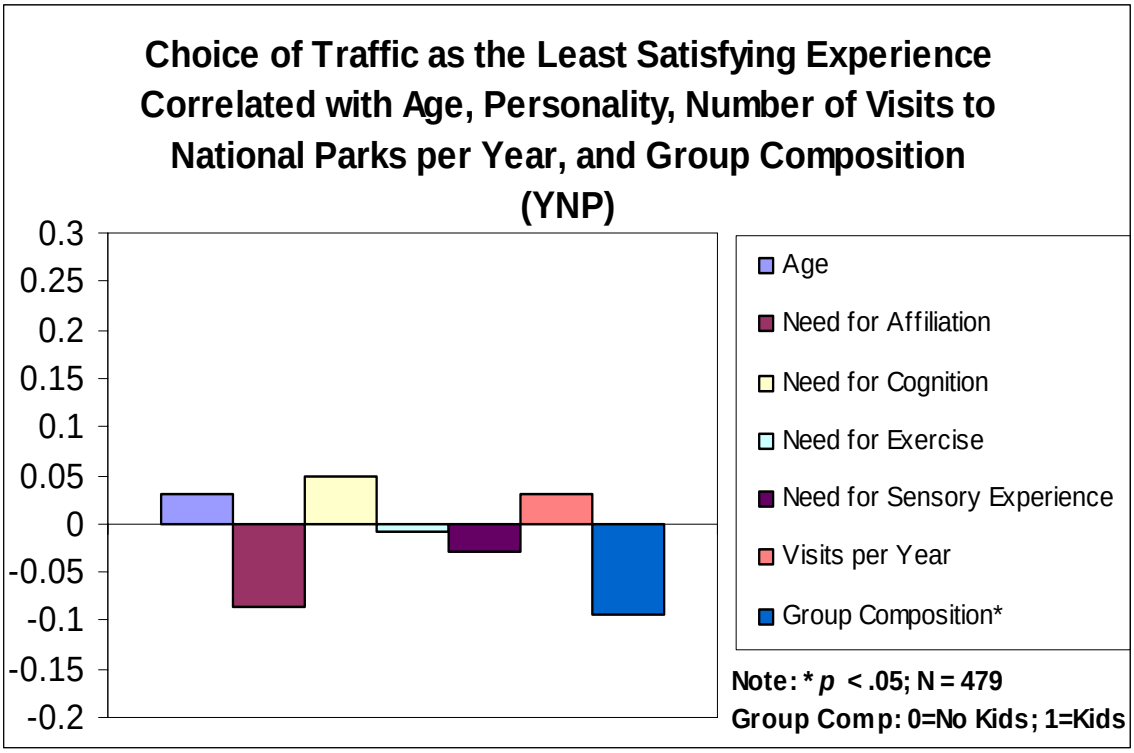


Figure A9.10

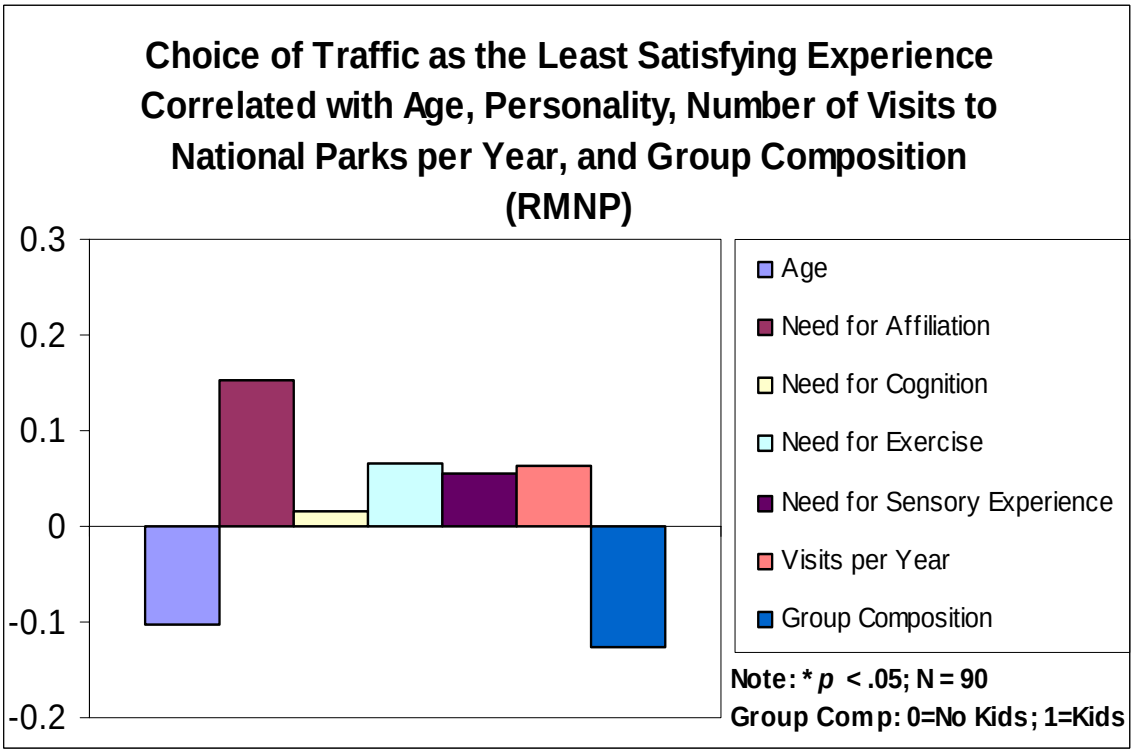


Figure A9.11

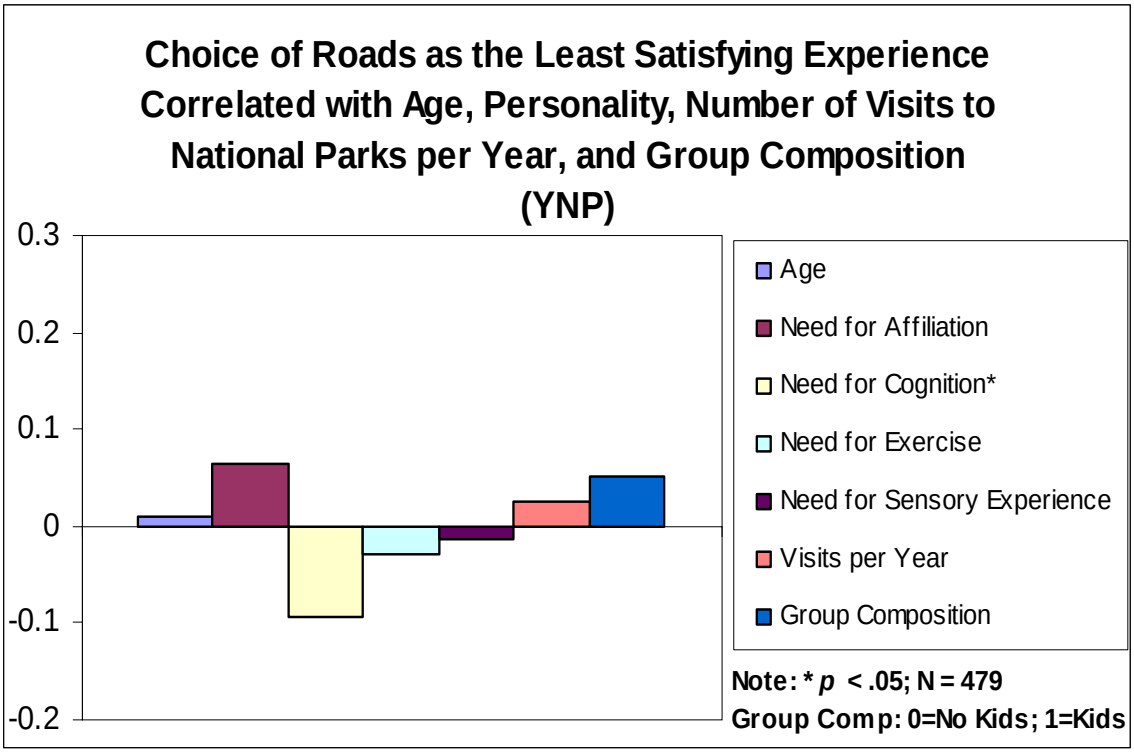

Choice of Roads as the Least Satisfying Experience Correlated with Age, Personality, Number of Visits to National Parks per Year, and Group Composition (YNP)
0.3
0.2
0.1
0
-0.1
-0.2
Age
Need for Affiliation
Need for Cognition*
Need for Exercise
Need for Sensory Experience
Visits per Year
Group Composition
Note: * p < .05; N = 479
Group Comp: 0=No Kids; 1=Kids

Figure A10.1

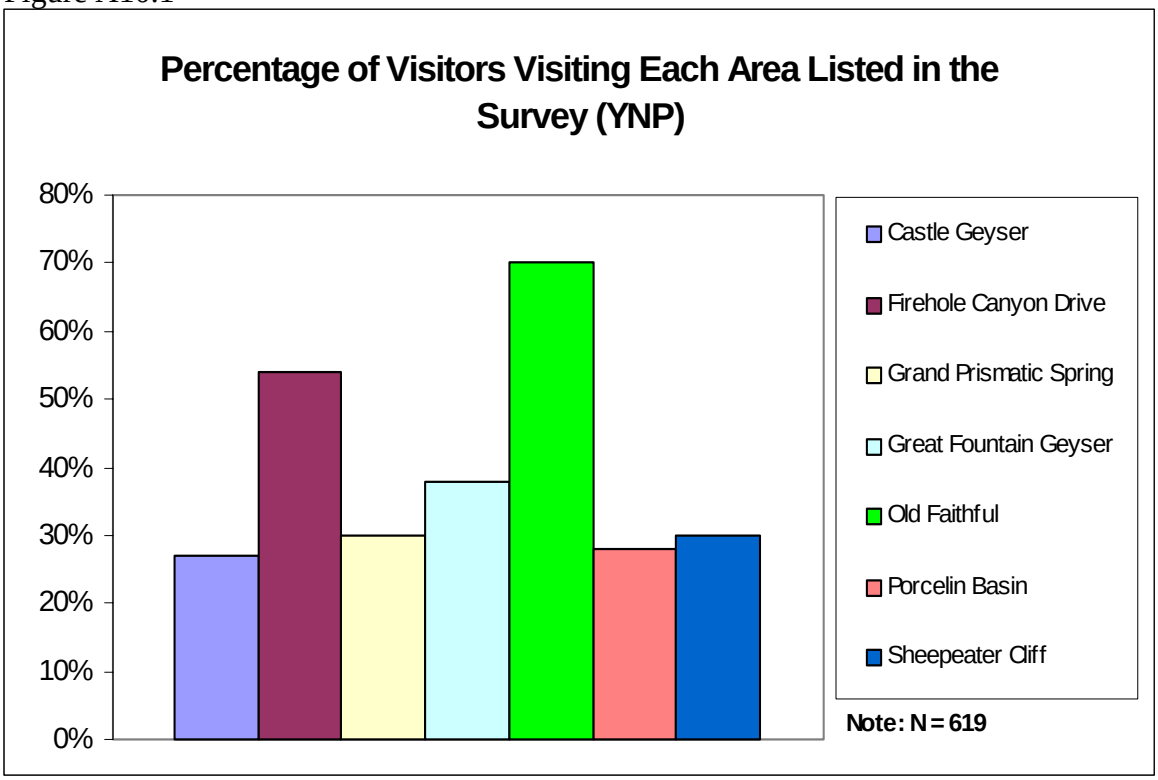


Figure A10.2

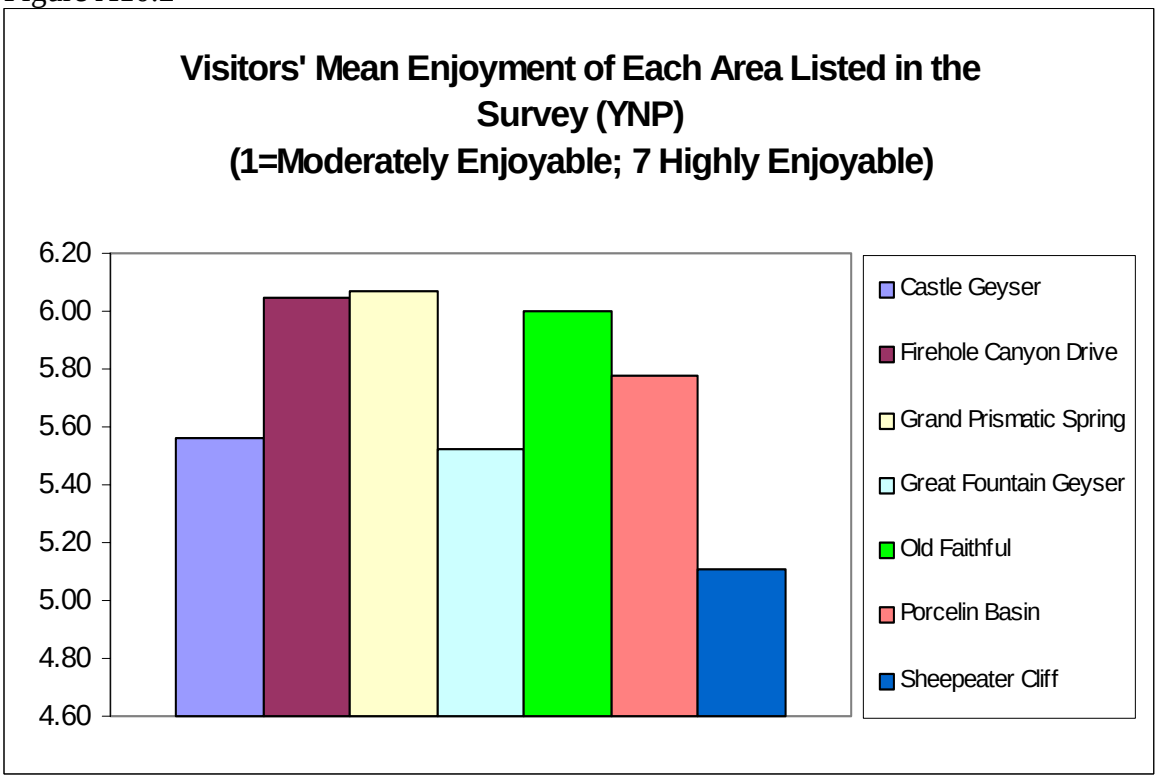


Figure A10.3

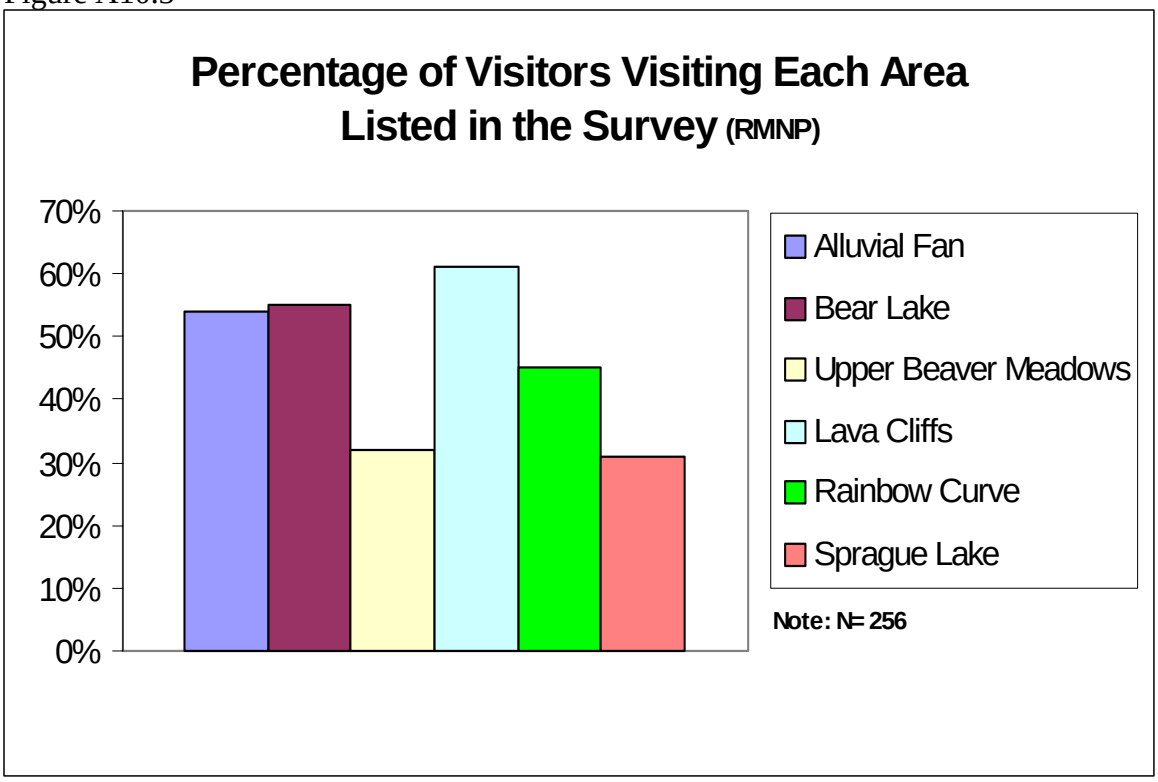
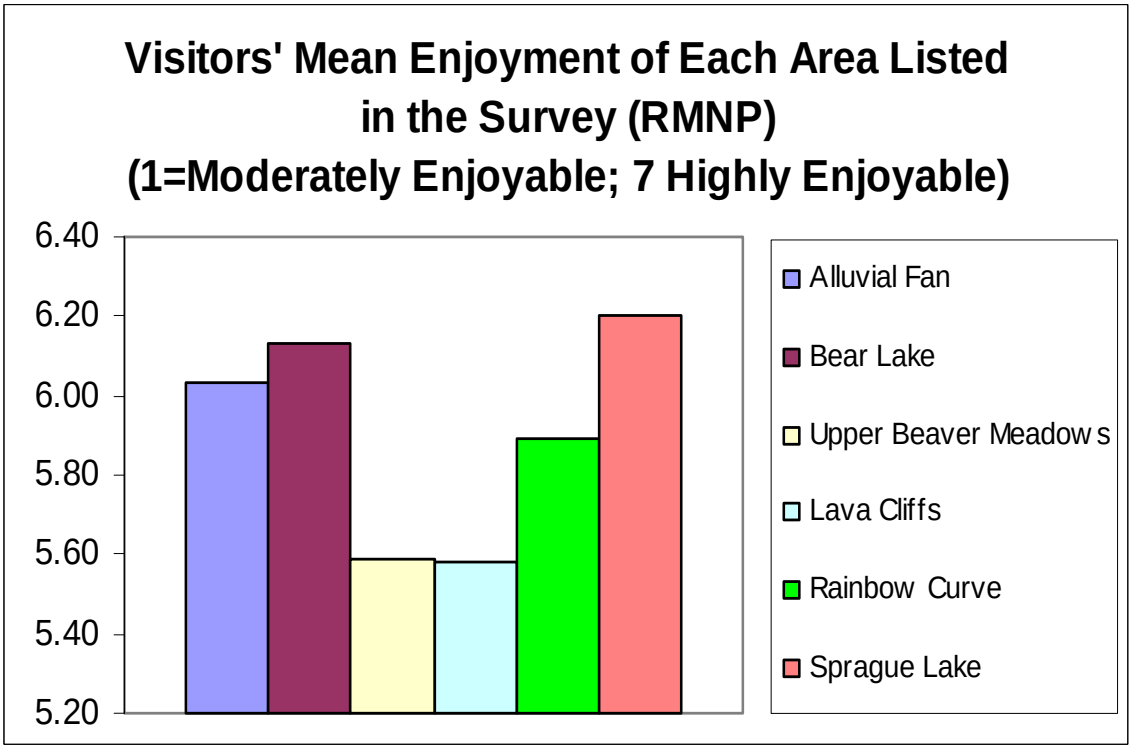



Figure A10.4