

ABSTRACT

PALACIOS, INÉS MARIANA. An Investigation of Potential Segmentation Variables for the North Carolina Zoological Society. (Under the direction of Dr. Larry D. Gustke.)

Many states and non-profit managed tourist attractions are supported by a large cadre of "friends' groups" or membership groups. Historic sites, museums, state parks, national parks, botanical gardens, art museums, and zoological parks recruit members to help ensure the maintenance and success of the attractions. Zoological parks rely extensively on membership groups, which are traditionally referred to as "society" groups. A better understanding of NC Zoo Society members and their relationship with the NC Zoo could be useful in the recruitment of new and the retention of existing members.

The purpose of this study was to examine the relationships that demographic or travel behavior variables have with type of membership or reason for joining the NC Zoo Society. Secondary data acquired from the NC Zoo Society were analyzed. The conceptual framework that guided the investigation was market segmentation. The data were collected by the NC Zoo Society using a web-based questionnaire sent to 10,000 of their members in 2006, of which 1,871 responded (18.7% response rate).

Analyses explored the relationships between each of the following independent variables: age, gender, education, income, ethnicity, number of children, distance traveled, and time traveled to the Zoo, and the dependent variables: type of membership and reason for joining the NC Zoo Society.

Results of cross-tabulations, chi-square tests of association, and analyses of variance (ANOVA) for selected variables supported 8 of the 12 proposed hypotheses.

There was a positive association between education level and type of membership (as education increases, a more expensive membership level is acquired), income level and type of membership (as income increases, a more expensive membership level is acquired), age and type of membership (as age

increases, a more expensive membership level is acquired), and distance traveled and type of membership (as distance decreases, less expensive membership category is acquired; however, those living farthest away obtain the most expensive membership – Life membership). Similar associations were found between time traveled and type of membership (as time traveled decreases, a less expensive membership category is acquired; whereas those living farthest away obtain the most expensive membership).

Additional associations were found between number of children and reason for joining (as number of children increases, interest for conservation increases as well). However, those that do not have children have the highest interest in conservation. Regarding reason for joining, distance traveled appeared associated with interest in conservation as well as time traveled (as either distance or time increases, so does their interest for conservation).

Recommendations for market segmentation of the NC Zoo Society were offered based on the results. First, members with a higher education level could be targeted and offered a higher membership level that will match their interests, because of the association between education level and type of membership. Second, knowing the positive association between income level and type of membership would help managers design marketing messages to communicate to these members that there are other membership categories that might be more appealing to them. Programmatic elements could be created to cater to this group (e.g. concerts, art exhibitions, series lectures). Third, because age and type of membership are associated, marketers can develop different messages and ways to reach members based on their age. Fourth, there is a relationship between travel behavior variables (distance traveled and time traveled) and type of membership. Knowledge of this relationship allows marketing and program managers to generate special programs and communication materials depending on how far away members live by addressing their interest and needs. Fifth, the NC Zoo should continue communicating the message of conservation to those individuals with larger family group because of the association between family size and reason for joining. Sixth, the marketing message for those living farther away from the NC Zoo should be that of education and recreation, because distance and time traveled

are negatively related to most important reason for joining the NC Zoo Society.

The results of this study did not confirm an association between gender, ethnicity, or number of children and type of membership or the relationship between gender, ethnicity, age, education, or income and reason for joining. However, these should be investigated further. Future investigation of the NC Zoo Society and other "friends' groups" should also include a mixed-mode approach (a combination of online, paper/pencil, and personal interviews), which will allow for the collection of richer data that can be used to develop marketing programs to attract new and retain current zoo society members.

An Investigation of Potential Segmentation Variables
for the North Carolina Zoological Society

by
Inés Mariana Palacios

A thesis submitted to the Graduate Faculty of
North Carolina State University
in partial fulfillment of the
requirements for the degree of
Master of Science

Parks, Recreation, and Tourism Management

Raleigh, North Carolina

2007

APPROVED BY:

Dr. Gene L. Brothers

Dr. Karla A. Henderson

Dr. Larry D. Gustke
Chair of Advisory Committee

DEDICATION

Dr. Nilda G. Cosco – my mother

Dr. Pablo L. Palacios – my father

Gala Palacios – my sister “Manotas”

Professor Robin C. Moore – my “plastic” father

Ofelia Molerés de Cosco, Olga Palacios Wolf, Mario L. Palacios – my grandparents

my family

and to:

my friends in Argentina and U.S.A.

my neighbors at Monie Ln., specifically Mary Humphrey, Mark Healy, and Mark-Joseph

“Marquitos” Healy

Knowledge is power

- Sir Francis Bacon, 1597

BIOGRAPHY

Inés M. Palacios is the daughter of Nilda G. Cosco and Pablo L. Palacios and the elder of two children. Her sister is Gala Palacios. She moved to Raleigh, North Carolina seven years ago. Raised in Buenos Aires, Argentina, she received a Bachelor of Science in Parks, Recreation and Tourism Management from North Carolina State University in December 2004.

While working toward her master's degree at North Carolina State University, the author worked on a variety of projects for the Department of Parks, Recreation, and Tourism Management. After working for the Oregon Zoo in 2003, she developed a research interest in the NC Zoo, thanks to the possibility of working in a statewide project. She will enroll in the doctoral program at North Carolina State University in the fall of 2007 with the dream of one day becoming a professor and researcher.

ACKNOWLEDGMENTS

Completing a master's thesis is not an individual effort. This study could only have been completed thanks to the support of several people. First, I want to thank my committee members. Dr. Larry D. Gustke, for being there during my ups and downs, advising and guiding me through my thesis and life. I would not have been able to make it to the finish line without his unconditional support and encouragement. Dr. Gene L. Brothers, for answering all my questions and being patient during the process. To Dr. Karla A. Henderson for accepting me with my shortcomings and for showing me there is light at the end of the tunnel.

I would also like to thank the faculty and staff at the Parks, Recreation, and Tourism Management Department. Special thanks to Dr. Beth E. Wilson for her time and patience while guiding me through this experience. Also, for her patience when I got frustrated for being an international student. I would like to thank Felicia P. Mangum for tirelessly offering her support and for not giving up on me.

My friends at the Oregon Zoo, specially Krista Swan and Jane Hartline, for taking the chance to have me as their intern in the Summer of 2003. They greatly inspired my interests in zoos and marketing. It is because of them that I am today devoted to this project.

Also, I would like to thank the NC Zoo and the NC Zoo Society, specifically Jayne Parker and Mike McClanahan, for their generous time and attention. They provided the support and information I needed to make this project possible.

Finally, I am eternally grateful to my parents and stepfather. My father, Dr. Pablo L. Palacios, because even though we are far away, he is close to my heart supporting me until the end. My stepfather, Professor Robin C. Moore, for his enthusiasm and energy and for his challenging questions while enjoying each others' company sitting in the backyard. And finally, to my mother, Dr. Nilda G. Cosco, I thank you the most. When it became too much for me to handle, you were there to set me straight and show me the way. I thank you for all the help and countless hours of your time. I am glad you went first through the Ph.D., so I could see how it was done.

All these individuals have supported me through my studies and life. They have helped me become the person I am today.

TABLE OF CONTENTS

LIST OF TABLES	ix
LIST OF FIGURES	x
CHAPTER 1: INTRODUCTION.....	1
THE NORTH CAROLINA ZOO	3
RESEARCH PURPOSE AND OBJECTIVES.....	6
<i>General Research Questions</i>	7
HYPOTHESIS TESTING	7
<i>General Hypothesis</i>	7
<i>Testable Hypotheses</i>	7
THESIS ORGANIZATION	8
CHAPTER 2: LITERATURE REVIEW.....	9
INTRODUCTION.....	9
ZOOS IN GENERAL.....	9
ZOO RESEARCH	10
FRIENDS' GROUPS	13
MARKETING.....	15
<i>Market Segmentation</i>	16
<i>NC Zoo Society Market Segmentation</i>	19
SUMMARY	21
CHAPTER 3: METHODOLOGY.....	22
INTRODUCTION.....	22
<i>Instrument Design</i>	22
<i>Sampling Design</i>	22
DATA ANALYSIS	23
VARIABLE CODING	24
<i>Education Level</i>	24
<i>Income Level</i>	25
<i>Number of Children</i>	25

Age.....	25
<i>Distance Traveled</i>	25
<i>Time Traveled</i>	26
<i>Type of Membership</i>	26
<i>Reason for Joining</i>	26
<i>Summary</i>	27
CHAPTER 4: RESULTS.....	28
INTRODUCTION.....	28
DEMOGRAPHIC VARIABLES	28
<i>Gender</i>	28
<i>Education Level</i>	29
<i>Income Level</i>	30
<i>Ethnicity</i>	31
<i>Number of Children</i>	33
<i>Age</i>	34
TRAVEL BEHAVIOR VARIABLES.....	35
<i>Distance Traveled</i>	35
<i>Time Traveled</i>	35
MEMBERSHIP VARIABLES	36
<i>Type of Membership</i>	36
REASON FOR JOINING	40
TYPICAL NC ZOO SOCIETY RESPONDENT	41
HYPOTHESIS TESTING	41
<i>Hypothesis Results</i>	42
SUMMARY	59
CHAPTER 5: CONCLUSION.....	61
INTRODUCTION.....	61
TYPICAL NC ZOO SOCIETY RESPONDENT	62
LIMITATIONS	63
RECOMMENDATIONS.....	65
<i>Methodological Considerations</i>	65
PRACTICAL SIGNIFICANCE	68
<i>NC Zoo Society Significance</i>	69

<i>Membership Category Names</i>	71
SUGGESTIONS FOR FUTURE RESEARCH.....	72
<i>Additional Hypotheses to Be Researched</i>	72
<i>Collecting and Analyzing Qualitative Data</i>	73
<i>Using a Mixed-Mode Approach</i>	74
<i>Capturing the Minority Visiting Population</i>	74
REFERENCES.....	76
APPENDIX A: AZA SURVEY OF ATTENDANCE AT MEMBER INSTITUTIONS	81
APPENDIX B: QUESTIONS IN NC ZOO SOCIETY MEMBERS SURVEY	90
APPENDIX C: RESULTS SUMMARY FROM INSTRUMENT USED IN THIS STUDY.....	96
APPENDIX D: AZA SURVEY OF MEMBERSHIP PRICES	106

LIST OF TABLES

Table 2.1 – Different Bases for Market Segmentation	18
Table 4.1 – Gender of 2006 NC Zoo Society Members Survey Respondents	28
Table 4.2 – Education Level of 2006 NC Zoo Society Members Survey Respondents	29
Table 4.3 – Income Level of 2006 NC Zoo Society Members Survey Respondents	30
Table 4.4 – Ethnicity of 2006 NC Zoo Society Members Survey Respondents	32
Table 4.5 – Number of Children of 2006 NC Zoo Society Members Survey Respondents	33
Table 4.6 – Age of 2006 NC Zoo Society Members Survey Respondents	34
Table 4.7 – Distance Traveled (50-mile increments) of 2006 NC Zoo Society Members Survey Respondents	35
Table 4.8 – Time Traveled (30-minute increments) of 2006 NC Zoo Society Members Survey Respondents	36
Table 4.9 – Admission Fees (Effective 1/2007)	37
Table 4.10 – NC Zoo Society Membership Categories	38
Table 4.11 – Type of Membership of 2006 NC Zoo Society Members Survey Respondents	39
Table 4.12 – Reason for Joining of 2006 NC Zoo Society Members Survey Respondents	40
Table 4.13 – Cross-tabulation Results for Education Level and Type of Membership	43
Table 4.14 – Cross-tabulation Results for Income and Type of Membership	45
Table 4.15 – Cross-tabulation Results for Number of Children and Type of Membership	46
Table 4.16 – ANOVA Results for Age by Type of Membership	47
Table 4.17 – ANOVA Results for Distance Traveled by Type of Membership	49
Table 4.18 – ANOVA Results for Time Traveled by Type of Membership	50
Table 4.19 – Cross-tabulation Results for Education Level and Reason for Joining	51
Table 4.20 – Cross-tabulation Results for Income and Reason for Joining	53
Table 4.21 – Cross-tabulation Results for Number of Children and Reason for Joining	55
Table 4.22 – ANOVA Results for Age by Reason for Joining	56
Table 4.23 – ANOVA Results for Distance Traveled by Reason for Joining	57
Table 4.24 – ANOVA Results for Time Traveled and Reason by Joining	58
Table 4.25 – Hypothesis Results	59

LIST OF FIGURES

Figure 1.1 – North Carolina Zoological Park Location	4
Figure 1.2 – North Carolina Zoological Park Map	4
Figure 3.1 – Type of Membership and Reason for Joining: Conceptual Model for the NC Zoo Society	24
Figure 4.1 – Gender of 2006 NC Zoo Society Members Survey Respondents	29
Figure 4.2 – Education Level of 2006 NC Zoo Society Members Survey Respondents	30
Figure 4.3 – Income Level of 2006 NC Zoo Society Members Survey Respondents	31
Figure 4.4 – Ethnicity of 2006 NC Zoo Society Members Survey Respondents	32
Figure 4.5 – Number of Children of 2006 NC Zoo Society Members Survey Respondents	34
Figure 4.6 – Type of Membership of 2006 NC Zoo Society Members Survey Respondents	39
Figure 4.7 – Reason for Joining of 2006 NC Zoo Society Members Survey Respondents	40

CHAPTER I

Introduction

Tourism is an industry composed of five components or sectors that collectively contribute to providing educational and recreational experiences for residents and visitors. These components are transportation, accommodations, services, attractions, and people (or tourists) (Gunn, 1994, p. 46). In North Carolina, just as in other states, the attractions consist of a vast array of activities, places, events, and festivals that are both natural-resource-based and manmade. In North Carolina this includes 265 festivals, 29 state parks, 28 historic sites, 3 aquariums, and the NC Zoological Park (hereafter referred to as the NC Zoo).

Many of these tourism attractions are funded and managed by federal, state, and local government agencies and are critical to the economic vitality of the system. Similarly, visitors to these attractions and their supporting "friends' groups" or membership groups often provide the financial and political support necessary to ensure the operation and survival of these attractions.

One of these major attractions is the NC Zoo. Basic funding for the NC Zoo is provided by the NC legislature. However, like most zoos, it is also dependent on both its visitors and its membership group, known as the North Carolina Zoological Society (hereafter referred to as the NC Zoo Society), for financial and political support. Reporting 711,530 visitors in 2006 and a NC Zoo Society membership of 22,000, the NC Zoo provides educational, recreation, and leisure opportunities for NC residents and visitors. Society members and other visitors go to the zoo to learn about animals and their habitat, learn about endangered species, study environmental issues and concerns, enjoy being outdoors, and relax with family and friends. In addition to visiting the zoo, Society members contribute time, money, professional expertise, and political support to ensure that the Zoo can meet its three-pronged mission of understanding of and commitment to the conservation of the world's wildlife and wild places; the recognition of the interdependence of people and nature; and creating a sense of enjoyment, wonder, and discovery throughout the Park and in outreach programs ("NC Zoo™ - North Carolina Zoo: Mission & Vision," n.d.).

Zoos and their visitors have received some attention from tourism, marketing, education, and leisure-behavior researchers. Andereck and Caldwell (1994) conducted a study of visitors' needs, desires, and motives. Milman (2001) explained visitors' demographic changes and competition in the zoo industry. Mason (2000) explained the lack of published information concerning zoos as tourist attractions. Ryan and Saward (2004) researched visitors' motivation and deficiencies tourists perceived of their experiences at a zoo, while Siderelis and Gustke (2000) identified how visitors choose to take trips and how they organize them among attractions. Conducting the same type of research, Stevens (1988) described how visitors seek authenticity and honesty in the attraction they visit. Tomas, Scott, and Crompton (2002) explained visitors' perceptions of service performance and levels of satisfaction at a zoo. Tomas, Crompton, and Scott (2003) completed an assessment of service quality and benefits sought among visitors to zoos. Finally, Turley (2001) conducted a study of visitors and the impact of children on the family group. Results of these studies have been applied to zoo management and marketing. New exhibits, new programs, better visitor (customer) service, and marketing plans have been developed to ensure that zoos continue to attract visitors, both members and non-members. However, most of the research has focused on the non-member visitors. Little research has been conducted, published, or made publicly available about zoo members' groups. Therefore, this thesis focuses on the NC Zoo as a tourist attraction, with a special focus on NC Zoo Society members. Specifically, profiles of the members, their interests, and variables that may influence their membership were investigated. In addition, market segmentation is applied to assist the Zoo Society to develop strategies for the recruitment of new members and retention of old members.

This study has three main purposes. First, the study identifies and describes the profile of current NC Zoo members. This information helps NC Zoo Society membership managers to better understand their audience and to tailor programs accordingly. In addition, by knowing the zoo's audience, managers will be able to adjust their strategies to improve outreach and customer satisfaction and to effect change. Communication is a key element of customer service. As in any tourism service, customer service fosters repeat visitation. Having fluid communication among visitors, members, and employees is essential for a healthy relationship between the parts.

Second, the study provides additional information about the NC Zoo

membership, which is important for the North Carolina tourism industry. The demographic information gives insight to the industry on distances visitors are willing to travel to a given destination, time they are willing to drive, age, gender, income level, education level, and other characteristics. Such information will aid managers when creating future marketing campaigns either by targeting other areas/cities or by targeting specific groups of people with particular characteristics.

Third, it will provide a better understanding about the representation of Society members. This information provides marketing managers with the opportunity to direct their future retention and recruitment efforts more efficiently by targeting the audiences that have been overlooked, both in the state of North Carolina and in neighboring states.

The North Carolina Zoo

The North Carolina Zoo is located approximately 6 miles (9.6 km) from Asheboro, NC in Randolph County, 107 miles (172.2 km) west of Raleigh, 89 miles (143.2 km) east of Charlotte, and 204 miles (328.3 km) northwest of Wilmington (Figure 1.1). The NC Zoo occupies one of the largest land areas of any zoo in the U.S., which consequently makes it attractive to locals as well as residents of neighboring states. It has a total area of 1,450 acres (5.9 km²); however, only 535 acres (2.2 km²) are currently developed. It is said to be the largest walk-through natural-habitat zoo in the U.S. Visitors can start their visit at either end of the zoo, where spacious parking is provided (Figure 1.2). The one-way distance from the North America Plaza to the Akibia Plaza is about 1.7 miles, with about 5 miles of walk paths within the zoo. Tram buses transport visitors between stops within the park. Additionally, a shuttle is available to transfer visitors from the Africa parking lot to the North America parking lot ("North Carolina Zoological Park History," n.d.).

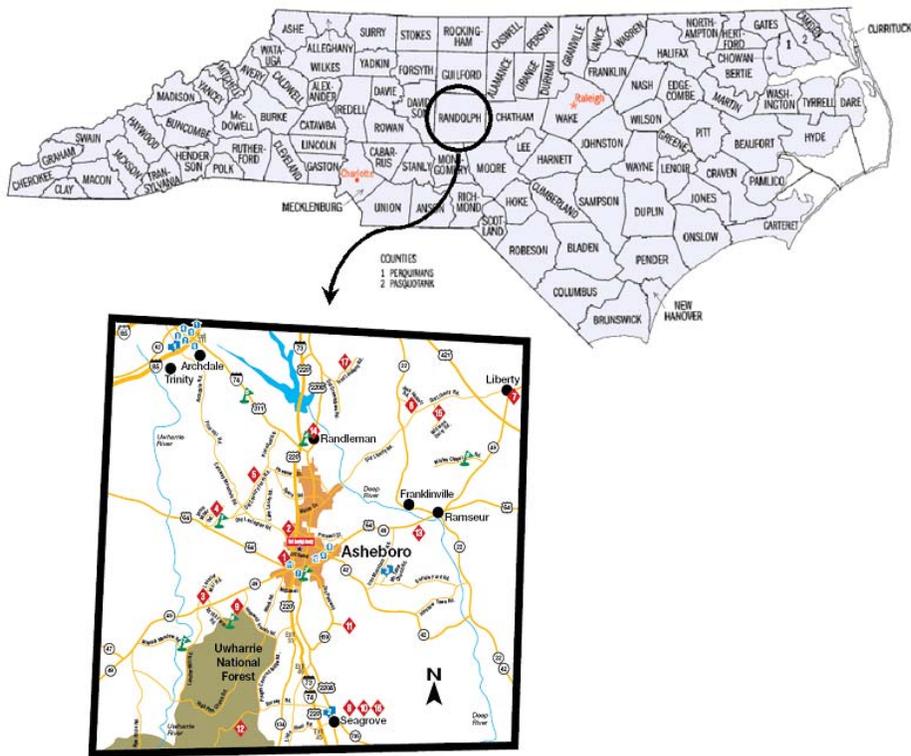


Figure 1.1 – North Carolina Zoological Park Location

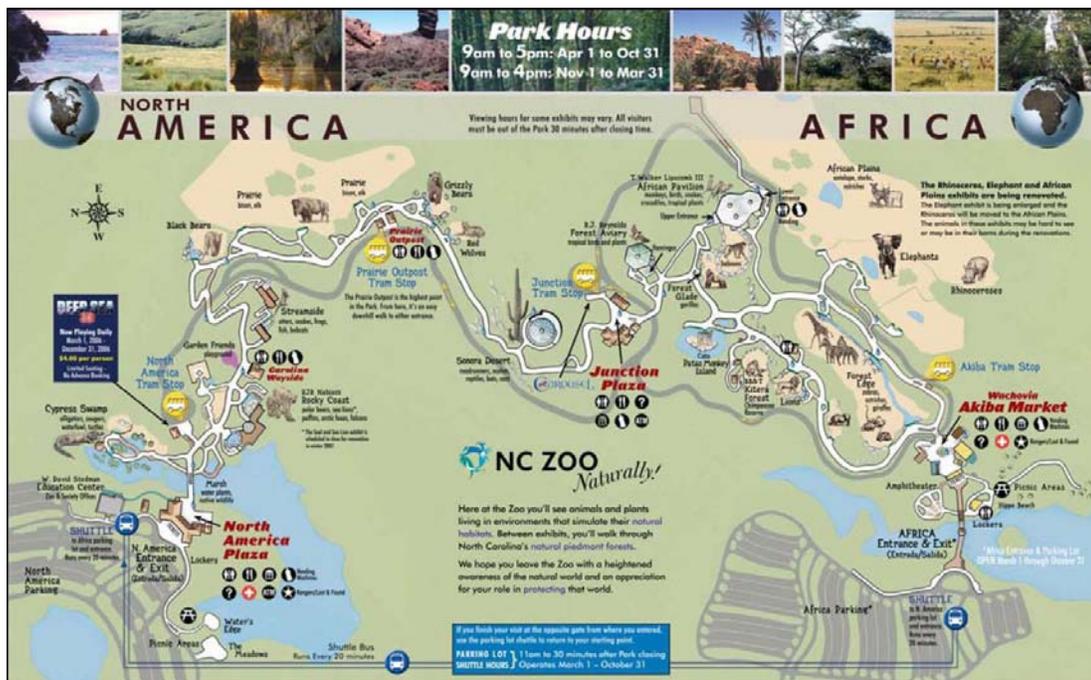


Figure 1.2 – North Carolina Zoological Park Map

The NC Zoo mission is, "To encourage understanding of and commitment to the conservation of the world's wildlife and wild places through the recognition of the interdependence of people and nature. We will do this by creating a sense of enjoyment, wonder and discovery throughout the Park and in our outreach programs" ("NC Zoo™ - North Carolina Zoo: Mission & Vision," n.d.).

In addition to the revenue generated by tickets sold for non-members, support for the NC Zoo is provided by the NC Zoo Society, a private in-house non-profit organization. The key task of the organization is to raise funds from private individuals, corporations, and foundations through their membership programs (for individuals, families, corporations); annual, capital, and planned-giving campaigns; gift shops within the NC Zoo; applications for grants; special events; trips; and other programs ("NC Zoo™ - NC Zoo Society: About Us," n.d.).

NC Zoo Society members provide about \$1 million a year. These funds are used to support NC Zoo programs, and the member base functions as a nursery for future supporters. The NC Zoo Society counts on members to include it in their wills, introduce it to their friends, make it part of their children's lives, introduce it to potential donors, and speak to their legislatures. In addition to the NC Zoo Society fundraising efforts, another group, Randolph Friends of the Zoo, helps organize "Zoo to Do," which raises about \$100,000 annually by organizing an annual dinner, dance and fundraising auction. Across the state, the NC Zoo Society has other friends' groups that collaborate by donating money. Once a year, the NC Zoo Society visits them to cultivate their relationships and to provide information about the latest at the NC Zoo (J. O. Parker, personal communication, June 15, 2007).

The NC Zoo Society membership group is composed of 22,000 members who support the NC Zoo. Depending on members' chosen membership level, different benefits are offered. Members are a main source of help for the organization by donating time and money. In addition, memberships enable individuals to participate in special interest groups and allow access to other locations of interest such as aquariums and museums around North Carolina.

Research Purpose and Objectives

The goal of this study was to identify the potential influence of the demographic variables in the selection of membership categories and the identification of reason for joining (e.g., conservation, education, recreation, or other) that might explain the membership segmentation. The results are based on the analysis of a member survey conducted by the NC Zoo in November 2006 with the purpose of developing “a better understanding of existing members of the NC Zoo Society,” as stated by J. O. Parker, Curriculum and Evaluation Director (Personal communication, March 13, 2007).

The sub-purposes of the study include the identification of members according to the following categories:

1. Demographic profile of the NC Zoo Society;
2. Distance traveled to the NC Zoo;
3. Time traveled to the NC Zoo;
4. Differences across membership levels with regard to demographics, distance traveled, and time traveled;
5. Differences in members’ reasons for joining for visiting the NC Zoo (conservation, education, or recreation) with regard to demographics, distance traveled, and time traveled.

The objectives of this thesis are to analyze the data collected by the NC Zoo Society in its November 2006 online survey, to further

1. Identify variables associated with different membership levels;
2. Identify variables associated with the selection of conservation, education, or recreation as members’ reason for joining;
3. Test relationships between variables and both type of membership and reason for joining (conservation, education, recreation);
4. Suggest effective communication strategies to better capture particular segments of the current and future member population.

These objectives will allow the NC Zoo Society to target specific segments to maximize the impact of its marketing messages. These segments will allow recruitment in new markets and retention of existing members by maximizing the investment of marketing efforts.

General Research Questions

The study will address the following research questions:

1. Is there a relationship among zoo members' demographic characteristics, travel behavior, and the different membership levels?
2. Is there a relationship among zoo members' demographic characteristics, travel behavior, and reason for joining?
3. If so, what are the characteristics of such relationships?

Hypothesis Testing

A general research question, a general hypothesis, and testable hypotheses were developed from (1) the objectives of the study as described by the NC Zoo Society, (2) a review of the literature that states a need for more research at zoos, and (3) literature regarding market segmentation.

General Hypothesis

Relationships exist between demographic variables, travel behavior variables, and type of membership; and relationships exist between demographic variables, travel behavior variables and reason for joining the NC Zoo Society.

Testable Hypotheses

There is relationship between demographic variables, travel behavior variables, type of membership or reason for joining the NC Zoo Society. To test this hypothesis, twelve sub-hypotheses were produced:

- o There will be a relationship between education level and type of membership;

- There will be a relationship between income and type of membership;
- There will be a relationship between number of children and type of membership;
- There will be a relationship between age and type of membership;
- There will be a relationship between distance traveled and type of membership;
- There will be a relationship between time traveled and type of membership;
- There will be a relationship between education and reason for joining;
- There will be a relationship between income and reason for joining;
- There will be a relationship between number of children and reason for joining;
- There will be a relationship between age and reason for joining;
- There will be a relationship between distance traveled and reason for joining;
- There will be a relationship between time traveled and reason for joining.

Thesis Organization

This thesis is organized in five chapters.

Chapter 1 addresses the question of the need for a study on NC Zoo members. It also contains background information on and history of the NC Zoo, the purpose and objectives of the research, and an introduction and statement of the research problem.

Chapter 2 presents a review of relevant literature from different bodies of research: the need for more research on zoos, marketing, and market segmentation.

Chapter 3 explains the methodology of the study—specifically, how the data were collected, the instrument, the sampling design, and limitations.

Chapter 4 consists of a descriptive summary of the results, a review of the data analysis conducted to address the testable hypotheses, and relevant statistical findings.

Chapter 5 describes the significance of the findings and provides a discussion of the applicability of the results, in addition to methodological considerations. It also makes recommendations for future research.

CHAPTER 2

Literature Review

Introduction

This chapter consists of a review of the relevant literature about zoos in general and the need for more research on zoological gardens. The importance of marketing and market segmentation are also reviewed.

Zoos in General

Typically, zoos have the greatest number of visitors during the summer months. A good example is the NC Zoo, which draws approximately 700,000 visitors a year. The most interesting aspect is that “zoos are not unusual in needing to manage multiple and conflicting roles, in this case conservation, education, and tourism” (Mason, 2000, p. 336). This is one of the many reasons why people are drawn to visit this attraction in their leisure time. As stated in Chapter 1, other attractions that deal with similar roles are aquariums, museums, botanical gardens, and historic sites.

In the U.S., zoos are well-known for being important tourist attractions (Mason, 2000), though “urban-based zoos are not major tourist attractions as they are so widespread that they could not in themselves draw visitors to cities from outside the region of the zoo” (Mason, 2000, p. 335). Zoos, as well as museums, more often attract family groups, regardless of their location. However, the typical group that visits attractions such as zoological gardens has changed over the years. Milman (2001) observed, “demographic changes are associated with the increased diversity of the U.S. population” (p. 142). These groups have changed depending on their background. For instance, a typical family used to be characterized as two adults and two children; however, for families of diverse backgrounds, that description falls short. As an example, a Hispanic family group is usually bigger, since more often than not, their extended family is also included. This is supported by Floyd (1998) when he states that “Hispanic recreationists tend to visit recreation in larger groups that are more varied in the composition than “typical” Anglo groups” (p. 16). Zoos, as well as museums, should

notice internal as well external forces that might affect them. Adjusting to these forces will be of great importance for their future in the industry (Milman, 2001, p. 139). Wind and Mahajan (2002) pointed out, "It is far more important to gain a deeper understand[ing on] how the consumers are changing and how they are [too] remaining the same" (p. 68). Becoming aware of modifications in customer groups is priceless information that organizations should value. Marketing managers could consequently decide whether to adjust existent market campaigns to suit new populations that have been changing over the years. Striking a balance involving change is one of the most challenging task managers are faced with on a daily basis.

Zoo Research

The first recorded zoo was in Egypt in the 15th century BC. The first modern zoos appeared in Europe, Paris, and Vienna in the 18th century. Zoos were established in London and Berlin during the 19th century. The first known zoos in America were located in Cincinnati and Philadelphia in the 1870s (Mason, 2000). Even though zoological gardens as tourism attractions have been of great importance in the last few centuries, "only a small amount [of information regarding zoos] has so far been published concerning the nature of ... [them] as tourist attractions, the characteristics of zoo visitors and visitor satisfaction" (Mason, 2000, p. 336). Finding scholarly material regarding any aspect of a zoological garden is difficult because of the lack of qualified investigators in the field or simply because the zoo industry is a competitive business. The information that zoos collect is not always published, because of the lack of time or qualified personnel within the zoo. According to Dr. Carol Saunders of Brookfield Zoo in Chicago, there is a misconception about sharing information with competitors. Some zoo managers think published information could be misused or used to draw people to other attractions, rather than understanding the benefits this could offer to the field and the zoo (Personal communication, March 29, 2007).

Literature regarding zoos is available but difficult to find despite the large number of annual visitors that zoos receive (Tomas et al., 2003, p. 107; Turley, 2001, p. 4). Conducting research to understand similarities and differences among members would provide information to establish a better marketing plan. As stated by Morgan and Hodgkinson (1999), "Contemporary zoos may not recognize the value of conducting

social research or the importance of meeting visitors' needs" (p. 227); however, if studies of this nature are conducted, marketing managers would be able to focus their efforts on what provides the greatest value to the organization. As Andereck and Caldwell (1994) pointed out, "As more research is conducted [...], greater confidence and more precision can be developed with regard to developing marketing strategies for public parks and recreation agencies" (p. 30).

The importance of visitors is reflected in the numerous studies conducted. For instance, Andereck and Caldwell (1994) studied visitors' needs, desires, and motives. They identified four motives why people would visit zoos: (1) recreation and novelty, (2) general education of others, (3) specific educational reasons, and (4) photography purposes. They found that the typical visitor to the zoo was not on a vacation trip, planned his or her trip less than a month prior to departure, had never visited the zoo before, and was a North Carolina resident. Andereck and Caldwell concluded that the majority of visitors to the zoo were in the education/recreation segment.

Mason (2000) explained the lack of published information concerning zoos as tourist attractions. He suggested that the roles of zoos are amusement, education, scientific research, and species preservation. According to Mason, there appears to be a need for more straightforward tourism-related marketing research. More importantly, he suggested that there be more market research focused on the nature and types of visitors to zoos.

An explanation of visitors' demographic changes and competition in the industry is given in Milman (2001). The study primarily focused on general managers of theme parks and attractions across North America. They were asked to give opinions regarding the future of the attractions industry. Milman explained how general managers attribute the highest level of influence on future operations to visitors, economic forces, employees, demographic changes, and competition.

Ryan and Saward (2004) explained visitors' motivations and deficiencies tourists perceived of their experiences at a zoo. A survey was administered to 359 visitors to Hamilton Zoo in New Zealand. Results of the study showed the importance to visitors of the role that conservation plays when choosing a family day out.

In their study on how visitors choose and organize trips among attractions, Siderelis and Gustke (2000) conducted an empirical study at the NC Zoo. A total of 1,013

questionnaires were returned. Data were gathered based on economic household income, residence, trip expenditures, travel distance, preferences for zoo exhibits, annual income, occupation, and travel party composition. It found the economic site benefit for the NC Zoo to be underestimated by 24%.

In 1988, Stevens examined the decline of visitation to traditional zoos in Europe, based on how visitors seek authenticity and honesty in the attractions they visit. He found that many attractions are already in the process of upgrading their facilities to enhance display quality of animals. He goes on to describe what can be done in different areas of the zoo to fulfill what the public is interested in when visiting the facility.

Tomas, Scott, and Crompton (2002) studied visitors' perceptions of service performance and levels of satisfaction. The investigators explained how increasing customer satisfaction, infrastructure quality, and service excellence potentially increases the number of returning visitors to an attraction, thus promoting the area positively through word of mouth.

Tomas, Crompton, and Scott (2003) described benefits sought among visitors to zoos, assessed service quality, and examined family togetherness of zoo visitors. Data were collected by a convenience sample at the Fort Worth Zoo. Six attributes of service quality were inferred: overall cleanliness, overall accessibility, education staffing, comfort amenities, information/signs, and wildlife. In addition, 10 benefits sought by visitors were inferred: family togetherness, similar people, learning, nature (wildlife), enjoyment, escape, teaching/leading others, new people, introspection, and nostalgia. The study found family togetherness to be the most sought benefit for visitors when visiting the Fort Worth Zoo, followed by wildlife enjoyment, wildlife appreciation and learning, and introspection/new people.

Empirical study based on zoo visiting, visitors' and latent visitors' and the impact of children in the family group was conducted by Turley (2001). She collected demographic information of visitors to three traditional U.K. zoos, and investigated how families are often the group that more frequently visit zoos. She explained that the presence of a child determines the decision to go to a particular attraction. Family stage plays an important role when choosing a day trip. In addition, she gave importance to the role of conservation and its relationship with age. She implied that conservation appeals to the older generations that might not have children to take to

the zoo.

Clearly, social science and marketing research on zoos is limited. This offers an opportunity to develop different areas of study. As Mason (2000) explained:

“There is a need for what could be considered relatively straightforward tourism related market research. Hence, there is a scope for investigation into the following market research themes:

... the nature and types of visitors to zoos;

... the attractions of zoos;

... the nature of the visitor experiences;

... the level of visitor satisfaction;

... the relationship between the location of the zoo and the main areas of demand;

... the ways in which zoos market themselves;

... the impacts of zoos in terms of economic, social and environmental consequences” (p. 337).

Research in any of these areas will provide park managers information that will be relevant for marketing plans, communication strategies, and other subjects in need of development.

Friends' Groups

The definition of “friends' groups” is not agreed among authors. Some described them as “membership schemes, societies and associations; however, they share a common purpose of supporting the host organization” (Hayes & Slater, 2003; Slater, 2003, 2004). As explained by Hayes and Slater (2003), “friends' organisations are not a new phenomenon, and can be found in a range of contexts: cultural, educational, environmental and health. [...] Friends' organisations have evolved over time, from social clubs for a small élite group, to sophisticated membership schemes. The latter are often managed by the host organization, and fulfil marketing, fundraising and to a lesser extent, audience development objectives” (p. 59). Nowadays, some non-profit tourist attractions are supported by a friends' groups department maintained in-house.

Marketing managers utilize friends' groups to incorporate consumers as members of their organization (Bhattacharya, Rao, & Glynn, 1995, p. 47). Companies try to attract customers by offering benefit packages with a set fee depending on the level of

benefits. These packages consist of "'hard' and 'soft' benefits: 'hard' include those that have a monetary value for the members, whereas 'soft' benefits enhance or enrich their experience. The most common benefit [...] is free admission [...]" (Hayes & Slater, 2003, p. 60). A number of organizations will allow individuals to make use of these hard and soft benefits only if they become members; other organizations allow their visitors to access the facility by paying a fee every time they visit or by becoming a member.

There is little literature about the academic study of membership management (Gruen, Summers, & Acito, 2000, p. 34). Slater (2004) explained that articles are equally difficult to find across sociology, museology, and business journals (p. 239). She also stated, "There is relatively little published about membership schemes in either the UK or USA; only a handful of academic studies, practitioner guides and reports for policy makers exist" (Slater, 2004, p. 238). Nonetheless, the following studies were found. Cress, McPherson, and Rotolo (1997) studied the length of membership and participation, Bhattacharya (1998) examined how members' characteristics influence lapsing in paid membership in an art gallery, and Bhattacharya (1996) examined members' perceptions of museum membership benefits and their identification with the museum. Glynn, Bhattacharya, and Rao (1996) examined members' perceptions of museum membership, membership benefit use, and identification of members with the organization. Slater (2004) examined motivations and behaviors of members.

The literature does not address differences between those individuals that volunteer in a for-profit environment and those that do so in a non-profit organization. The roles of individuals in a for-profit or non-profit organization are similar. They are involved in all aspects of the organization, which could include education, interpretation, marketing, public relations, and so forth (Orr, 2006, p. 195).

Historic sites, museums, galleries, state parks, national parks, botanical gardens, and zoological parks recruit volunteer labor and seek financial support through their friends' groups or societies. Such groups associated with zoological parks are usually referred to as "society membership" groups. Slater (2004) stated that society membership groups "can be a source of loyal supporters who often volunteer, make donations and act as advocates ..." (p. 238). A better understanding of society members and their relationship with the zoo is of use in the recruitment of new and the retention of existing members. As explained by Bhattacharya, Rao, and Glynn (1995),

"Identification in the customer arena also has desirable consequences of high brand loyalty and positive word of mouth" (p. 46). They added that "retaining existing customers is six times less expensive than luring new customers" (p. 46). Caring for members is a long term investment that should not be ignored. Even people who do not contribute their time to the organization are of value because they have been already pulled into the organization rather than having to be encouraged to join.

Marketing managers are able to identify interests and characteristics of members in a specific membership tier. Valuable information can be collected to create programs for individuals with similar characteristics. In addition, managers are able to develop focused communication strategies, strengthen the bond of identification between their members and the organization, and obtain help. Bhattacharya (1998) supported this in stating, "Paid memberships in nonprofit contexts provide structural opportunities for members to help the organization [...] by volunteering time and gifting money to support the mission of the organization" (p. 32).

Most important, a membership group "provide[s] a framework for developing and managing loyalty, enabling the organization to develop enduring relationships with members" (Hayes & Slater, 2003, p. 60). A membership group well managed will result in resources well used. Changing patterns in the membership pool can be observed by managers, who in turn can adjust their programming strategies to suit members' interests. This allows for a better understanding of members and tailoring of strategies and tactics to retain members.

Marketing

Understanding what customers are seeking, their needs and wants, is of importance to the tourism industry, especially in North America with its diverse population. Comprehending these differences in needs and wants is useful when making managerial decisions. Information gathered by the marketing office is of great value when tourism managers are creating a new marketing program. Some examples that could be found in the zoological garden industry include what to have in mind when building a new area of attraction, how to position it, or simply what to add to a brochure targeting minorities, what to add to existing publications, or how to produce new program activities for the changing demographics. As Andereck (1994) pointed

out, "Visitor motives and other characteristics can be effectively used as a marketing tool" (p. 30). In addition, as stated by Milman (2001), "The analysis of the future allows innovators to create products that appeal to both the changing demographics and tastes of potential consumer markets" (p. 140). In recent years, immigration has been steadily growing. Adjusting to the demand of new residents is imperative. Turley (1999) indicated that "changes in the demographic make-up of the ... population, namely an ageing population and a declining birth rate, have serious implications for zoo marketing and management" (p. 350).

Zoos, like other tourism attractions, compete for an audience. Recognizing that there are and will be changes in the industry will allow managers to adjust programs that reach new niches or target markets. Deciding whether to target a particular group is a challenge in itself. Understanding who their audiences are and determining similarities or differences between groups will allow zoo park managers to segment groups to direct efforts more effectively. What follows is a discussion on how market segmentation is a powerful marketing tool, how it assists administrators to group consumers with similar characteristics into categories by noticing the diversity in them, and the segmentation bases used for the present study.

Market Segmentation

One of the most important aspects of marketing is market segmentation. As stated by Wedel and Kamakura (1998), "Since its introduction by Smith (1956), market segmentation has become a central concept in both marketing theory and practice" (p. 3). To segment a market, appropriate criteria should first be developed. This is probably most commonly represented as a simple checklist (P. Kotler, 1984). Kotler referred to four items that should be taken into account before segmenting the market:

- Measurability – the segment size can be measured;
- Accessibility – the segment can be reached and served;
- Substantiality – the segment is large enough and profitable;
- Actionability – the segment can be effectively served with programs.

By applying these criteria, segmentation can be a powerful tool for marketers. Moving from criteria to segmentation specifically, P. Kotler (1974) added that “an organization cannot attain any marketing efficiency if it treats the whole market as having equal product interest and equal resources. Some parts of the market will inevitably be more responsive to the product offer than others” (p. 99). Therefore, the focus of market segmentation is to identify groups of people with similar characteristics from among a larger group. This is confirmed by Wedel and Kamakura (1998): “Market segmentation is a theoretical marketing concept involving artificial groupings of consumers constructed to help managers design and target their strategies” (p. 5). Moreover, there is not a right or wrong way to segment a market. A group can be segmented in numerous ways by observing different variables and noting which ones explain better the market opportunities presented at the time (N. Kotler & Kotler, 1998, p. 125).

Markets can be divided into different groups depending on the product and marketer interest. Organizations cannot serve the whole market, and choosing wisely their segment or segments will mean directing efforts more effectively (P. Kotler, 1974, p. 57). For a comprehensive listing of variables, refer to Table 2.1.

Table 2.1 – Different Bases for Market Segmentation

Geographic	
Region	Pacific, Mountain, West North Central, West South Central, East North Central, East South Central, South Atlantic, Middle Atlantic, New England
City or metro size	Under 4,999, 5,000–19,999, 20,000–49,999, 50,000–99,999, 100,000–249,999, 250,000–499,999, 500,000–999,999, 1,000,000–3,999,999, 4,000,000 or over
Density	Urban, suburban, rural
Climate	Northern, southern
Demographic	
Age	Under 6, 6–11, 12–19, 20–34, 35–49, 50–64, 65+
Family life cycle	Young, single; young, married, no children; young, married, youngest child under 6; young, married, youngest child 6 or over; older, married, with children; older, married, no children under 18; older, single; other
Gender	Male, female
Income	Under \$9,999, \$10,000–\$14,999, \$15,000–\$19,999, \$20,000–\$29,999, \$30,000–\$49,999, \$50,000–\$99,999, \$100,000 and over
Occupation	Professional and technical; managers, officials, and proprietors; clerical; sales; craftspeople; professors; laborers; farmers; students; homemakers; unemployed
Education	Grade school or less, some high school, high school graduate, some college, college graduate
Religion	Catholic, Protestant, Jewish, Muslim, Hindu, other
Race	White, Asian, African American, Latino
Generation	Baby boomers, Generation X
Nationality	American, Brazilian, British, French, German, Italian, Japanese, and so on
Social class	Lower lowers, upper lowers, working class, middle class, upper middles, lower uppers, upper uppers
Psychographic	
Lifestyle	Straights, swingers, longhairs, and so on
Personality	Compulsive, gregarious, authoritarian, ambitious, and so on
Behavioral	
Occasions	Regular occasion, special occasion
Benefits	Quality, service, economy, speed
User status	Nonuser, ex-user, potential user, first-time user, regular user
Usage rate	Light user, medium user, heavy user
Loyalty status	None, medium, strong, absolute
Buyer-readiness stage	Unaware, aware, informed, interested, desirous, intending to buy
Attitude toward product	Enthusiastic, positive, indifferent, negative, hostile

Source: Kotler & Kotler, 1998, p. 126

As suggested by Andereck and Summer (1994), when dividing the market, “resulting segments often differ in terms of socio-economic characteristics, lifestyle characteristics, travel behavior and patterns, activities pursued, and expenditures” (p. 20). As observed in Table 2.1, there are several methods to divide the market. Segmentation of the non-profit field has been studied from the viewpoint of demographics (Paswan & Troy, 2004), customer relationship management (Kinser & Fall, 2006), customer retention (Bhattacharya, 1998; Bhattacharya et al., 1995; Garbarino & Johnson, 1999; Glynn et al., 1996), behavior-based (Inbakaran & Jackson, 2005; Johns & Gyimothy, 2002), motivation-based (Bieger & Laesser, 2002; Thyne, 2001), and lifestyle (Gonzalez & Bello, 2002; Todd & Lawson, 2001; Todd, Lawson, & Faris, 1998).

To segment target markets, demographics such as location, age, gender, and occupation have been traditionally used successfully and are popular, not because they are the best, but because data are usually readily available (N. Kotler & Kotler, 1998; Yeo, 2005). They are presented in this study.

NC Zoo Society Market Segmentation

Society member groups, when organized in meaningful categories, allow marketing managers to reach individuals more efficiently. Separating individuals into groups with similar interests or characteristics simplifies the work of managers as well as permits the networking of others with the same interests. Therefore, this study examines NC Zoo Society members and attempts to develop basic clusters based on simple demographic characteristics (i.e., age, gender, education, income, ethnicity, number of children, distance traveled, and time traveled to the NC Zoo). As recognized by Inbakaran and Jackson (2005), “Segmentation of [visitors] is useful in terms of marketing to the needs of particular groups” (p. 56). Tailoring communication to individuals is of great value. Not only is the communication reaching the right member, but the investment is wisely used. In addition, the organization is providing programs of interest to its members.

Like many other zoos around the country, the NC Zoo Society has been segmenting the market by creating membership groups. As stated by Bhattacharya (1998), “Membership programs offer the opportunity to create customer segments–this is often accomplished by establishing different membership tiers and interest groups that

allow members to give self-expression to their motives and perhaps develop social networks” (p. 32). The organization is then a conduit for its members to get to know each other; it will provide more than just programming, including opportunities for their members that might not be directly related to the organization. Developing networking opportunities for individuals will provide opportunities for the zoo when members talk to others about their involvement at the NC Zoo Society.

There is more than one reason to segment the NC Zoo Society member group. The major advantage, as stated previously, is the appropriate investment of resources, time, and money on groups of people that are interested in a specific topic or are similar in characteristics. Demographic characteristics such as age, gender, education, income, ethnicity, and number of children and travel characteristics such as distance traveled and time traveled to the NC Zoo offer managers a basis for segmentation. Sorting out members with children in their party will allow NC Zoo Society managers to create programs that cater to those visitors. Also based on demographics is the communication design for individuals traveling distances of 50 miles and up, or for those that travel 30 to 60 minutes. Creating a message stating how the distance to the NC Zoo is less than may be perceived will address misconceptions of the NC Zoo being too far away. These are only a few examples of how segmentation can be used. This is confirmed by Inbakaran and Jackson (2005) when they state, “Using demographics as the clustering base will make it easier to develop guest activity programmes and other special [...] products and services with limited resource implications” (p. 65).

In conclusion, segmenting the market is a valuable tool when developing new programs, communications, strategies, or tactics in the organization. Even though demographic characteristics are of use, “in recent years researchers have discovered that segmentation based on various social-psychological dimensions, such as motives, [and] attitudes, [...] has improved the ability to promote products” (Andereck, Caldwell, & Debbage, 1991, p. 359). Taken into account, these other dimensions should be incorporated in future segmentation of the NC Zoo Society membership pool.

Summary

The literature review provides a conceptual framework for the research discussed in the next chapter. Zoos are an important attraction in the overall tourism system, with large numbers of tourists visiting zoological garden parks annually. Even though a large number of visitors are drawn to visit such attractions, in-depth research about members of such organizations has not been conducted extensively. Hence, marketing is a tool that can be used to convey an understanding of members' needs.

The next chapter will discuss the methods developed to investigate the research question. It will also review the results from statistical analyses conducted on the data, which will support or contradict the hypotheses. Analyses are also described in detail in the next section.

CHAPTER 3

Methodology

Introduction

The 2006 NC Zoo Society Members Survey was conducted by the NC Zoo Society with the goal of collecting information about the needs, interests, and demographics of the existing members. Gathered information was to be used for future programming and marketing projects (J. O. Parker, personal communication, March 13, 2007). The survey instrument was designed by MBA students at the University of North Carolina – Greensboro as a special project to fulfill class requirements (M. McClanahan, personal communication, March 16, 2007). The following sections include a description of the instrument design, sampling design, data analysis, and hypothesis testing.

Instrument Design

The questionnaire was composed of 26 questions (Appendix B): 10 questions providing nominal data, 6 questions providing ordinal data, 5 questions providing interval data, and 5 open-ended questions. Of the 26 questions, 11 asked about the respondents' NC Zoo membership. Five questions asked about the NC Zoo, and 3 questions asked about the NC Zoo Society. The first question and the last 6 questions asked for personal and demographic information.

Sampling Design

A members' database containing email addresses and names was used to email the questionnaire to NC Zoo members. Only members that gave permission to the NC Zoo Society to contact them were sent the questionnaire, resulting in a convenience sample. The self-administered questionnaire was sent out during November 2006. Respondents were able to answer questions for seven inclusive days, starting November 10, 2006 until November 16, 2006. Individuals self-selected to respond the survey.

Data Analysis

SurveyMonkey.com was used to send an email containing an invitation to complete the questionnaire. The questionnaire was sent to 10,000 members out of 22,000 that compose the entire NC Zoo membership database. Emails were sent only to individuals that expressed interest in receiving communication from the NC Zoo Society. A total of 1870 usable questionnaires were returned, resulting in an 18.7% overall response rate (M. McClanahan, personal communication, March 16, 2007).

SurveyMonkey.com was also used to collect and code the data automatically. The raw data file was downloaded from the website to a spreadsheet to perform further analysis. Descriptive statistics were produced for all variables. Frequency counts and means for all responses are described in the first part of chapter 4. The second part of chapter 4 provides

1. cross-tabulations between demographics and type of membership, and reason for joining the NC Zoo Society;
2. analyses of variance (ANOVA) between demographics or travel behavior, type of membership, and reason for joining the NC Zoo Society;
3. Testing of hypotheses.

Furthermore, since demographic variables are easy to identify and readily available, segmentation based on gender, age, education, ethnicity, and number of children will be examined. Travel behavior variables based on distance and time to the zoo will also be considered (refer to Figure 3.1). Therefore, the association between demographics and travel behavior (shown in Figure 3.1), type of membership, and reason for joining (i.e., conservation, education, or recreation) will be investigated. The following section will attempt to use demographics to explain potential differences between type of membership and reason for joining.

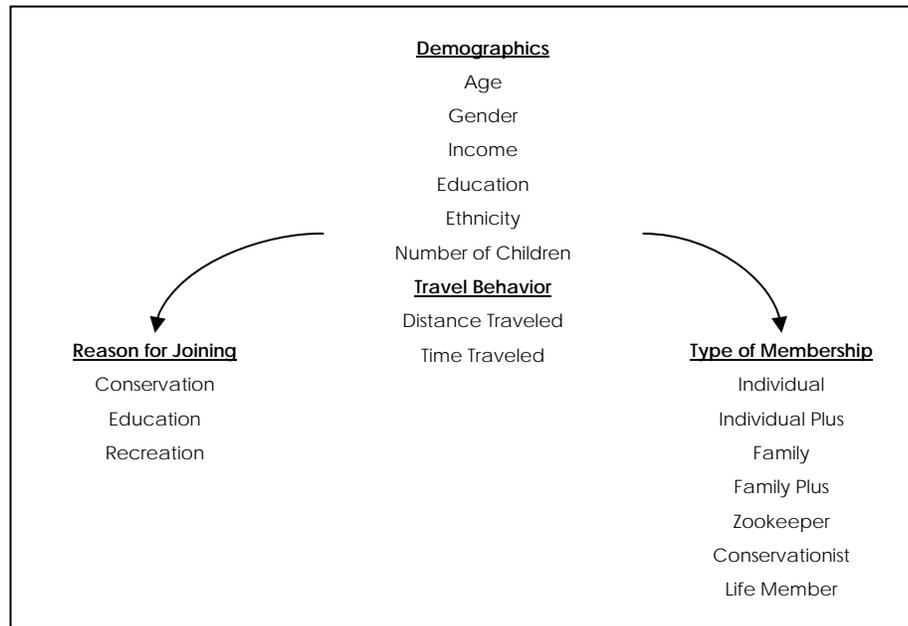


Figure 3.1 – Type of Membership and Reason for Joining: Conceptual Model for the NC Zoo Society

Variable Coding

Education Level

Originally, the education level variable was broken into six categories (High School/GED, Some College, Associate’s, Bachelor’s, Master/Professional, and Doctorate) (Appendix C, question 25). After running a frequency count and descriptive statistics, four different categories (High School, Some College, Bachelor’s Degree, and Advanced Degree) were created based on the distribution of the data, which is presented in Chapter 4, Table 4.2, and Figure 4.2. For cross-tabulation performed between education level and type of membership (Table 4.13), the categories “High School” and “Some College” were merged to avoid low-count cells. Recoding for cross-tabulation between education level and reason for joining (Table 4.19) was not changed.

Income Level

The original question about income level of NC Zoo Society members presented respondents with five categories (less than \$25,000, \$25,000–\$50,000, \$50,000–\$75,000, \$75,000–\$100,000, more than \$100,000). After examining the data, the responses were recoded into four categories (less than \$50,000, \$50,000–\$75,000, \$75,000–\$100,000, more than \$100,000), which are shown in Chapter 4, Table 4.3, and Figure 4.3. In addition, these categories were used to create cross-tabulations.

Number of Children

Respondents were asked to report the number of children living at home (Appendix C, question 24). They were given six categories (none, one, two, three, four, or more than four). After exploring the data, the responses were recoded into four categories (none, one, two, three or more). The last three categories were merged to form a new category (three or more) and to minimize cells with less than a 5-count. Results can be seen in Chapter 4, Table 4.5, and Figure 4.5. No recoding was done for cross-tabulations.

Age

Respondents were asked to provide the year they were born (Appendix C, question 22). Since it is more straightforward to work with age, the variable “year of birth” was recoded to chronological age. For frequency purposes, recode was produced and six different categories were created (20–29 years old, 30–39 years old, 40–49 years old, 50–59 years old, 60–69 years old, 70+ years old) and are presented in Chapter 4, Table 4.6. Analyses of variance (ANOVA) was conducted using this variable in its continuous form.

Distance Traveled

To determine how far members traveled to visit the NC Zoo, respondents were asked to provide their home zip code (Appendix C, question 1). Distances were calculated by entering the provided origin zip code and the exact NC Zoo address as destination. Google Maps was used to calculate distances. For frequency counts and

after analyzing natural breaks in data, distances were broken down into more general categories (0 to 50 miles, 51 to 100 miles, 101 to 150 miles, 151 to 200 miles, 201 miles and up), as shown in Chapter 4, Table 4.7. Continuous data for this variable were used for analyses of variance (ANOVA).

Time Traveled

As described in the previous section, members were asked to provide their home zip code. By using Google Maps, driving times between the provided zip code and the NC Zoo address were calculated. Driving times were broken down into seven categories in 30-minute increments (0 to 30 minutes, 31 to 60 minutes, 61 to 90 minutes, 91 to 120 minutes, 121 to 150 minutes, 151 to 180 minutes, 181 minutes and up) for graphic representation of frequency counts. Refer to Chapter 4, Table 4.7. Time traveled variable was used in its continuous form for analyses of variance (ANOVA).

Type of Membership

Original categories collected from the survey instrument were not changed (Appendix C, question 3). However, for all cross-tabulations reported in Chapter 4, type of membership categories "Zookeeper/Naturalist/Groundskeeper" and "Curator / Conservationist / Master Gardener" were merged for two reasons: (1) it was found that there were cells with a count of less than 5 across all the tables, and (2) those categories are similar in value price. In addition, the category "Don't Know" was removed for the same reasons. Cross-tabulations were then generated using six categories (individual, individual plus, family, family plus, zookeeper and curator, and life member).

Reason for Joining

Members were asked to rank the NC Zoo missions in order of importance (Appendix C, question 18). The options provided were mutually exclusive. A recode was done by assigning 1 for conservation, 2 for education, 3 for recreation, or 4 for other. For cross-tabulation, the category "other" under the variable was removed. It was found that "other" had cells with less than a 5-count and was only contributing a small number of observations for cross-tabulation analysis.

Summary

After running frequency counts and descriptive statistics, categories were recoded (to minimize loss of statistical power in cells with less than a 5-count) for the variables education level, income level, number of children, type of membership, and reason for joining. The age variable, "year of birth," was recoded as chronological age in years. Distance traveled and time traveled were calculated in miles and minutes respectively using Google Maps. For these three variables (age, distance traveled, and time traveled), frequency tables were created for informational purposes only while continuous data were used for analyses of variance (ANOVA).

CHAPTER 4

Results

Introduction

In the first part of this chapter, results from the 2006 NC Zoo Society Members Survey are presented. First, general member demographic information is reviewed, followed by member travel behavior to visit the NC Zoo and a description of membership characteristics. Results of cross-tabulations and analyses of variance (ANOVA) are described in the second part of this chapter. For the questionnaire, refer to Appendix B.

All of the statistical analyses reported in this study were conducted using the Statistical Package for the Social Sciences (SPSS) 13.0 for Windows.

Demographic Variables

Gender

Of the 1825 members who indicated their gender, the majority (65.8%, 1200 respondents) were female, while 34.2% (625) were male. The percentage of female respondents is considerably higher, as expected (Green, 1996, p. 176). This is comparable with the General Social Surveys (GSS), where women account for 54.3% (27,715) and men for 45.7% (23,305) where women are the majority of respondents as well.

Table 4.1 – Gender of 2006 NC Zoo Society Members Survey Respondents

	<i>f</i>	Percent	Valid Percent
Male	625	33.4	34.2
Female	1200	64.1	65.8
Total	1825	97.5	100.0
Missing System	46	25	
Total	1871	100.0	

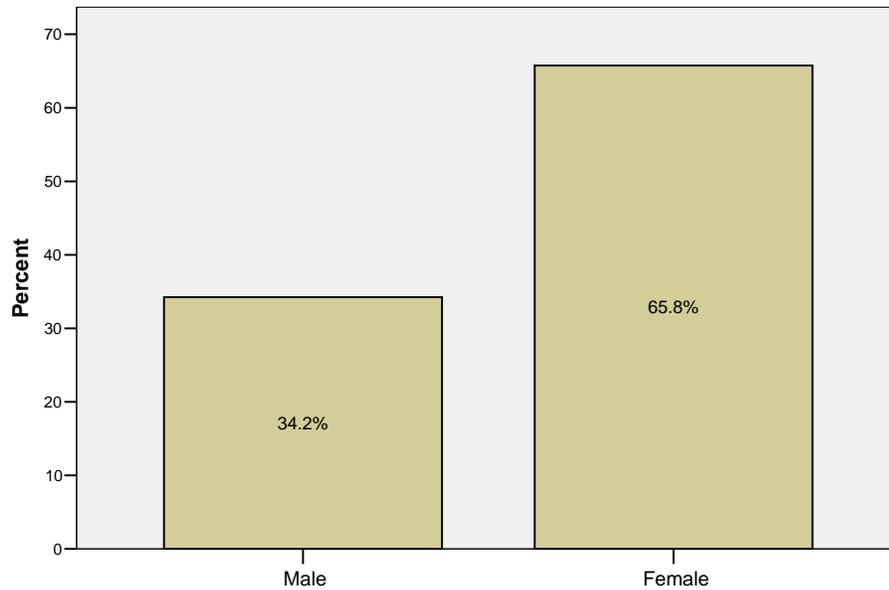


Figure 4.1 – Gender of 2006 NC Zoo Society Members Survey Respondents

Education Level

Education of members is relatively high. The majority of the respondents (36.6%, 667 respondents) indicated that they have a Bachelor’s Degree, followed closely by those that reported an Advanced Degree (Masters/Professional or Doctorate Degree) (30.9%, 564 respondents). Of the remaining 593 respondents, 26.9% (490 respondents) have some college (either Some College or an Associate’s Degree), and only 5.6% (103 respondents) have only a High School Diploma.

Table 4.2 – Education Level of 2006 NC Zoo Society Members Survey Respondents

	<i>f</i>	Percent	Valid Percent
High School	103	5.5	5.6
Some College	490	26.2	26.9
Bachelor’s Degree	667	35.6	36.6
Advanced Degree	564	30.1	60.9
Total	1824	97.4	100.0
Missing System	49	2.6	
Total	1873	100.0	

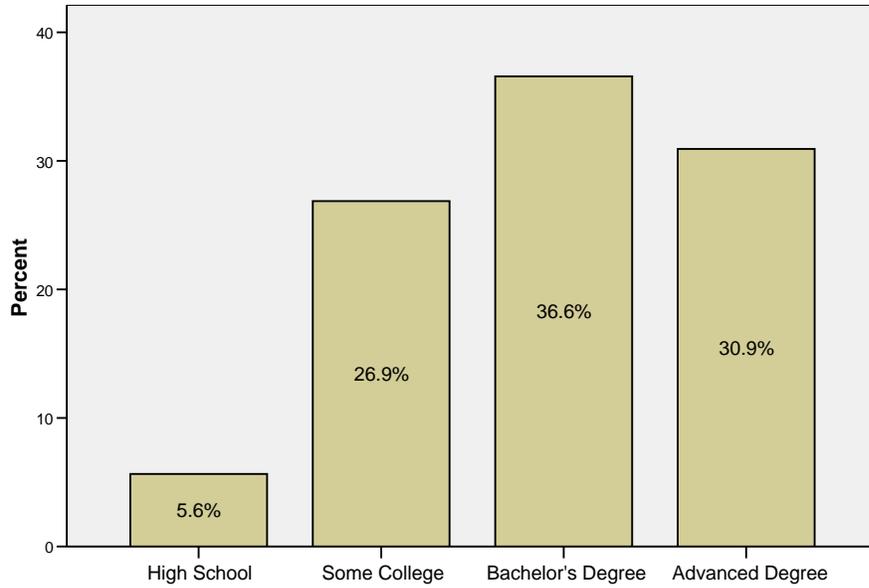


Figure 4.2 – Education Level of 2006 NC Zoo Society Members Survey Respondents

Income Level

The majority of respondents (28.8%, 461 respondents) indicated a household income of more than \$100,000. Slightly more than one-quarter, 26.4% (423 respondents), indicated a household income of \$50,000 to \$75,000, while 22.8% (364 respondents) indicated a household income of less than \$50,000 and 22.0% (352 respondents) indicated a household income of \$75,000 to \$100,000.

Table 4.3 – Income Level of 2006 NC Zoo Society Members Survey Respondents

	<i>f</i>	Percent	Valid Percent
Less than \$50,000	364	19.4	22.8
\$50,000–\$75,000	423	22.6	26.4
\$75,000–\$100,000	352	18.8	22.0
More than \$100,000	461	24.6	28.8
Total	1600	85.4	100.0
Missing System	273	14.6	
Total	1873	100.0	

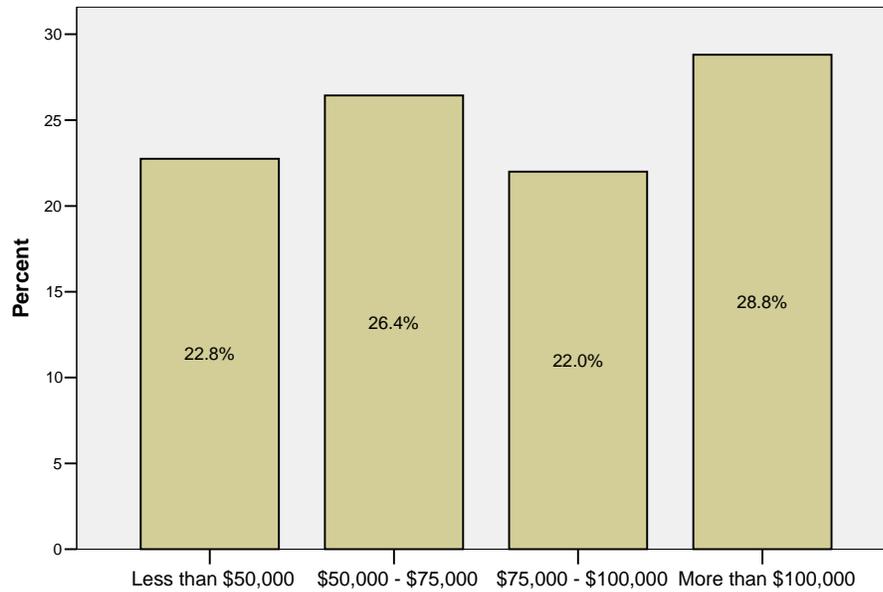


Figure 4.3 – Income Level of 2006 NC Zoo Society Members Survey Respondents

Ethnicity

Web-based surveys are known to be biased when measuring ethnicity or race. As explained by Tomsic, Hendel, and Matross (2000), "differences ... appear for respondents of white [background] responding more readily to a Web-based survey than nonwhite[s] ..." (p. 9) This was also the case for this study (Appendix C, question 23).

The majority of respondents (94.6%, 1718 respondents) indicated they were Caucasian. The remaining 98 respondents indicated they are African American (1.8%, 33 respondents), other (1.3%, 24 respondents), Hispanic (1.0%, 18 respondents), Asian (0.8%, 15 respondents), or Native American/Alaskan Native (0.4%, 8 respondents).

Table 4.4 – Ethnicity of 2006 NC Zoo Society Members Survey Respondents

	<i>f</i>	Percent	Valid Percent
African American	33	1.8	1.8
Asian	15	0.8	0.8
Caucasian	1718	91.7	94.6
Hispanic	18	1.0	1.0
Native American/Alaskan Native	8	0.4	0.4
Other	24	1.3	1.3
Total	1816	97.0	100.0
Missing System	57	3.0	
Total	1873	100.0	

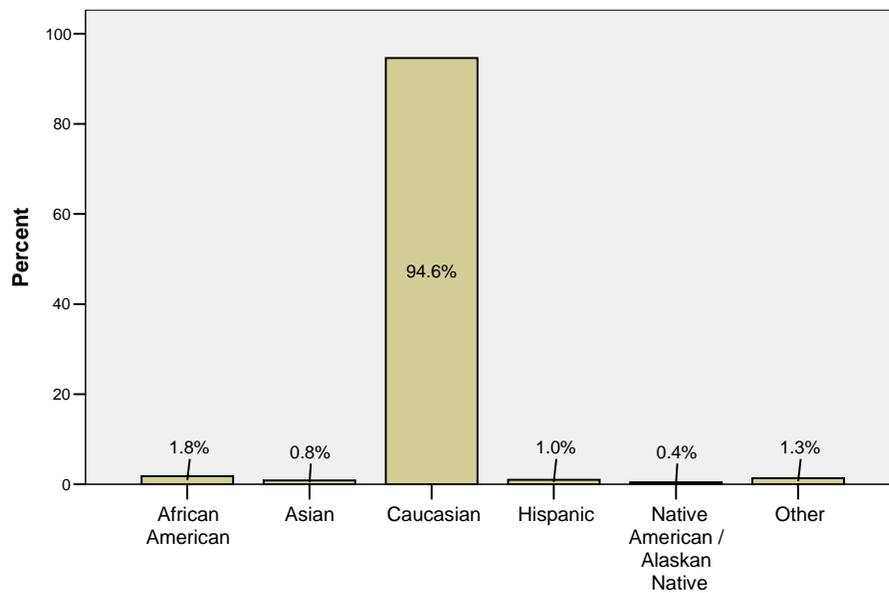


Figure 4.4 – Ethnicity of 2006 NC Zoo Society Members Survey Respondents

Number of Children

More than one-third of respondent did not have any children living at home (36.4%, 670 respondents). This was followed by respondents with two children (29.1%, 536 respondents), one child (17.9%, 329 respondents), and three or more children living at home (16.6%, 306 respondents). As a side note, it needs to be pointed out that the “none” category could include most grandparents.

The results presented in this study are similar to those of the General Social Survey (GSS). The majority of the population included in the GSS indicated they do not have any children (27.3%, 12,676 respondents). This is followed by respondents with two children (24.4%, 11,297 respondents), one child (16.0%, 7,421 respondents), three children (15.4%, 7,145 respondents), and four (8.2%, 3,795 respondents). As seen here, individuals with no children are the majority for both the present study, and the GSS.

Table 4.5 – Number of Children of 2006 NC Zoo Society Members Survey Respondents

	<i>f</i>	Percent	Valid Percent
None	670	35.8	36.4
One	329	17.6	17.9
Two	536	28.6	29.1
Three or more	306	16.3	16.6
Total	1841	98.3	100.0
Missing System	32	1.7	
Total	1873	100.0	

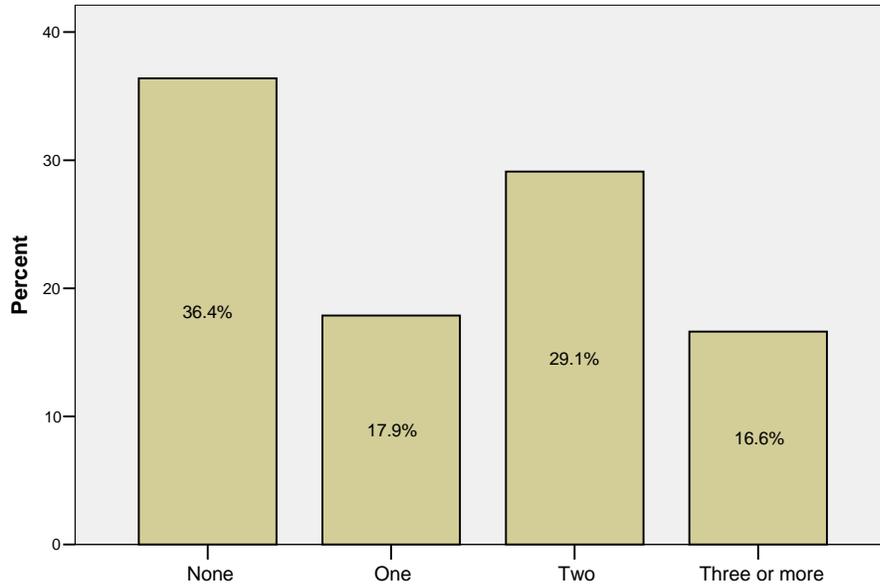


Figure 4.5 – Number of Children of 2006 NC Zoo Society Members Survey Respondents

Age

The age of respondents varied from 21 to 93 years old. The greatest number of respondents (32.6%, 591 respondents) were age 30 to 39. For analysis of variance (ANOVA), age was used as continuous variable. The mean of age is 46.68. The median is 44, and the mode is 36.

Table 4.6 – Age of 2006 NC Zoo Society Members Survey Respondents

	<i>f</i>	Percent	Valid Percent
20-29	83	4.4	4.6
30-39	591	31.6	32.6
40-49	480	25.6	26.4
50-59	314	16.8	17.3
60-69	242	12.9	13.3
70 or older	105	5.6	5.8
Total	1815	96.9	100.0
Missing System	58	3.1	
Total	1873	100.0	

Travel Behavior Variables

Distance Traveled

Total number of miles ranged from 0 to more than 2800, the latter for respondents providing a west coast zip code. Nearly half the members (46.45%, 858 respondents) traveled 51 to 100 miles to reach the NC Zoo. For ANOVA analysis this variable use used in its continuous form. The mean of distance traveled is 78.80. The median is 62.5, and the mode is 0.

Table 4.7 – Distance Traveled (50-mile increments) of 2006 NC Zoo Society Members Survey Respondents

	<i>f</i>	Percent	Valid Percent
0 to 50 miles	665	35.5	36.0
51 to 100 miles	858	45.8	46.5
101 to 150 miles	214	11.4	11.6
151 to 200 miles	53	2.8	2.9
201 miles and up	57	3.0	3.1
Total	1847	98.6	100.0
Missing System	26	1.4	
Total	1873	100.0	

Time Traveled

Total number of minutes ranged from 0 to more than 2880, the latter for respondents that provided a west coast zip code. For a description of frequencies refer to Table 4.8. Time traveled variable in its continuous form was used for analysis of variance (ANOVA) described in the next section. The mean of time traveled is 1.35 (81 minutes). The median is 1.21 (72.6 minutes), and the mode is 0.

Table 4.8 – Time Traveled (30-minute increments) of 2006 NC Zoo Society Members Survey Respondents

	<i>f</i>	Percent	Valid Percent
0 to 30 minutes	168	9.0	9.1
31 to 60 minutes	450	24.0	24.2
61 to 90 minutes	382	20.4	20.6
91 to 120 minutes	582	31.1	31.4
121 to 150 minutes	100	5.3	5.4
151 to 180 minutes	53	2.8	2.9
181 minutes and up	121	6.5	6.5
Total	1856	99.1	100.0
Missing System	17	0.9	
Total	1873	100.0	

Membership Variables

Type of Membership

Members were asked to provide the type of membership they currently hold (Appendix C, question 3). For specific daily entrance fees, refer to Table 4.9; for specific membership benefits, refer to Table 4.10. Results of frequency counts for type of membership variable can be seen in Table 4.11 and Figure 4.6. Of the total 1865 respondents, 43.2% (806 respondents) hold a Family membership, followed by 29.1% (543 respondents) holding a Family Plus membership, 11.9% (222 respondents) holding an Individual Plus membership, 8.3% (154 respondents) holding a Life membership, 3.3% (62 respondent) holding an Individual membership, 2.3% (43 respondents) holding a Zookeeper/Naturalist/Groundskeeper membership, 1.1% (21 respondents) not knowing what type of membership they hold, and 0.8% (14 respondents) holding a Curator / Conservationist / Master Gardener membership.

(For a full description of membership categories in other U.S. zoos and aquariums, refer to Appendix D.)

Table 4.9 – Admission Fees (Effective 1/2007)

Category	Fee
Adults	\$10
Seniors 62+	\$8
Students	\$8
Children 2-12	\$6

Table 4.10 –NC Zoo Society Membership Categories

Type of membership	Individual	Individual Plus	Family	Family Plus	Zookeeper/ Naturalist/ Groundskeeper	Curator / Conservationist / Master Gardener	Life Member
Price	\$40 <i>(\$30 tax deduction)</i>	\$45 <i>(\$27 tax deduction)</i>	\$59 <i>(\$33 tax deduction)</i>	\$69 <i>(\$35 tax deduction)</i>	\$175 <i>(\$133 tax deduction)</i>	\$300 <i>(\$250 tax deduction)</i>	\$1500 / \$5000 / \$5000 plus \$1000 annually <i>(\$1,118 tax deduction)</i>
Benefits common to all memberships	<ul style="list-style-type: none"> • Free admission to the Zoo for 12 consecutive months • A subscription to the Society's full-color, quarterly magazine, Alive • Free admission to more than 150 zoos and aquariums nationwide • A 10 percent discount on all purchases made in all N.C. Zoo shops • A membership decal • Access to the Society's members-only picnic decks • Invitations to visit the Zoo before normal operating hours at Wake Up with the Animals • Invitations to members-only programs and previews • The joy of belonging to a group dedicated to teaching North Carolina's children to appreciate and protect the world's wildlife 						
Specific benefits	Benefits for one person	Benefits for one person and one guest per visit (guest admission is limited to the N.C. Zoo.)	Benefits for two adults in one household and their children OR grandchildren under 18	Family Benefits plus admits one guest per visit (guest admission is limited to the N.C. Zoo.)	Family Benefits, a Zoo Society license plate and two guests per visit (guest admission is limited to the N.C. Zoo.)	Zookeeper Benefits plus one more guest per visit (guest admission is limited to the N.C. Zoo.)	\$1,500 Director's Guild Lifelong Family Benefits, 10 guest passes a year, a Zoo Society license plate, invitations to an annual Life-Member social, an engraved Life Membership card, a Life Membership Certificate and a Life Membership decal

Table 4.11 – Type of Membership of 2006 NC Zoo Society Members Survey Respondents

	<i>f</i>	Percent	Valid Percent
Individual	62	3.3	3.3
Individual Plus	222	11.9	11.9
Family	806	43.0	43.2
Family Plus	543	29.0	29.1
Zookeeper/Naturalist/Groundskeeper	43	2.3	2.3
Curator/Conservationist/Master Gardener	14	0.7	0.8
Life member	154	8.2	8.3
Don't Know	21	1.1	1.1
Total	1865	99.6	100.0
Missing System	8	0.4	
Total	1873	100.0	

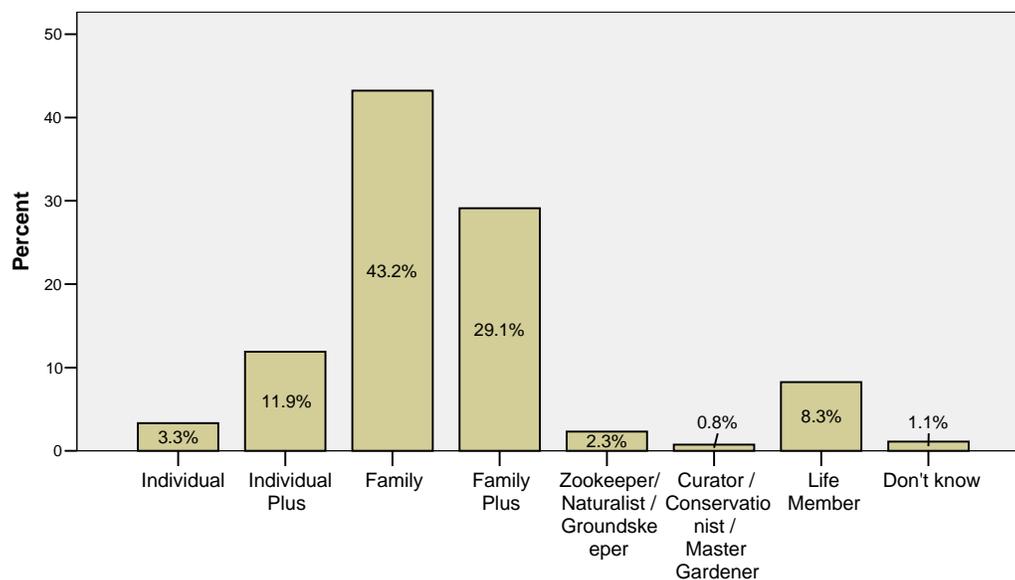


Figure 4.6 – Type of Membership of 2006 NC Zoo Society Members Survey Respondents

Reason for Joining

Table 4.12 and Figure 4.7 show frequencies for the variable reason for joining. Of 1788, 43.3% (775 respondents) indicated that conservation was the most important mission of the zoo. Slightly more than one-quarter, 28.4% (508 respondents), cited education, followed by 26.9% (481 respondents) citing recreation and 1.3% (24 respondents) indicating a different reason.

Table 4.12 – Reason for Joining of 2006 NC Zoo Society Members Survey Respondents

	<i>f</i>	Percent	Valid Percent
Conservation	775	41.4	43.3
Education	508	27.1	28.4
Recreation	481	25.7	26.9
Other	24	1.3	1.3
Total	1788	95.5	100.0
Missing System	85	4.5	
Total	1873	100.0	

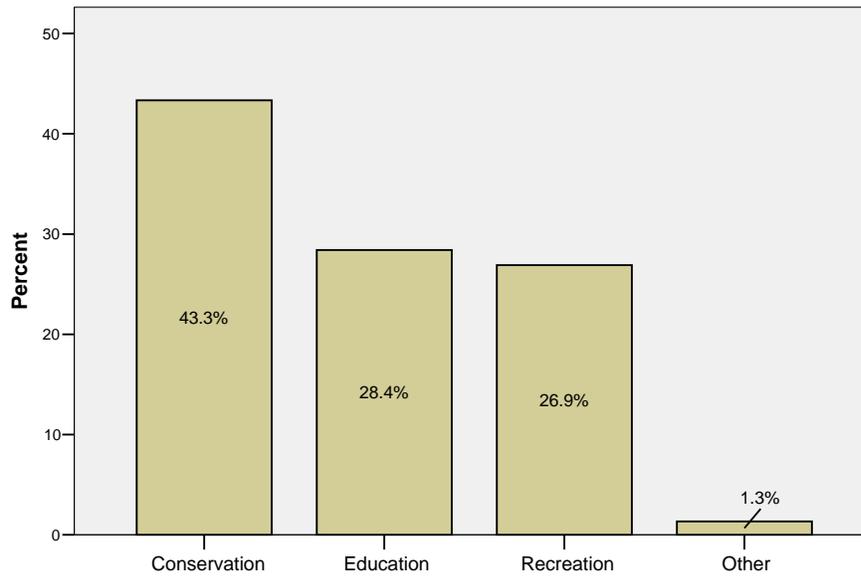


Figure 4.7 – Reason for Joining of 2006 NC Zoo Society Members Survey Respondents

Typical NC Zoo Society Respondent

According to this study the typical NC Society Zoo member is female (65.7%). Members are age 30 to 39 years old (32.6%), with at least a Bachelor's Degree (36.6%). Their household income is above \$100,000 (28.8%), they are predominately Caucasian (94.6%), and they do not have any children (36.39%). They travel 51 to 100 miles (46.5%) to get to the NC Zoo, or a time traveled of 91 to 120 minutes (31.4%). Members hold a Family membership (43.2%) and join the NC Zoo primarily to support conservation (43.3%). They have been members of the NC Zoo Society for less than a year (34.3%).

Hypothesis Testing

The testable hypothesis, as stated previously, is the following:

There is relationship between demographic variables, travel behavior variables, and membership level; and there is a relationship between demographic variables, travel behavior variables and reason for joining the NC Zoo Society. To test this hypothesis, the following 12 sub-hypotheses were developed:

- o There will be a relationship between education level and type of membership;
- o There will be a relationship between income and type of membership;
- o There will be a relationship between number of children and type of membership;
- o There will be a relationship between age and type of membership;
- o There will be a relationship between distance traveled and type of membership;
- o There will be a relationship between time traveled and type of membership;
- o There will be a relationship between education and reason for joining;
- o There will be a relationship between income and reason for joining;
- o There will be a relationship between number of children and reason for joining;
- o There will be a relationship between age and reason for joining;

- There will be a relationship between distance traveled and reason for joining;
- There will be a relationship between time traveled and reason for joining.

Each alternative hypothesis was tested either by cross-tabulating the independent variables with the dependent variables of the given hypothesis or by running analyses of variance (ANOVAs) for continuous data variables. Chi-Square was used as an indicator of association and strength of relationships, while ANOVA were used to test for significant differences between means. The variables gender and ethnicity could not be used for analysis because of biases or lack of data.

Hypothesis Results

Hypothesis 1_A – There will be a relationship between education and type of membership

After running a cross-tabulation it was found that the association between education level and type of membership is statistically significant ($p = .000$) at the .05 level. Consequently the hypothesis is accepted. Moreover, a Somers' d measure of association was produced with the following results: Value = .026, Assymp. Std. Error = .021, and Approx. Sig. = .200. As shown by this measure, there is a weak positive relationship though not significant.

Table 4.13 shows the cross-tabulation for education level and type of membership. The results assume that those with a high school diploma or some college prefer to buy a Family (12.7%) membership. Furthermore, those that hold a bachelor's degree (17.9%) or an advance degree (13.2%) also choose a Family membership. Overall, members tend to buy a Family membership regardless of education level.

Table 4.13 – Cross-tabulation Results for Education Level and Type of Membership

	Individual (N = 61)	Individual Plus (N = 219)	Family (N = 787)	Family Plus (N = 529)	Zookeeper and Curator (N = 57)	Life Member (N = 149)	Total (N = 1801)
High School and Some College	16 (2.7%) (26.2%) (0.9%)	87 (14.9%) (39.7%) (4.8%)	228 (39.0%) (29.0%) (12.7%)	210 (26.0%) (29.7%) (11.7%)	12 (2.1%) (21.1%) (0.7%)	31 (5.3%) (20.9%) (1.7%)	584 (100.0%) (32.4%) (32.4%)
Bachelors Degree	24 (2.6%) (39.3%) (1.2%)	72 (10.9%) (32.9%) (4.0%)	322 (48.8%) (40.9%) (17.9%)	162 (24.5%) (30.6%) (9.0%)	24 (3.6%) (42.1%) (1.3%)	56 (8.5%) (37.5%) (3.1%)	660 (100.0%) (36.6%) (36.6%)
Advanced Degree	21 (3.8%) (34.4%) (1.2%)	60 (10.8%) (27.4%) (3.3%)	237 (42.5%) (30.1%) (13.2%)	157 (28.2%) (29.7%) (8.7%)	21 (3.8%) (36.8%) (1.2%)	61 (11.0%) (41.2%) (3.4%)	557 (100.0%) (30.9%) (30.9%)

$\chi^2 = 42.043$; $df = 10$; $p = .000$

Note. Following each cell count, row percentages, column percentages, and total percentages are given, respectively.

The above hypothesis proposes that having a higher education level would foster a more expensive type of membership (operationalized by NC Zoo membership categories) than would lower education level. As described in Chapter 4, a cross-tabulation determined that there was significance between education level and type of membership. Thus, it is concluded that education level and membership level are related.

One explanation for the association between variables is that since the Family membership offers benefits for four people, most members, regardless of education level, choose to buy a membership that would fit their family group. More often than not, a Family or Family Plus membership will meet this criterion. This can be observed in Table 4.13 from the totals for the Family (787) and Family Plus (529) memberships.

Hypothesis 2A – There will be a relationship between income and type of membership

After recoding the variable type of membership, cells with less than a 5-count were eliminated. Therefore, the association between income and type of membership is significant ($p = .000$) at the .05 level; consequently the hypothesis is accepted. Also calculated is Somers' d measure of association, which produced the following results: Value = .118, Assymp. Std. Error = .0.21, and Approx. Sig. = .000. As shown by this measure, there is a weak positive relationship and significance.

Table 4.14 illustrates the responses to income and type of membership. Results show that regardless of income, people are inclined to buy a Family membership. This is true for those that have an income of less than \$50,000 (8.7%), \$50,000–\$75,000 (11.3%), \$75,000–\$100,000 (10.9%), or more than \$100,000 (13.1%).

Table 4.14 – Cross-tabulation Results for Income and Type of Membership

	Individual (N = 56)	Individual Plus (N = 193)	Family (N = 696)	Family Plus (N = 466)	Zookeeper and Curator (N = 50)	Life Member (N = 117)	Total (N = 1578)
Less than \$50,000	22 (6.2%) (39.3%) (1.4%)	67 (18.8%) (34.7%) (4.2%)	138 (38.7%) (19.8%) (8.7%)	107 (30.0%) (23.0%) (6.8%)	7 (2.0%) (14.0%) (0.4%)	16 (4.5%) (13.7%) (1.0%)	357 (100.0%) (22.6%) (22.6%)
\$50,000– \$75,000	15 (3.6%) (26.8%) (1.0%)	59 (14.1%) (30.6%) (3.7%)	179 (42.7%) (25.7%) (11.3%)	132 (31.5%) (28.3%) (8.4%)	10 (2.4%) (20.0%) (0.6%)	274 (5.7%) (20.5%) (1.5%)	419 (100.0%) (26.6%) (26.6%)
\$75,000– \$100,000	9 (2.6%) (16.1%) (0.6%)	40 (11.4%) (20.7%) (2.5%)	172 (49.1%) (24.7%) (0.9%)	99 (28.3%) (21.2%) (6.3%)	9 (2.6%) (18.0%) (0.6%)	21 (6.0%) (17.9%) (1.3%)	350 (100.0%) (22.2%) (22.2%)
More than \$100,000	10 (2.2%) (17.9%) (0.6%)	27 (6.0%) (14.0%) (1.7%)	207 (45.8%) (29.7%) (13.1%)	128 (28.3%) (27.5%) (8.1%)	24 (5.3%) (48.0%) (1.5%)	56 (12.4%) (47.9%) (3.5%)	452 (100.0%) (28.6%) (28.6%)

$\chi^2 = 75.433$; $df = 15$; $p = .000$

Note. Following each cell count, row percentages, column percentages, and total percentages are given, respectively.

It was hypothesized that income would have an impact on membership level. As shown in Table 4.14 this association is statistically significant.

Of the 44.1% members that hold a Family membership, almost 30% (29.7%) reported an income level of more than \$100,000. For marketers, this is valuable information since they can target these individuals to entice them to buy a higher membership type or provide them with other benefits that will make them change membership categories. In addition, this group could be targeted for Life memberships.

Hypothesis 3A – There will be a relationship between number of children and type of membership

Even though a recode of the type of membership variables was made, six cells remain with a count of less than 5. This is illustrated in Table 4.15. Therefore, although the significance level is $p = .000$, the hypothesis cannot be supported, because of the loss of statistical power in those cells with less than a 5-count.

Table 4.15 shows that 43.5% hold a Family membership. Of these, those having one child constitute 21.4%, two children 39.8%, and three or more children 23.0%. On the other hand, those that do not have children (83.7%) hold an Individual Plus membership.

Table 4.15 – Cross-tabulation Results for Number of Children and Type of Membership

	Individual (N = 61)	Individual Plus (N = 221)	Family (N = 791)	Family Plus (N = 537)	Zookeeper and Curator (N = 57)	Life Member (N = 150)	Total (N = 1817)
None	58 (8.8%)	185 (28.2%)	125 (19.0%)	146 (22.2%)	39 (5.9%)	104 (15.8%)	657 (100.0%)
	(95.1%)	(83.7%)	(15.8%)	(27.2%)	(68.4%)	(69.3%)	(36.2%)
	(3.2%)	(10.2%)	(6.9%)	(8.0%)	(2.1%)	(5.7%)	(36.2%)
One	2 (0.6%)	28 (8.7%)	169 (52.3%)	102 (31.6%)	2 (0.6%)	20 (6.2%)	323 (100.0%)
	(3.3%)	(12.7%)	(21.4%)	(19.0%)	(3.5%)	(13.3%)	(17.8%)
	(0.1%)	(1.5%)	(9.3%)	(5.6%)	(0.1%)	(1.1%)	(17.8%)
Two	1 (0.2%)	6 (1.1%)	315 (59.1%)	183 (34.3%)	13 (2.4%)	15 (2.8%)	533 (100.0%)
	(1.6%)	(2.7%)	(39.8%)	(34.1%)	(22.8%)	(10.0%)	(29.3%)
	(0.1%)	(0.3%)	(17.3%)	(10.1%)	(0.7%)	(0.8%)	(29.3%)
Three or more	0 (0.0%)	2 (0.7%)	182 (59.9%)	106 (34.9%)	3 (1.0%)	11 (3.6%)	304 (100.0%)
	(0.0%)	(0.9%)	(23.0%)	(19.7%)	(5.3%)	(7.3%)	(16.7%)
	(0.0%)	(0.1%)	(10.0%)	(5.8%)	(0.2%)	(0.6%)	(16.7%)

$\chi^2 = 586.550$; $df = 15$; $p = .000$

Note. Following each cell count, row percentages, column percentages, and total percentages are given, respectively.

From the above cross-tabulation, it seems clear that number of children has an association with the type of membership; however it is not statistically significant. Since the traditional American family group is composed of 4 people (usually 2 adults and 2 children), most groups prefer to buy a Family membership, which offers admission for 2 adults and their children or grandchildren. Individuals with no children present in their homes prefer to buy an Individual Plus membership. This category might be composed of single grandparents who would visit with their grandchildren, however this is difficult to assess using the present data.

Hypothesis 4A – There will be a relationship between age and type of membership

The option “don’t know” under type of membership category was included in the original coding however it was eliminated for further analysis.

A one-way ANOVA was statistically significant – $F(5,1787) = 58.41, p = .000$ – which shows that age has a significant influence on type of membership. Scheffé post hoc analysis indicated that individuals that hold a Life membership are older ($M = 58.80, SD = 13.67$) than those holding a Family membership ($M = 43.10, SD = 10.47$). A plot of the variables for this relationship resembles a U-shaped curve.

Table 4.16 illustrates the significant differences among Individual, Individual Plus, Family, and Family Plus memberships. Also significantly different are Individual Plus, Zookeeper and Curator, and Life memberships. The Family membership is significantly different from all the other categories. Lastly, Family Plus membership has a significant difference with Individual, Family, Zookeeper and Curator, and Life memberships.

Table 4.16 – ANOVA Results for Age by Type of Membership

Source	df	SS	MS	F	Sig.
Between Groups	5	42493.290	8476.658	54.410	0.000
Within Groups	1787	229947.18	145.466		
Total	1792	302430.47			

Table 4.16 (Continued)

Type of Membership	N	M	SD
Individual	61	56.87	14.261
Individual Plus	219	47.26	14.005
Family	783	43.10	10.471
Family Plus	526	46.05	12.273
Zookeeper and Curator	56	55.30	15.140
Life Member	148	58.80	13.695

Table 4.16 represents the results found for the variables age and type of membership. Most of these individuals presumably have either children living at home or a significant other. Further analysis could be done to control for number of children or income, to observe if these are predictors of membership type. Although this might not have been done yet, by knowing that older individuals hold a Life membership, and that people age 30 to 49 make up more than 50% of all members (Table 4.6) marketers can provide different messages depending on members' age (the population is large enough to warrant it).

Hypothesis 5A – There will be a relationship between distance traveled and type of membership

Even though the category "don't know" under type of membership was eliminated for further analysis. The one-way ANOVA – $F(5, 1826) = 4.25, p = .001$ – shows distance traveled has a significant influence on type of membership. Scheffé post hoc analysis indicated there is a significant difference between Individual Plus and Life Membership, between Family and Life Membership, and between Family Plus and Life Membership.

Table 4.17 illustrates the responses to distance traveled and type of membership. Individuals holding a Life membership travel longer distances than those individuals holding a Zookeeper and Curator membership.

Table 4.17 – ANOVA Results for Distance Traveled by Type of Membership

Source	df	SS	MS	F	Sig.
Between Groups	5	306518.61	61303.72	4.253	0.001
Within Groups	1826	26323091	14415.712		
Total	1831	26629609			

Type of Membership	N	M	SD
Individual	61	73.1279	39.71056
Individual Plus	221	77.5873	105.02588
Family	803	70.3039	47.69735
Family Plus	539	72.9839	125.33444
Zookeeper and Curator	54	60.8204	42.49150
Life Member	154	117.2617	296.27551

Table 4.17 represents the results found for the variables distance traveled and type of membership. Marketers could create messages explaining the different programs provided at the NC Zoo by taking into account the distance traveled by each individual based on type of membership. By knowing that Life members are those individuals traveling the farthest, marketers could create separate messages to attract them to special events, such as those celebrating Christmas, Halloween, or Mother’s Day. Other members do not live as far away (mode = 0). Programs can be created for those neighboring visitors that do not travel great distances, or messages that may induce them to visit more than a few times a year can be generated.

Hypothesis 6A – There will be a relationship between time traveled and type of membership

After recoding time traveled and type of membership variables, a one-way ANOVA is statistically significant – $F(5, 1826) = 14.88, p = .003$ – which shows that time traveled has a significant influence on type of membership. A Scheffé post hoc analysis indicated there is a significant difference Family and Life Membership, and between Family Plus and Life Membership.

Table 4.18 illustrates the responses to time traveled and type of membership. As seen in distance traveled, individuals holding a Life membership travel longer times than those individuals holding a Zookeeper and Curator membership, $M = 1.99$ (120 minutes) compared to $M = 1.09$ (60+ minutes), with $SD = 4.85$ and $SD = 0.80$ respectively.

Table 4.18 – ANOVA Results for Time Traveled by Type of Membership

Source	df	SS	MS	F	Sig.
Between Groups	5	74.417	14.883	3.546	0.003
Within Groups	1826	7663.813	4.197		
Total	1831	7738.230			

Type of Membership	N	M	SD
Individual	61	1.2880	0.82518
Individual Plus	221	1.3785	1.74439
Family	803	1.2699	0.91999
Family Plus	539	1.2982	2.21074
Zookeeper and Curator	54	1.0885	0.80620
Life Member	154	1.9932	4.85803

The time traveled and distance traveled variables produced similar results. Based on this information, marketing managers can act in different ways. Messages emphasizing the time it actually takes to arrive at the NC Zoo could be created. In addition, other messages could emphasize travel time, rather than travel distance. Individuals perceived travel distance differently from travel time. By communicating that it will take 15 minutes from Greensboro, NC rather than 50 miles from Raleigh, visitors might gain a different perception on how far the attraction is from where they live. As stated in the previous hypothesis, knowing that Life members are those individuals traveling the farthest (or for longer times) will allow marketers to create programs that might attract these members to visit the zoo more often.

Hypothesis 1_B – There will be a relationship between education and reason for joining

After analyzing the chi-square association, it was concluded that education level and reason for joining are not significant ($p = .116$); consequently the hypothesis is rejected.

Table 4.19 illustrates the responses to education level and reason for joining. The results show that most people chose conservation as their reason for joining regardless of education level: High School (6.2%), Some College (27.8%), Bachelor’s Degree (37.5%), and Advanced Degree (28.5%).

Table 4.19 – Cross-tabulation Results for Education Level and Reason for Joining

	Conservation (N = 758)	Education (N = 498)	Recreation (N = 471)	Total (N = 1727)
High School	47	22	20	89
	(52.8%)	(24.7%)	(22.5%)	(100.0%)
	(6.2%)	(4.4%)	(4.2%)	(5.2%)
	(2.7%)	(1.3%)	(1.2%)	(5.2%)
Some College	211	116	135	462
	(45.7%)	(25.1%)	(29.2%)	(100.0%)
	(27.8%)	(23.3%)	(28.7%)	(26.8%)
	(12.2%)	(6.7%)	(7.8%)	(26.8%)
Bachelors Degree	284	189	165	638
	(44.5%)	(29.6%)	(25.9%)	(100.0%)
	(27.5%)	(38.0%)	(35.0%)	(36.9%)
	(16.4%)	(10.9%)	(9.6%)	(36.9%)
Advanced Degree	216	171	151	538
	(40.1%)	(31.8%)	(28.1%)	(100.0%)
	(28.5%)	(34.3%)	(32.1%)	(31.2%)
	(12.5%)	(9.9%)	(8.7%)	(31.2%)

$\chi^2 = 10.213$; $df = 6$; $p = .116$

Note. Following each cell count, row percentages, column percentages, and total percentages are given, respectively.

This hypothesis proposes that members with higher education levels would have a higher interest in conservation, education, or recreation than those with lower education level. However, this is not statistically significant.

A reason for this is that for most people, regardless of education level, conservation is their reason for joining. The NC Zoo is effectively communicating to members the importance of conservation. Moreover, individuals with higher education level may be more aware of the importance of conservation, not only for the NC Zoo, but in every area of their lives.

Hypothesis 2_B – There will be a relationship between income and reason for joining

Table 4.20 illustrates the cross-tabulation between income and reason for joining the NC Zoo Society. Even though a recode of the variables was done, the relationship is still not significant. The significant value is of $p = .482$ therefore, the hypothesis is rejected.

The association between income and reason for joining is the same across income level. Those who have an income of less than \$50,000 (23.7%), \$50,000–\$75,000 (26.4%), \$75,000–\$100,000 (21.8%), or more than \$100,000 (28.1%) all responded that conservation is the reason for joining.

Table 4.20 – Cross-tabulation Results for Income and Reason for Joining

	Conservation (N = 666)	Education (N = 439)	Recreation (N = 411)	Total (N = 1516)
Less than \$50,000	158	94	94	346
	(45.7%)	(27.2%)	(27.2%)	(100.0%)
	(23.7%)	(21.4%)	(22.9%)	(22.8%)
\$50,000-\$75,000	(10.4%)	(6.2%)	(6.2%)	(22.8%)
	176	114	113	403
	(43.7%)	(28.3%)	(28.0%)	(100.0%)
\$75,000 - \$100,000	(26.4%)	(26.0%)	(27.5%)	(26.6%)
	(11.6%)	(7.5%)	(7.5%)	(26.6%)
	145	87	96	328
More than \$100,000	(44.2%)	(26.5%)	(29.3%)	(100.0%)
	(21.8%)	(19.8%)	(23.4%)	(21.6%)
	(9.6%)	(5.7%)	(6.3%)	(21.6%)
More than \$100,000	187	144	108	439
	(42.6%)	32.8%	(24.6%)	(100.0%)
	(28.1%)	32.8%	(26.3%)	(29.0%)
	(12.3%)	9.5%	(7.1%)	(29.0%)

$\chi^2 = 5.494; df = 6; p = .482$

Note. Following each cell count, row percentages, column percentages, and total percentages are given, respectively.

It was forecasted that Income would have an impact on reason for joining. As shown in Table 4.20, this association is not statistically significant, although 43.9% of members are most interested in conservation. Members that have an income of more than \$100,000 constitute 42.6% of the total in the reason for joining category.

These results show marketing managers that most people, regardless of income, are interested in conservation. Therefore, the NC Zoo is communicating well the message that conservation is important. Although this message is well communicated, conveying the messages of education and recreation could also benefit the NC Zoo. Marketing managers could then inform program developers that there might be a need for education programs or send the message that individuals could use their leisure time by visiting the zoo.

Hypothesis 3_B – There will be a relationship between number of children and reason for joining

Table 4.21 illustrates the cross-tabulation between number of children and reason for joining. The category "other" under the variable "reason for joining" was removed to eliminate cells with less than a 5-count. The resulting association between number of children and reason for joining is significant ($p = .000$), consequently the hypothesis is accepted. Moreover, a Somers'd measure of association was produced with the following results: Value = .079, Assymp. Std. Error = .020, and Approx. Sig. = .000. This indicates a weak positive relationship and significance. The more children individuals have the more interested in conservation they are.

As shown in Table 4.21, the association between number of children and reason for joining is the same across variables. Those that have None (41.7%), One (17.4%), Two (26.4%), and Three or more (14.5%) children reported that their reason for joining is conservation.

Table 4.21 – Cross-tabulation Results for Number of Children and Reason for Joining

	Conservation (N = 765)	Education (N = 502)	Recreation (N = 474)	Total (N = 1741)
None	319 (51.5%)	156 (25.2%)	145 (23.4%)	620 (100.0%)
	(41.7%)	(31.1%)	(30.6%)	(35.6%)
	(18.3%)	(9.0%)	(8.3%)	(35.6%)
One	133 (41.6%)	93 (29.1%)	94 (29.4%)	320 (100.0%)
	(17.4%)	(18.5%)	(19.8%)	(18.4%)
	(7.6%)	(5.3%)	(5.4%)	(18.4%)
Two	202 (39.2%)	153 (29.7%)	160 (31.1%)	515 (100.0%)
	(26.4%)	(30.5%)	(33.8%)	(29.6%)
	(11.6%)	(8.8%)	(9.2%)	(29.6%)
Three or more	111 (38.8%)	100 (35.%)	75 (26.2%)	286 (100.0%)
	(14.5%)	(19.9%)	(15.8%)	(16.4%)
	(6.4%)	(5.7%)	(4.3%)	(16.4%)

$\chi^2 = 26.261$; $df = 6$; $p = .000$

Note. Following each cell count, row percentages, column percentages, and total percentages are given, respectively.

It was predicted that number of children would have an effect on reason for joining. As seen in Table 4.21, this association is statistically significant. 43.9% of all respondents indicated that conservation is the predominant answer to reason for joining. This also shows that 41.7% of these people do not have any children at home. For marketing managers, this information suggests targeting the general member population about conservation, irrespective of number of children. Members that do have children could be reached by informing them of programs they could enjoy, how bringing their children could benefit the whole family.

This information could be of great help not only for the marketing department, but for the program department when deciding how to target audiences. Deciding to communicate differently depending on whether members have children, or by the specific number of children, could be a good strategy when designing a new campaign or program.

Hypothesis 4_B – There will be a relationship between age and reason for joining

The category “other” under the variable “reason for joining” was removed. A one-way ANOVA – $F(2,1713) = 221.40, p = .266$ – shows age does not have a significant influence on reason for joining. A Scheffé post hoc analysis supported the ANOVA results showing no significant difference within reason for joining.

Table 4.22 – ANOVA Results for Age by Reason for Joining

Source	df	SS	MS	F	Sig.
Between Groups	2	442.795	221.397	1.325	.266
Within Groups	1713	286174.8	167.061		
Total	1715	286617.6			

Reason for Joining	N	M	SD
Conservation	754	46.99	13.274
Education	495	45.79	12.939
Recreation	467	46.30	12.326

As seen in Table 4.22, there is no statistical significance for the association between age and reason for joining. However, the marketing department could target all individuals by informing them of volunteer opportunities in conservation, education, and recreation existing at NC Zoo, as well as existing programming in those areas.

Hypothesis 5_B – There will be a relationship between distance traveled and reason for joining

The cross-tabulation presented in Table 4.23 shows the relationship between distance traveled and reason for joining. The one-way ANOVA – $F(2,1749) = 4.53, p = .011$ – shows distance traveled has a significant influence on reason for joining. The hypothesis is then accepted. A Scheffé post hoc analysis indicated there is a significant difference between conservation and recreation. The reason for joining for those individuals that travel the longest ($M = 84.73, SD = 146.48$) is conservation, compared to recreation for those that travel shorter distances ($M = 63.52, SD = 39.77$).

Table 4.23 – ANOVA Results for Distance Traveled by Reason for Joining

Source	df	SS	MS	F	Sig.
Between Groups	2	134546.2	67273.117	4.534	.011
Within Groups	1749	25949581	14836.810		
Total	1751	26084127			

Reason for Joining	N	M	SD
Conservation	711	84.7314	146.48725
Education	503	74.3670	131.43514
Recreation	478	63.5218	39.76810

In Table 4.23, results found for the variables distance traveled and reason for joining the NC Zoo are statistically explained. The majority (43.3%, Table 4.12) interested in conservation characteristics of the NC Zoo travel a mean distance of 84.73 miles ($SD = 146.49$). Marketers can either reinforce the message about conservation to capture individuals similar in characteristics to those that are already members or, they could reinforce and strengthen the message of education and recreation which would appeal to another group of people not yet targeted. Also important, the marketing department at NC Zoo Society could either choose to target those that live nearby, or target those that live farther away, or choose to target both groups with different messages. Ultimately that is a decision that the department should make depending on goals and available budget.

Hypothesis 6_B – There will be a relationship between time traveled and reason for joining

The one-way ANOVA – $F(2,1749) = 20.56, p = .008$ – shows time traveled has a significant influence on reason for joining. Therefore, the hypothesis is accepted. A Scheffé post hoc analysis indicated there is a significant difference between conservation and recreation. The reason for joining for those individuals that travel about 90 minutes ($M = 1.50, SD = 2.42$) is conservation, compared to recreation for those that travel about 67.2 minutes ($M = 1.12, SD = 0.77$).

Table 4.24 – ANOVA Results for Time Traveled and Reason by Joining

Source	df	SS	MS	F	Sig.
Between Groups	2	41.118	20.559	4.789	.008
Within Groups	1749	7508.830	4.2933		
Total	1751	7549.948			

Reason for Joining	N	M	SD
Conservation	711	1.4976	2.42380
Education	503	1.3374	2.31896
Recreation	478	1.1248	.77388

In Table 4.24, results found for the variables time traveled and reason for joining the NC Zoo are explained. As stated in the previous hypothesis, 43.3% are interested in conservation (Table 4.12). These members travel a mean time of 90 minutes ($M = 1.50$, $SD = 2.42$). The zoo managers can approach this in different ways. They could create different messages to attract those individuals traveling longer by explaining the importance of conservation. The message could also state how important education and recreation are and recruit those interested in these aspects of the NC Zoo. Furthermore, categories could be divided and a distinction among those that are interested in conservation, recreation, or education can be made, creating messages to fit a particular group of members.

Summary

From the results reported in the second part of Chapter 4, it was concluded that eight hypotheses were supported, as shown in Table 4.25.

Table 4.25 – Hypothesis Results

Hypothesis	Description	Accepted	Rejected	Neither Rejected nor Accepted
1 _A	There will be a relationship between education and type of membership	✓		
2 _A	There will be a relationship between income and type of membership	✓		
3 _A	There will be a relationship between number of children and type of membership			✓
4 _A	There will be a relationship between age and type of membership	✓		
5 _A	There will be a relationship between distance traveled and type of membership	✓		
6 _A	There will be a relationship between time traveled and type of membership	✓		
1 _B	There will be a relationship between education and reason for joining		✓	
2 _B	There will be a relationship between income and reason for joining		✓	
3 _B	There will be a relationship between number of children and reason for joining	✓		
4 _B	There will be a relationship between age and reason for joining		✓	
5 _B	There will be a relationship between distance traveled and reason for joining	✓		
6 _B	There will be a relationship between time traveled and reason for joining	✓		

The data analysis presented in Tables 4.13 to 4.24 shows whether a given hypothesis was rejected, was accepted, or neither. Results of cross-tabulations, chi-square tests of association and analyses of variance (ANOVA) for selected variables supported 8 of the 12 proposed hypotheses.

There was an association between education level and type of membership (as education increases, the more expensive membership level acquired), income level and type of membership (as income increases, the more expensive membership level acquired), age and type of membership (as age increases, the more expensive membership level acquired), distance traveled and type of membership (as distance decreases, less expensive membership category is acquired; however those living farthest away obtain the most expensive membership), time traveled and type of membership (as time traveled decreases, less expensive membership category is acquired; however those living farthest away obtain the most expensive membership), number of children and reason for joining (as number of children increases, interest for conservation increases as well; however, those that do not have children have the highest interest in conservation), distance traveled and reason for joining (as distance increases, so does their interest for conservation), and time traveled and reason for joining (as time increases, so does their interest for conservation).

Furthermore, there was no association between education level, income level, or age and reason for joining. Lastly, an association could be neither supported nor rejected between number of children and type of membership.

In addition, regardless of education level, income, number of children, age, distance traveled, or time traveled, most members prefer a Family membership or a Family Plus membership. Furthermore, conservation was the primary reason for joining regardless of demographics.

The secondary data analyzed in this study do not allow for a more detailed comparison of Family and Family Plus memberships. Such a comparison could show whether there is indeed an association among education, income, number of children, age, distance traveled, and time traveled. However, because the typical family group regularly visiting the NC Zoo is composed of 4 people, members may be drawn to buy a membership that will accommodate 4 individuals.

CHAPTER 5

Conclusion

Introduction

The purpose of this study was to analyze the data provided by the NC Zoo Society, to further inform membership managers how to identify members to better serve them. Little has been published about zoo society members throughout the years as stated in the Literature Review. Hence, the scholarly aim of the study was to contribute to the literature on zoo members' profile through the examination of data collected by the NC Zoo Society during November 2006.

The practical aim of the study was to identify specific variables within a membership group that could be used by zoo managers to better understand the needs and expectations of zoo members (segmenting variables). The findings of this study should be of use to both membership and marketing managers. By recognizing the characteristics of members (education level, income level, age, number of children, distance traveled, time traveled), more accurate plans, programming, and communications can be designed. Since a considerable amount of income derives from zoo members, knowing its composition and segmentation will facilitate retention of existing members and recruitment of new ones.

Findings of this study suggest that market segmentation is of value if applied to the following hypotheses:

Hypothesis 1_A – There will be a relationship between education level and type of membership;

Hypothesis 2_A – There will be a relationship between income and type of membership;

Hypothesis 4_A – There will be a relationship between age and type of membership;

Hypothesis 5_A – There will be a relationship between distance traveled and type of membership;

Hypothesis 6_A – There will be a relationship between time traveled and type of membership;

Hypothesis 3_B – There will be a relationship between number of children and reason for joining;

Hypothesis 5_B – There will be a relationship between distance traveled and reason for joining;

Hypothesis 6_B – There will be a relationship between time traveled and reason for joining.

Since hypotheses are statistically significant and referring back to Chapter 3 (Figure 3.1) it can be stated that the above mentioned demographic variables, travel behavior variables and its relation to type of membership and reason for joining the NC Zoo Society, can be successfully used for market segmentation of its members.

Statistical analyses were inconclusive for the following hypothesis:

Hypothesis 3_A – There will be a relationship between number of children and type of membership.

In addition, the following hypotheses were not statistically supported:

Hypothesis 1_B – There will be a relationship between education level and reason for joining;

Hypothesis 2_B – There will be a relationship between income and reason for joining;

Hypothesis 4_B – There will be a relationship between age and reason for joining.

Typical NC Zoo Society Respondent

According to this study the typical NC Society Zoo member is female (65.7%). Members are age 30 to 39 years old (32.6%), with at least a Bachelor's Degree (36.6%). Their household income is above \$100,000 (28.8%), they are predominately Caucasian (94.6%), and they do not have any children (36.39%). They travel 51 to 100 miles (46.5%) to get to the NC Zoo, or a time traveled of 91 to 120 minutes (31.4%). Members hold a Family membership (43.2%) and join the NC Zoo primarily to support conservation (43.3%). They have been members of the NC Zoo Society for less than a year (34.3%).

Limitations

First, this study uses secondary data. The researcher was not able to influence the instrument design to ask in-depth questions or to collect information about other needs, wants, and behaviors that directly fit the concerns of the NC Zoo Society.

Second, even though there are related questions about attitudinal issues, interests, or opinions (AIO): needs; wants; or behaviors, the small number of such questions made it challenging to find a theoretical framework that would suit the data gathered. In addition, these questions were about easiness to join the NC Zoo rather than opinions about the organization. Adjustments were made to the research, and different concepts were found to suit a conceptual framework. This was explained in a previous chapter.

Third, even though obtaining secondary data saves researchers' time, this poses limitations. Tradeoffs need to be considered because a particular dataset can present limitations in what hypotheses can be tested. If there is a hypothesis of interest that needs to be researched, but variables relevant to it are not measured, modifications can be made to the study in order to match theories or concepts that support the analysis and interpretation of the available data.

Fourth, the survey analyzed here was conducted using a web-based interface. As stated by Cole (2005), "There are great challenges to Web-based surveys" (p. 422). One of the biggest issues is "coverage error (i.e., the difficulty of obtaining a sampling frame, consequently making probability sampling difficult), [since] not everyone in the population under study has access to the Web" (Cole, 2005, p. 422). However, for this particular study, coverage error has been substantially reduced. Individuals interested in receiving NC Zoo Society communication via email, gave consent beforehand. In addition, as Cole (2005) states, "Response rates may be improved when knowing whether the target population has access to the Web [...]" (p. 422). It is common knowledge that only individuals that hold an email account were contacted, hence assuming they have available Internet access. Nevertheless, individuals might have chosen not to submit their email address because they might fear email communication from organizations could clutter their inbox, causing limitations in terms of representation.

Fifth, although a pre-test was conducted internally by NC Zoo Society staff

members before delivering the instrument to the available sample list of members, the survey should have been tested with a small portion of the population of interest. According to Schutt (2001), "It is best to draw a sample of at least 100 respondents" (p. 224) and to contact them using the same method that will be used later in the study. This procedure would have given insight on which questions should have been changed or reworded. Respondents should be aware that they are responding to a pre-test survey. By doing this, the instrument designer can ask questions about what items they would change, leave, or delete, which questions they thought should be worded differently, and so forth. In turn, this would have helped improve the questionnaire to eliminate ambiguous questions and other potential errors or biases.

Sixth, a web-based survey instrument was utilized to collect the data by contracting with surveymonkey.com services. Employing a web site for creating an online survey is also a limitation. Even though surveymonkey.com collects data automatically and provides a quick overview of results, it is not suitable for advanced data exploration such as cross-tabulations, ANOVAs, chi-squares, or even correlations between variables. To compensate, researchers interested in exploring other relations between variables usually download a complete data file for further analysis. Another shortcoming is the lack of control over who is responding to the questionnaire.

Seventh, the instrument lacks AIO (attitudes, interests, or opinions) questions regarding the NC Zoo and the NC Zoo Society. As stated by Todd and Lawson (2001), "Lifestyle (AIO) data provide a fuller profile of an individual's interests and activities" (p. 276). Concurring with the above authors, Plummer (1974) stated, "The idea behind lifestyle research is that the more is known and understood about potential users, the more successfully the institution will communicate with them" (p. 33). In the future, gathering data regarding AIO would be valuable to the NC Zoo and NC Zoo Society because their primary objective is to better communicate with members and improve their marketing effectiveness.

Eighth, identification, motivational, or behavioral questions were not asked. Level of identification is closely related to levels of loyalty and retention. Since the goal of most non-profits is to draw consumers "inside" the company by making them members (Bhattacharya, 1998; Bhattacharya et al., 1995; Ferreira, 1996; N. Kotler & Kotler, 1998), understating extent of consumer loyalty and consumers' identification level is of value

when creating a recruitment/retention program. Additionally, members who are more loyal remain affiliated to the organization for a longer period and are usually more involved within causal relationships (Bhattacharya et al., 1995).

Ninth, when designing the questionnaire, respondents were not restricted in the number of times they could respond to the survey. Even a member's family could access the questionnaire to respond to it. The same person could respond as often as he or she wanted, and every member of a family could submit their answers once or multiple times (J. O. Parker, personal communication, July 16, 2007). This biases the data; however, analyses that mitigate its effect can be performed.

Finally, as this was the first survey of NC Zoo members, a longitudinal study is not possible at this time and causal linkages between variables cannot be explored. Nonetheless, the data presented here establish a baseline for future longitudinal study. In addition, the existence of secondary data enables the researcher and organization to jointly develop a study that will make the most of a rare opportunity to advance the marketing agenda of the NC Zoo. And even though a web-site system presents limitations, there are benefits of utilizing a web-based survey, including "the nearly complete elimination of paper, postage, mailout, and data entry costs" (Dillman, 2000, p. 352).

Recommendations

Methodological Considerations

Instrument questions should be carefully inspected to decrease bias and increase response rate. Contingent questions should be eliminated or phrased differently to allow for collection of quality data instead of data not contributing to the overall study. A contingent question example is question 4, which asks respondents, "Are you a Secret Garden or Conservation member?" and only provides a choice of "yes" or "no" (Appendix B). Instead, the questions should provide respondents with "Secret Garden" or "Conservation" as answers.

In addition, more specific questions should be asked. Instead of asking, "If some other factor or factors influenced your decision to join, please tell us what these factors are" (Questions 11 and 13, Appendix B), a more simple and straightforward question should be produced. An alternative for this question is, "If some other factors influenced

your decision to join, please tell us what these are.” There is no need for extra wording when a simple sentence will collect similar data.

Questions 3 (Appendix B), which asks respondents, “What type of membership do you have?” might be considered for elimination. The NC Zoo Society already has available information regarding membership level in their main database. However, if researchers are interested in determining differences in demographics, behaviors, and needs, this question should be included. Also available from the member database is the date individuals became members and whether they had renewed, which will result in the elimination of question 6, “How long have you been a member of the Zoo Society?” However, as previously stated, if the goal of the study is to identify differences between individuals based on their relative tenure as members, then this question should be included in the instrument design.

Last, question 6 (Appendix B) has been poorly designed. The question is as follows:

How long have you been a member of the Zoo Society?

- Less than one year
- 1-2 Years
- 2-3 Years
- 3-4 Years
- 4-5 Years
- More than 5 years

The answers provided are not mutually exclusive, but they overlap each other. Properly stated questions would list categories such as: less than one year, 1-2 years, 3-4 years, 5-6 years, more than 6 years, or categories . Question 26 also suffers from overlapping choices. Both questions might instead be removed if deemed not relevant to the study. The NC Zoo Society could also access information about length of membership through its database, unless the objective is to identify particular characteristics of individuals based on membership duration.

Questions suggested for inclusion in further instrument development are the following:

1. At which other North Carolina State attractions have you used your NC Zoo Society membership? (check all that apply)

- NC Aquariums
- NC Museums
- Out of State Aquarium Please specify _____
- Out of State Museum Please specify _____

2. Which of the following best describes the people who most often visit the NC Zoo with you? (check the appropriate item)

- Own children
- Grandchildren
- None (visit alone)
- Friends
- Organized group (school, tour, church group)
- Other Please specify _____

4. Please rate the following attributes/amenities of the NC Zoo on a scale of 1 to 5 (1 being very poor, 5 being excellent)

- a. Price for value _____
- b. Customer service _____
- c. Cleanliness _____
- d. Safety _____

Additionally, as explained by Shannon and Bradshaw (2002), "The greatest limitations of electronic surveys pertain to sampling" (p. 180). Supplementing a web-based instrument with a paper-based survey for those individuals that have not provided their email addresses would allow for additional members to be contacted, resulting in an improved sample. As stated by Cole (2005), "Tourism researchers may need to consider using multiple data collection modes when studying [a] population" (p. 428). There is an advantage to using a mixed-mode approach to reach individuals by appealing to respondents' particular preferences. Shannon and Bradshaw (2002) also stated, "Some individuals prefer to respond electronically, others prefer hard copies. Whether their reasons pertain to comfort with technology or the privacy of their responses, affording respondents a choice may increase the likelihood of a response" (p. 190).

Furthermore, if surveymonkey.com is employed for future data gathering, its capability of restricting submissions by IP should be used. IP restriction will limit the access

of the questionnaire from the same computer; however it might not restrict those individuals on a dial-up connection which are assigned a new IP address every time they connect to the Internet. This will prevent overrepresentation of data, by avoiding multiple responses as found in the data for this study.

Last, the more information marketing managers are able to collect about their members, the better the organizations are able to serve them. Collecting lifestyle data (attitudes, interests, and opinions) will provide managers with a fuller profile of visitors' and members' interests and activities (Todd & Lawson, 2001, p. 276). Moreover, companies will be able to invest their time and funds in those activities individuals are interested in.

Practical Significance

As stated previously, it has been challenging to find published research regarding any aspects of zoological gardens, other than the examination and care of animals. This is due partly to the lack of qualified investigators in the field and the zoo industry being a competitive business (C. Saunders, personal communication, March 29, 2007). This study attempts to contribute to the body of knowledge concerning zoos.

As opposed to Morgan and Hodgkison (1999), who stated that zoos may not recognize the value of research (p. 227), the NC Zoo Society has already made an effort to reach their members by conducting this research. Also, in contrast to Andereck and Caldwell's (1994) study, the typical visitor to the NC Zoo is in the conservation category rather than the education/recreation segment. However, both results suggest that most individuals at the NC Zoo are North Carolina residents. Ryan and Seward (2004) showed the importance to visitors of the role of conservation. Likewise, this study found that regardless of their characteristics, members are more interested in conservation than in education or recreation. Turley (2001) implied that conservation appeals to the older generations that might not have children to take to the zoo, which reflects what was found in this research. Number of children has indeed a relationship with reason for joining (conservation, education, or recreation); however, age and reason for joining was rejected in the present study.

Results from this study are similar to the findings of Paswan and Troy (2004), who stated that income has a relationship with membership levels, hence is an acceptable

variable for segmentation.

As confirmed by Gruen, Summers, and Acito (2000), literature about the academic study of membership management is scarce. The present research tries to build information regarding membership management in terms of membership schemes in the U.S., in addition to providing information for the academic study of the NC Zoo and NC Zoo Society as part of the tourism industry.

NC Zoo Society Significance

The results of this study provide important information for the NC Zoo Society Marketing Department. Information about members' demographics, travel behavior, type of membership, and reason for joining can be used by marketing executives to develop future marketing plans and strategies, as well as to segment their member population in meaningful and manageable clusters. What follows are recommendations for market segmentation of the NC Zoo Society based on statistically significant results.

First, it has been determined that education level and type of membership are positively associated. The higher the education level, the more expensive the membership level that gets purchased. Marketing managers should communicate to those highly educated individuals that other membership levels are available. Higher-level membership might be more suitable to their interests. These categories are Zookeeper, Curator, and Life membership. In addition, to increase such members' interest in the NC Zoo, intellectually stimulating programs could be developed, such as the showing of the movie *Microcosmos*. Directing efforts towards groups of people with similar interest will allow the marketing department to be more cost effective.

Second, income level and type of membership are also positively associated. The higher the income level, the more expensive the membership level acquired. The biggest percent of members at the NC Zoo have a household income above \$100,000 (28.8%). There is an opportunity to target these individuals. The message that should be communicated to these members is that there are other membership categories that they could purchase, such as Zookeeper, Curator, or Life membership. Moreover, a partnership could be created with organizations that already target those individuals. For example, working with golf courses or golf communities could benefit both organizations. Golf courses could introduce brochures in their carts in exchange for use

of the outdoor area at the NC Zoo for future golf events and award ceremonies.

Third, data showed that age and type of membership are associated. As age increases, so does the level of membership acquired. However, this relationship appears as a U-shaped curve. Younger individuals tend to buy a Family membership, while older members hold a Life membership. This finding may support marketers in their effort to target specific populations providing different messages and creating products that address the potential interest of each group age. In addition, results suggest that older individuals are more likely to buy a Life membership, which will provide evidence that individuals might change their member status as time goes by. Marketing managers could be proactive creating recruitment campaigns to educate younger members about the possibility of investing in a more expensive membership level later in life.

Fourth, there is a relationship between travel behavior variables (distance traveled and time traveled) and type of membership. Knowing this relationship allows marketing managers and program managers to generate different programs and communications depending on how far away members live. They might organize a barbecue for neighboring members of the NC Zoo, compared to special events (e.g., HOWL-O-Ween, BOO at the ZOO) that will attract Life members who live farther away.

Fifth, number of children and reason for joining are associated. Messages informing of the importance of conservation are already reaching those individuals with children. Creating advanced conservation programs geared towards those interested in conservation will be a profitable investment. Also, marketers could choose to increase visibility of messages stating that education and recreation are integral parts of the NC Zoo mission. Generating new programs to attract people to education activities, such as having a dairy farm at the zoo or a recreational activity as a movie night, will allow for the targeting of other segments of the population. Creating specific marketing strategies and tactics will result in a better return on marketing programs and dollars invested to attract zoo patrons.

Sixth, there is a negative relationship between travel behavior variables (distance traveled and time traveled) and reason for joining. Members living farther away have are more likely to give conservation as reason for joining, whereas those individuals living closer give recreation as their main reason. The marketing department at the NC Zoo Society could create strategies based on these findings to satisfy the interest of the

different groups. Marketers can reinforce the message about conservation and develop programs organized several times a year to accommodate those members living farther away. They could also reinforce and strengthen the education and recreation messages and programmatic elements which will appeal to members traveling shorter distances to potentially increase their visitation.

Last, the NC Zoo Society marketing department could develop informal conversations with members about their memberships, programming, and perceptions of the zoo and the zoo society. Marketing managers could offer a special catered lunch once a month by randomly selecting members as they access the park. This will allow managers to learn what individuals think not only about membership categories, but programming throughout the zoo. Other special events such as behind-the-scene tours and help zookeepers to feed the animals could be offered as incentives to have in-depth informal interviews with members.

Membership Category Names

After analyzing relationships involving demographics, travel behavior, and membership variables, it was hypothesized that the membership category names could be misleading. Category names (refer to Table 4.11 in Chapter 4) should be studied to learn whether individuals are confused by which category to choose when buying a membership. The category "Zookeeper / Naturalist / Groundskeeper" could be perceived as only suitable for individuals interested in such aspects of the zoo as the care of animals or maintaining the grounds. In addition, the category "Curator / Conservationist / Master Gardener" could be implying that individuals with interests in conservation or gardening can only obtain that membership category. Studying people's perceptions regarding these category names could result in a strategy to rename them, which in turn may increase members' understanding of the benefits of various memberships.

Many zoos across the U.S. (refer to appendix D) offer membership categories such as Family / Grandparents, Senior, and Single Parent. These organizations are adapting to changes in societal trends and offering a product with which individuals can identify. As stated by Milman (2001), "More sensitive marketing research techniques will need to be developed to attract new and nontraditional segments of the market as

well as to assist in developing products that will cater for the needs of these market segments" (p. 146). Adjusting to these changes will attract individuals that are not represented in the present categories offered by the zoo.

Further, the categories offered at the NC Zoo might be understood by zoo staff but not members. As mentioned above, the name categories used by other zoos could help the NC Zoo rethink their categories. Categories such as "Zookeeper / Naturalist / Groundskeeper" could be renamed to "Patron" or "Supporter"; the category "Curator / Conservationist / Master Gardener" could then be changed to "Benefactor" or "Sustainer." These are category names that broadly reflect individuals and their interests.

Suggestions for Future Research

While this study identifies only a portion of NC Zoo Society members, specifically those that provided email addresses, future research efforts should include additional methods that would reach the wider community. The following recommendations may provide some insight into improving marketing tactics and strategies.

Additional Hypotheses to Be Researched

Despite the limitation of the data, the findings of this study produced interesting results. However, it is suggested that the NC Zoo Society collect further information, utilizing not only online surveys but other methods. Hypotheses that could be further investigated are number of children and type of membership, age and type of membership, distance traveled and type of membership, and time traveled and type of membership.

Investigating these hypotheses will allow for a better description of members' characteristics across membership types. From a marketing perspective, this will be of value because it will provide managers with an opportunity to better target and provide tailored programs, membership categories, and communicate better the mission of the NC Zoo and NC Zoo Society.

The relationship between number of children and type of membership can provide specific information on the group composition that visits the NC Zoo. It is suggested to add a question to discern whether members are taking their grandchildren. NC Zoo Society marketing managers can create programs for groups

that are composed of grandparents, which differ from those catering to groups of parents.

Further investigation of the relationship between age and type of membership will determine whether there is a need to provide different messages to people depending on their age. Therefore, number of children and income should be controlled for age and type of membership because of the association the former variables may have. Communications would target members depending on their age. Today, with the aging of the baby boomer generation, the NC Zoo Society might be faced with some of the challenges of putting together programs and communication for this group. Having a better understanding of the NC Zoo Society population will allow for advance planning on issues such as generational change.

Collecting and Analyzing Qualitative Data

More can be learned about NC Zoo Society members by collecting and analyzing qualitative data as suggested previously. Qualitative data will provide richer, more in depth information than the quantitative data acquired for this study. Multiple-choice questions could be followed by an open-ended question. In addition, a focus group could be created to further investigate the relationship between number of children and reason for joining.

Analyzing questions asking for information on the decision to join, renewing processes, and services will give NC Zoo Society marketing managers insight on what needs to be improved, what needs to be changed, and what should be left alone. In addition, services can be enhanced by understanding why people are satisfied or dissatisfied by customer care, services provided, and other aspects of visiting the NC Zoo. Utilizing information gathered to improve services across the NC Zoo will increase members' and visitors' perceived service level. Also, information can be of use when creating retention strategies. As stated by Gruen, Summers, and Acito (2000), "Members retention is a key measure of the association's performance" (p. 36). Strengthening bonds with individuals will allow for identification with the organization and will show them that the organization cares about their opinions, suggestions, and ideas, fostering a better communication channel between the organization and its customers.

Using a Mixed-Mode Approach

One of the limitations of this study was the employment of the online survey, through surveymonkey.com. This questionnaire was only answered by those individuals who provided an email address to the NC Zoo Society when applying for a membership (and who more likely have the resources – wealth – to invest in technology). A mixed-mode approach that supplements the online survey with a paper-pencil survey, telephone interviews, or focus groups will generate information from those individuals that were excluded from the online survey.

In addition, a mixed-mode approach will produce a higher response rate, better data quality, reliability of scales, and lower response bias. A clear difference between paper and electronic surveys is that electronic surveys are cheaper and faster, but they lack in response rate (Shannon & Bradshaw, 2002).

Capturing the Minority Visiting Population

The data of this study show a homogeneous respondent group. Therefore, there is an opportunity to capture minorities that have not yet been studied such as African-Americans, Asians, Native Americans, and/or Hispanics. North Carolina State has seen an increase in minority populations in recent years. The largest and fastest growing minority are individuals having a Hispanic background (Cohn & Bahrapour, 2006; "North Carolina Rural Economic Development," 2000-2006). According to the U.S. Census, in 1990 the Hispanic population in the state of North Carolina was 1.2% (79,544) ("U.S. Census Bureau," September 1993) compared to 6.1% (520,393) reported in 2004 ("U.S. Census Bureau," February 2007). At the NC Zoo, managers have noticed an increase in the number of individuals from Central and South America (J. O. Parker, personal communication, February 21, 2007).

An analysis of group composition (family size, traditions, customs, attitudes, motives) for individuals of Hispanic background will allow for a more diverse population at the zoo and attract those that do not hold a membership. In addition, a better understanding about why these groups are not joining will be acquired. As suggested by J. O. Parker, most individuals are not interested in purchasing a membership because they fear government agencies will have access to personal information that will allow locating them easily and deporting them if they are of illegal status.

The NC Zoo Society has the opportunity to target a niche within the organization by learning more about minority groups. Marketing managers can develop customized programs, offer pre-paid membership with no return address, and tailor strategies and tactics for individuals that have diverse interests. The NC Zoo will benefit from this in various ways: increasing its membership pool, moving towards becoming a more inclusive organization for an increasingly diverse population, and identifying itself as a trend-setter in the field.

REFERENCES

- Andereck, K. L., & Caldwell, L. L. (1994). Motive-based segmentation of a public zoological park market. *Journal of Park and Recreation Administration, 12*(2), 19.
- Andereck, K. L., Caldwell, L. L., & Debbage, K. (1991). A market segmentation analysis of zoo visitors. *Tourism: building credibility for a credible industry. Proceedings of the Travel and Tourism Research Association twenty-second annual conference, Long Beach, CA, June 9-13, 1991*, 359.
- Bhattacharya, C. B. (1998). When customers are members: customer retention in paid membership contexts. *Journal of the Academy of Marketing Science, 26*(1), 31-44.
- Bhattacharya, C. B., Rao, H., & Glynn, M. A. (1995). Understanding the bond of identification: An investigation of its correlates among art museum members. *Journal of Marketing, 59*(4), 46-57.
- Bieger, T., & Laesser, C. (2002). Market segmentation by motivation: The case of Switzerland. *Journal of Travel Research, 41*(1), 68-76.
- Cohn, D. V., & Bahrapour, T. (2006, May 10). Of U.S. children under 5, nearly half are minorities. *The Washington Post*, p. A01.
- Cole, S. T. (2005). Comparing mail and web-based survey distribution methods: Results of surveys to leisure travel retailers. *Journal of Travel Research, 43*(4), 422-430.
- Cress, D. M., McPherson, J. M., & Rotolo, T. (1997). Competition and commitment in voluntary memberships: The paradox of persistence and participation. *Sociological Perspectives, 40*(1), 61-79.
- Dillman, D. A. (2000). *Mail and Internet surveys: The tailored design method*. New York: J. Wiley.
- Ferreira, R. R. (1996). The effect of private club members' characteristics on the identification level of members. *Journal of Hospitality & Leisure Marketing, 4*(3), 41.

- Floyd, M. F. (1998). Getting beyond marginality and ethnicity: The challenge for race and ethnic studies in leisure research. *Journal of Leisure Research*, 30(1), 3-22.
- Garbarino, E., & Johnson, M. S. (1999). The different roles of satisfaction, trust, and commitment in customer relationships. *Journal of Marketing*, 63(2), 70-87.
- Glynn, M. A., Bhattacharya, C. B., & Rao, H. (1996). Art museum membership and cultural distinction: Relating members' perceptions of prestige to benefit usage. *Museum Research*, 24(2-4), 259-274.
- Gonzalez, A. M., & Bello, L. (2002). The construct "lifestyle" in market segmentation: The behaviour of tourist consumers. *European Journal of Marketing*, 36(1/2), 51-85.
- Green, K. E. (1996). Sociodemographic factors and mail survey response. *Psychology and Marketing*, 13(2), 171-184.
- Gruen, T. W., Summers, J. O., & Acito, F. (2000). Relationship marketing activities, commitment, and membership behaviors in professional associations. *Journal of Marketing*, 64(3), 34-49.
- Gunn, C. (1994). *Tourism planning: Basics, concepts, cases*. Washington, DC: Taylor and Francis.
- Hayes, D., & Slater, A. (2003). From "social club" to "integrated membership scheme": Developing membership schemes strategically. *International Journal of Nonprofit and Voluntary Sector Marketing*, 8(1), 59-75.
- Inbakaran, R., & Jackson, M. (2005). Understanding resort visitors through segmentation. *Tourism & Hospitality Research*, 6(1), 53-71.
- Johns, N., & Gyimothy, S. (2002). Market segmentation and the prediction of tourist behavior: The case of Bornholm, Denmark. *Journal of Travel Research*, 40(3), 316-327.
- Kinser, K., & Fall, L. (2006). A Dr. Doolittle primer: Determining how American zoos use public relations membership techniques as effective customer relationship marketing strategies. *Services Marketing Quarterly*, 27(3), 91.
- Kotler, N., & Kotler, P. (1998). *Museum strategy and marketing: designing missions, building audiences, generating revenue and resources*. San Francisco, CA: Jossey-Bass Publishers.

- Kotler, P. (1974). *Marketing for nonprofit organizations*. Englewood Cliffs, NJ: Prentice-Hall.
- Kotler, P. (1984). *Marketing management*. Englewood Cliffs, NJ: Prentice-Hall.
- Mason, P. (2000). Zoo tourism: The need for more research. *Journal of Sustainable Tourism*, 8(4), 333.
- Milman, A. (2001). The future of the theme park and attraction industry: A management perspective. *Journal of Travel Research*, 40(2), 139.
- Morgan, J. M., & Hodgkinson, M. (1999). The motivation and social orientation of visitors attending a contemporary zoological park. *Environment and Behavior*, 31(2), 227-239.
- NC Zoo™ - NC Zoo Society: About Us. (n.d.). Retrieved March 14, 2007, from <http://www.nczoo.com/about/index>
- NC Zoo™ - North Carolina Zoo: Mission & Vision. (n.d.). Retrieved March 14, 2007, from <http://www.nczoo.org/about/mission.cfm>
- North Carolina Rural Economic Development. (2000-2006). *Population in North Carolina*. Retrieved October 18, 2007, 2007, from http://www.ncruralcenter.org/databank/trendpage_Population.asp
- North Carolina Zoological Park History. (n.d.). Unpublished manuscript. North Carolina Zoological Park.
- Orr, N. (2006). Museum volunteering: Heritage as 'Serious Leisure'. *International Journal of Heritage Studies*, 12(2), 194-210.
- Paswan, A. K., & Troy, L. C. (2004). Non-profit organization and membership motivation: An exploration in the museum industry. *Journal of Marketing Theory & Practice*, 12(2), 1-15.
- Plummer, J. T. (1974). The concept and application of life style segmentation. *Journal of Marketing*, 38(1), 33-37.
- Ryan, C., & Saward, J. (2004). The zoo as ecotourism attraction -- visitor reactions, perceptions and management implications: The case of Hamilton Zoo, New Zealand. *Journal of Sustainable Tourism*, 12(3), 245.

- Schutt, R. K. (2001). *Investigating the social world: The process and practice of research*. Thousand Oaks, CA: Pine Forge Press.
- Shannon, D. M., & Bradshaw, C. C. (2002). A comparison of response rate, response time, and costs of mail and electronic surveys. *Journal of Experimental Education, 70*(2), 179.
- Siderelis, C., & Gustke, L. (2000). Influence of on-site choices on recreation demand. *Leisure Sciences, 22*(2), 123.
- Slater, A. (2003). An audit of friends' schemes at UK heritage sites. *International Journal of Heritage Studies, 9*(4), 357-373.
- Slater, A. (2004). Revisiting membership scheme typologies in museums and galleries. *International Journal of Nonprofit & Voluntary Sector Marketing, 9*(3), 238-260.
- Stevens, T. (1988). Zoos. A walk on the wild side. *Leisure Management, 8*(4), 28.
- Thyne, M. (2001). The importance of values research for nonprofit organisations: The motivation-based values of museum visitors. *International Journal of Nonprofit & Voluntary Sector Marketing, 6*(2), 116-130.
- Todd, S., & Lawson, R. (2001). Lifestyle segmentation and museum/gallery visiting behaviour. *International Journal of Nonprofit & Voluntary Sector Marketing, 6*(3), 269.
- Todd, S., Lawson, R., & Faris, F. (1998). A lifestyle analysis of New Zealand customers. *Asia Pacific Journal of Marketing and Logistics, 10*(3), 30.
- Tomas, S. R., Crompton, J. L., & Scott, D. (2003). Assessing service quality and benefits sought among zoological park visitors. *Journal of Park and Recreation Administration, 21*(2), 105-124.
- Tomas, S. R., Scott, D., & Crompton, J. L. (2002). An investigation of the relationships between quality of service performance, benefits sought, satisfaction and future intention to visit among visitors to a zoo. *Managing Leisure, 7*(4), 239.
- Tomsic, M. L., Hendel, D. D., & Matross, R. P. (2000, May 21-24). *A world wide web response to student satisfaction surveys: Comparisons using paper and internet formats*. Paper presented at the 40th annual meeting of the Association of Institutional Research, Cincinnati, OH.

- Turley, S. K. (1999). Exploring the future of the traditional UK zoo. *Journal of Vacation Marketing*, 5(4), 340-355.
- Turley, S. K. (2001). Children and the demand for recreational experiences: The case of zoos. *Leisure Studies*, 20(1), 1.
- U.S. Census Bureau. (February 2007). *The American community - Hispanics: 2004. American community survey reports*. Retrieved October 18, 2007, from <http://www.census.gov/prod/2007pubs/acs-03.pdf>
- U.S. Census Bureau. (September 1993). *We the American ... Hispanics*. Retrieved October 18, 2007, from <http://www.census.gov/apscd/wepeople/we-2r.pdf>
- Wedel, M., & Kamakura, W. A. (1998). *Market segmentation: Conceptual and methodological foundations*. Boston: Kluwer Academic.
- Wind, Y., & Mahajan, V. (2002). Convergence marketing. *Journal of Interactive Marketing*, 16(2), 64-79.
- Yeo, G. (2005). Understanding users and use: A market segmentation approach. *Journal of the Society of Archivists*, 26(1), 25-53.

APPENDIX A

AZA Survey of Attendance at Member Institutions

American Zoo and Aquarium Association 2003 Annual Survey* Total Attendance, Paid and Unpaid (Totals)

Copyright Policy: The information is copyright of the American Zoo and Aquarium Association. Permission to reprint must be obtained by contacting AZA at (301)-562-0777, ext. 229. Excerpts may be reproduced provided that AZA is cited as the source. *The American Zoo and Aquarium Association 2003 Annual Survey is based on 2002 data collected from AZA member institutions.

Type of Institution	Paid and Unpaid Attendance				
	Public nonprofit	Private nonprofit	For-profit	Other	All responses
Primarily a zoo	30,261,992	29,177,662	1,467,482	2,480,526	63,387,660
Primarily an aquarium	2,704,693	16,851,656	9,934,603	2,289,822	31,780,774
Both a zoo and an aquarium	1,517,965	5,112,560	412,733	614,203	7,657,461
Primarily a wildlife park	158,554	110,000	535,137	N/A	803,691
Other	3,975,536	8,306,510	27,050,000	1,044,927	40,376,972
All responses	38,618,740	59,558,388	39,399,956	6,429,478	144,006,560
Type of Institution	Paid Attendance Only				
	Public nonprofit	Private nonprofit	For-profit	Other	All responses
Primarily a zoo	16,175,435	12,192,977	616,906	1,548,809	30,534,128
Primarily an aquarium	2,314,971	8,399,683	479,261	2,004,834	13,198,749
Both a zoo and an aquarium	1,048,032	2,251,447	411,109	322,085	4,032,673
Primarily a wildlife park	131,501	110,000	342,055	N/A	583,556
Other	2,347,344	4,518,008	N/A	779,850	7,645,202
All responses	22,017,283	27,472,115	1,849,331	4,655,578	55,994,308

Type of Institution	Unpaid Attendance Only				
	Public nonprofit	Private nonprofit	For-profit	Other	All responses
Primarily a zoo	13,666,007	10,049,991	467,343	594,308	24,777,648
Primarily an aquarium	389,722	1,170,407	150,845	301,042	2,012,016
Both a zoo and an aquarium	469,933	2,042,452	1,624	292,118	2,806,127
Primarily a wildlife park	26,156	N/A	80,640	N/A	106,796
Other	807,423	2,129,610	N/A	265,077	3,202,110
All responses	15,359,241	15,392,460	700,452	1,452,545	32,904,697

American Zoo and Aquarium Association 2003 Annual Survey*
Total Attendance, Paid and Unpaid

Institution	Total	Total Paid	Total Unpaid
Abilene Zoological Gardens	123,445	N/A	N/A
African Safari Wildlife Park	112,442	N/A	N/A
Akron Zoological Park	107,969	64,505	43,464
Alameda Park Zoo	49,707	60,000	5,000
Albuquerque Biological Park	980,000	762,000	11,000
Alexandria Zoological Park	172,405	131,980	41,007
American National Fish and Wildlife Museum, The	405,795	364,414	41,381
Aquarium of the Bay	N/A	N/A	N/A
Aquarium of the Pacific	1,181,000	922,000	115,000
Arizona-Sonora Desert Museum	462,317	469,313	35,231
Audubon Aquarium of the Americas	949,000	939,500	9,500
Audubon Zoo	781,387	761,251	20,136
Baltimore Zoo	502,810	230,942	271,868
Belle Isle Aquarium	62,209	52,905	9,304
Belle Isle Zoo	72,081	57,810	14,271

Institution	Total	Total Paid	Total Unpaid
Bergen County Zoological Park	400,000	73,678	296,334
Bermuda Aquarium, Museum, and Zoo	94,311	63,098	31,213
Binder Park Zoo	316,593	239,229	77,364
Biodome de Montreal	902,339	754,116	148,223
Birch Aquarium at Scripps Inst. of Oceanography	363,942	226,815	17,471
Birmingham Zoo	382,914	242,893	140,021
Blank Park Zoo	269,550	159,719	109,831
Boonshoft Museum of Discovery	175,959	84,275	91,684
Bramble Park Zoo	48,134	23,664	24,470
Brandywine Zoo	73,657	38,539	35,233
BREC's Baton Rouge Zoo	220,205	178,939	41,266
Brookfield Zoo	1,965,424	774,071	1,191,353
Brookgreen Gardens	204,000	127,000	77,000
Buffalo Zoological Gardens	329,819	144,147	185,672
Busch Gardens Tampa Bay	4,500,000	N/A	N/A
Cabrillo Marine Aquarium	340,000	N/A	N/A
Caldwell Zoo	574,741	N/A	574,741
Calgary Zoo, Botanical Garden, & Prehistoric Park	841,371	598,372	27,958
Cameron Park Zoo	160,397	123,757	36,640
Cape May County Park Zoo	650,000	N/A	650,000
Capron Park Zoo	72,081	62,931	9,150
Caribbean Gardens, The Zoo in Naples	183,233	N/A	N/A
Central Florida Zoological Park	211,662	140,848	70,814
Central Park Zoo	908,712	843,180	65,532
Chaffee Zoological Gardens of Fresno	377,174	285,256	91,918
Chahinkapa Zoo	41,740	17,697	24,043
Charles Paddock Zoo	74,490	52,127	22,363
Chattanooga Zoo at Warner Park	101,985	36,180	65,805
Chehaw Wild Animal Park	79,500	N/A	N/A
Cheyenne Mountain Zoo	367,935	214,506	153,429
Cincinnati Zoo & Botanical Garden	1,142,229	1,093,946	48,283
Cleveland Metroparks Zoo	1,259,609	576,839	682,770
Clyde Peeling's Reptiland	31,296	31,296	N/A

Institution	Total	Total Paid	Total Unpaid
Colorado's Ocean Journey	562,293	606,865	135,689
Columbus Zoo and Aquarium	1,152,603	647,875	504,728
Connecticut's Beardsley Zoo	251,000	N/A	N/A
Cosley Zoo	101,350	7,093	94,257
Coyote Point Museum	109,765	87,368	16,738
Dakota Zoo	106,834	62,469	53,592
Dallas World Aquarium, The	412,733	411,109	1,624
Dallas Zoo	759,491	414,389	221,548
Denver Zoological Gardens	1,537,678	1,262,007	275,671
Detroit Zoological Park	1,227,830	837,334	435,496
Dickerson Park Zoo	176,641	125,598	51,043
Disney's Animal Kingdom	8,300,000	N/A	N/A
El Paso Zoo	384,000	292,553	91,447
Ellen Trout Zoo	131,000	98,004	33,030
Elmwood Park Zoo	140,000	133,161	5,847
Emporia Zoo	50,000	N/A	N/A
Erie Zoo	400,000	340,000	60,000
Florida Aquarium, The	582,415	446,208	136,207
Folsom Children's Zoo & Botanical Gardens	170,333	73,757	96,576
Fort Wayne Children's Zoo	449,072	413,072	36,000
Fort Worth Zoo	1,055,467	787,079	268,388
Fossil Rim Wildlife Center	110,000	110,000	N/A
Franklin Park Zoo	514,111	N/A	N/A
Gladys Porter Zoo	419,786	339,939	24,634
Glen Oak Zoo	100,000	43,587	48,895
Granby Zoo	497,194	N/A	N/A
Great Plains Zoo & Delbridge Museum of Natural His	143,106	99,500	43,606
Greenville Zoo	208,425	147,978	60,442
Grizzly & Wolf Discovery Center	101,146	88,367	12,779
Happy Hollow Zoo	404,209	217,449	186,760
Henry Vilas Zoo	500,000	N/A	500,000
Henson Robinson Zoo	80,333	62,585	17,748
Honolulu Zoo	500,101	322,357	177,744

Institution	Total	Total Paid	Total Unpaid
Houston Zoological Gardens	1,500,000	1,300,000	270,000
Hutchinson Zoo	91,680	N/A	91,680
Indianapolis Zoological Society, Inc.	940,000	534,000	406,000
International Crane Foundation	26,475	19,913	6,562
Jackson Zoological Park	189,779	3,222	186,557
Jacksonville Zoological Gardens	531,971	327,235	204,736
John Ball Zoological Garden	278,904	124,820	73,365
John G. Shedd Aquarium	1,709,612	N/A	N/A
Kansas City Zoo	425,067	290,381	134,686
Knoxville Zoological Gardens	381,625	225,278	156,347
Lake Superior Zoological Gardens	115,102	86,138	28,964
Lee Richardson Zoo	195,841	34,641	161,200
Lincoln Park Zoo	3,000,000	N/A	3,000,000
Lion Country Safari	422,695	342,055	80,640
Little Rock Zoo	268,571	222,824	45,747
Living Desert	322,920	247,246	75,674
Living Desert Zoo & Gardens State Park	49,410	36,108	10,189
Living Seas	6,300,000	N/A	N/A
Los Angeles Zoo	1,517,366	1,055,581	461,785
Louisville Zoological Garden	781,938	467,856	314,082
Lowry Park Zoological Society of Tampa, Inc.	683,133	600,053	83,080
Memphis Zoo	614,203	322,085	292,118
Mesker Park Zoo & Botanic Garden	123,456	83,284	40,172
Miami Metrozoo	452,880	325,284	126,151
Micke Grove Zoo	236,000	149,250	86,750
Mill Mountain Zoo	66,240	55,347	10,893
Miller Park Zoo	98,000	65,455	41,600
Milwaukee County Zoological Gardens	1,337,628	716,703	620,925
Minnesota Zoological Garden	1,009,387	754,012	255,375
Monterey Bay Aquarium	1,719,926	1,545,476	173,820
Montgomery Zoo	285,000	242,250	42,750
Mote Marine Laboratory and Aquarium	350,000	143,000	107,000
Museum of Science	1575,804	N/A	N/A

Institution	Total	Total Paid	Total Unpaid
Mystic Aquarium & Institute for Exploration	815,000	710,000	105,000
National Aquarium in Baltimore	1,629,996	1,336,981	293,015
National Aviary	120,762	67,617	42,503
New England Aquarium	1,286,053	835,955	N/A
New Jersey State Aquarium	581,152	550,512	30,000
New York Aquarium	773,448	741,594	31,854
New York State Living Museum	96,114	86,000	51,000
Newport Aquarium	68,043	N/A	N/A
North Carolina Aquarium at Fort Fisher	546,159	383,622	162,537
North Carolina Aquarium at Pine Knoll Shores	250,244	171,131	79,113
North Carolina Aquarium on Roanoke Island	320,041	235,842	84,199
North Carolina Zoological Park	671,619	412,454	259,165
Northeastern Wisconsin (NEW) Zoo	265,320	205,396	59,924
Northwest Trek Wildlife Park	158,554	131,501	26,156
Oakland Zoo	495,000	N/A	N/A
Ocean Park Corporation	3,388,352	N/A	N/A
Oglebay's Good Zoo	144,886	99,746	45,140
Oklahoma City Zoological Park	639,132	415,436	223,696
Omaha's Henry Doorly Zoo	1,420,556	701,770	718,786
Oregon Coast Aquarium	579,100	N/A	N/A
OREGON ZOO	1,330,838	704,280	626,558
Palm Beach Zoo at Dreher Park	240,100	205,375	34,725
Philadelphia Zoo, The	1,086,238	977,033	109,205
Phoenix Zoo	1,366,991	1,240,990	113,133
Pittsburgh Zoo & PPG Aquarium	670,122	386,835	283,287
Point Defiance Zoo & Aquarium	414,267	230,922	183,345
Potawatomi Zoo	154,723	107,834	46,884
Potter Park Zoological Gardens	293,954	207,454	86,500
Prospect Park Zoo	255,294	231,296	23,998
Pueblo Zoo	87,217	42,344	40,037
Queens Zoo	238,087	225,727	18,749
Racine Zoological Gardens	250,000	N/A	N/A
Rainforest at Moody Gardens, Inc.	659,826	667,853	8,027

Institution	Total	Total Paid	Total Unpaid
Reid Park Zoo	389,857	223,688	166,169
Ripley's Aquarium	1,000,000	N/A	N/A
Ripley's Aquarium of the Smokies	1,000,000	N/A	N/A
Riverbanks Zoo & Garden	1,020,000	461,363	474,344
Roger Williams Park Zoo	742,838	506,905	235,933
Rolling Hills Zoo	95,793	95,293	500
Roosevelt Park Zoo	N/A	53,800	N/A
Rosamond Gifford Zoo at Burnet Park	330,045	220,513	109,572
Ross Park Zoo	70,741	N/A	N/A
Sacramento Zoo	468,588	328,297	140,291
Saint Louis Zoological Park	2,922,000	N/A	2,922,000
Salisbury Zoological Park	209,448	N/A	209,448
San Antonio Zoological Gardens & Aquarium	859,547	N/A	N/A
San Diego Wild Animal Park	1,539,000	N/A	N/A
San Diego Zoo	3,200,000	N/A	N/A
San Francisco Zoological Gardens	867,443	400,586	466,857
Santa Ana Zoo	269,079	166,022	103,057
Santa Barbara Zoological Gardens	436,768	281,284	128,600
Santa Fe Community College Teaching Zoo	32,000	N/A	32,000
Scovill Zoo	90,118	N/A	N/A
Sea Life Park Hawaii	302,000	302,000	N/A
Seattle Aquarium	630,106	479,261	150,845
SeaWorld Orlando	5,000,000	N/A	N/A
SeaWorld San Antonio	1,600,000	N/A	N/A
SeaWorld San Diego	4,000,000	N/A	N/A
Sedgwick County Zoo	429,646	244,002	185,644
Seneca Park Zoo	317,063	172,905	144,158
Sequoia Park Zoo	95,000	N/A	95,000
Shark Reef at Mandalay Bay	936,454	N/A	N/A
Silver Springs	N/A	N/A	N/A
Six Flags Marine World	1,500,000	N/A	N/A
Six Flags Worlds of Adventure	2,150,000	N/A	N/A
Smithsonian National Zoological Park	2,162,500	N/A	2,162,500

Institution	Total	Total Paid	Total Unpaid
South Carolina Aquarium	540,230	390,623	149,607
St. Augustine Alligator Farm	200,000	N/A	N/A
St. Paul's Como Zoo	750,000	N/A	750,000
Staten Island Zoo	188,925	197,000	18,625
Steinhart Aquarium	726,259	N/A	N/A
Sunset Zoological Park	52,250	49,650	2,600
Tautphaus Park Zoo	84,742	62,794	21,948
Tennessee Aquarium	940,000	855,300	84,300
Texas State Aquarium	436,194	368,856	67,338
Texas Zoo	55,900	N/A	N/A
Toledo Zoological Gardens	913,618	428,967	484,651
Topeka Zoo	151,855	N/A	N/A
Toronto Zoo	1,138,849	984,452	154,397
Tracy Aviary	73,000	60,300	11,200
Trevor Zoo	20,000	15,000	5,000
Tulsa Zoo and Living Museum	510,000	333,757	163,667
Utah's Hogle Zoo	618,700	332,936	285,764
Utica Zoo	59,709	33,424	22,800
Vancouver Aquarium Marine Science Centre	865,000	691,294	139,592
Virginia Marine Science Museum	577,040	531,971	45,069
Virginia Zoological Park	291,142	240,071	51,071
Waikiki Aquarium	328,622	N/A	N/A
Western North Carolina Nature Center	94,287	N/A	N/A
Wildlife Safari	157,519	155,000	10,000
Wildlife World Zoo	390,000	360,000	30,000
Wilds, The	59,569	44,561	15,008
Woodland Park Zoological Gardens	1,042,832	481,809	481,762
Zoo Atlanta	695,373	419,940	276,510
Zoo Boise	212,000	212,000	N/A
ZOO	123,324	123,324	N/A
ZOOAMERICA - North American Wildlife Park	539,629	102,286	437,343
ZooMontana	56,000	36,000	16,000

APPENDIX B

Questions in NC Zoo Society Members Survey

1. Please tell us a little bit about your Zoo Membership

1. Please tell us your Zip Code (An answer is required for this question)

2. How many people (including yourself) are included on your Zoo Society membership?

- None
- 1
- 2
- 3
- 4
- 5
- more than 5

3. What type of membership do you have?

- Individual
- Individual plus
- Family
- Family Plus
- Zookeeper/Naturalist/Groundskeeper
- Curator/Conservationist/Master Gardener
- Life Member
- Don't know

4. Are you a Secret Garden or Conservation member?

- Yes
- No
- Don't know

5. Did you receive your membership as a gift?

- Yes
- No

6. How long have you been a member of the Zoo Society?

- Less than one year
- 1-2 Years
- 2-3 Years
- 3-4 Years
- 4-5 Years
- More than 5 years

7. How many times have you visited the Zoo in the past year?

- None
- Once
- Twice
- Three times
- More than three times

8. How long has it been since your last visit to the Zoo?

- Less than one month
- One to three months
- Three to six months
- Six to nine months
- About a year
- More than a year

9. How did you first hear about the NC Zoological Society? An answer is required for this question. If you don't remember, please check "other."

- Upon arriving at the zoo
- Upon exiting the zoo
- Friend or acquaintance
- Newspaper, magazine or other print publication
- From something received in the mail
- Radio
- Internet
- Other

10. Tell us about the first time you joined the Zoo society. Please use the scale of 1-6 to rate the following reasons why you first joined the zoo society. "1" means the reason had very little to do with why you first joined, "6" means the reason was very important in your decision to join:

	Not Important	2	3	4	5	Very Important
Free admission to the zoo						
Free or reduced admission to other zoos and aquariums						
Educational activities						
To support the Zoo						
To support conservation						
To attend member programs						
To learn about Zoo animals						
Alive Magazine						
Gift Shop Discounts						

11. If some other factor or factors influenced your decision to join, please tell us what these factors were.

12. If you plan to renew your membership, please use the scale of 1-6 to rate the following member benefits in terms of their importance to your decision to renew. "1" means the benefit is not important, "6" means the benefit is very important to you:

	Not Important	2	3	4	5	Very Important
Free admission to the zoo						
Free or reduced admission to other zoos and aquariums						
Educational activities						
To support the Zoo						
To support conservation						
To attend member programs						
To learn about Zoo animals						
Alive Magazine						
Gift Shop Discounts						

13. If some other factor or factors influenced your decision about renewing your membership, please tell us about them.

14. If you do not plan to renew your membership, please tell us why. Select all that apply.

- Too expensive
- Not enough new exhibits
- I have moved or will move away from area
- Children grown/gone
- Didn't use membership
- Benefits did not meet my expectations
- Service did not meet my expectations
- Other

15. If you answered that our services did not meet your expectations or "other" to question 14, please give us more details about your experiences.

16. If you plan to renew, how will you do it?

- Mail
- Online
- At the Zoo
- Over the phone
- Other

17. If you have renewed your membership in the past, which of the following best describes your feelings about the renewal process?

- The process is convenient and simple
- The process could be better but I can live with it
- The process is too complicated
- I get too many renewal notices

18. Rank the Zoo's mission in order of importance to you. "1" means most important. "4" means least important.

	Most Important			Least Important	N/A
Conservation					
Education					
Recreation					
Other					

19. What makes the zoo different than other area providers of educational entertainment?

2. Please Tell Us About Yourself

20. If you could make one change to the Zoo or the Zoo Society what would it be?

21. What is your gender?

- Male
- Female

22. What year were you born? (This question requires an answer.)

23. What is your ethnicity?

- African American
- Asian
- Caucasian
- Hispanic
- Native American/Alaskan Native
- Pacific Islander
- Other

24. How many children do you have living at home?

- None
- One
- Two
- Three
- Four
- More than four

25. What level of education have you attained?

- High School/GED
- Some College
- Associates
- Bachelors
- Masters/Professional
- Doctorate

26. What is your yearly household income?

- Less than \$25,000
- \$25,000-\$50,000
- \$50,000-\$75,000
- \$75,000-\$100,000
- More than \$100,000

APPENDIX C

Results Summary from Instrument Used in this Study

Results Summary

[Export...](#)
[View Detail >>](#)

Filter Results

To analyze a subset of your data, you can create one or more filters.

[Add Filter...](#)

Total: 1870

Visible: 1870

1. Please tell us a little bit about your Zoo Membership

1. Please tell us your Zip Code (An answer is required for this question),

[View](#)

Total Respondents

1868

(skipped this question)

2

2. How many people (including yourself) are included on your Zoo Society membership?

	Response Percent	Response Total
None	1%	18
1	8.5%	158
2	19.4%	361
3	13.3%	247
4	28.2%	524
5	15.1%	281
more than 5	14.6%	272
Total Respondents		1861
(skipped this question)		10

3. What type of membership do you have?

	Response Percent	Response Total
Individual	3.3%	62
Individual Plus	11.9%	222
Family	43.2%	806
Family Plus	29.1%	543
Zookeeper/Naturalist/Groundskeeper	2.3%	43

2/21/07 6:46 AM

Curator/Conservationist/Master Gardener	0.8%
Life Member	8.3%
Don't know	1.1%
Total Respondents	
(skipped this question)	

4. Are you a Secret Garden or Conservation member?

	Response Percent
Yes	1.9%
No	87.3%
Don't Know	10.8%
Total Respondents	
(skipped this question)	

5. Did you receive your membership as a gift?

	Response Percent
Yes	3.4%
No	96.6%
Total Respondents	
(skipped this question)	

6. How long have you been a member of the Zoo Society?

	Response Percent
Less than one year	34.2%
1-2 Years	12.7%
2-3 Years	14.5%
3-4 Years	9.1%
4-5 Years	4.8%
More than 5 years	24.7%
Total Respondents	
(skipped this question)	

7. How many times have you visited the Zoo in the past year?	
	Response Percent
None	12%
Once 	29.8%
Twice	24.3%
Three times	15.2%
More than three times	18.7%
Total Respondents	
(skipped this question)	

8. How long has it been since your last visit to the Zoo?	
	Response Percent
Less than one month	23%
One to three months 	28%
Three to six months	22.4%
Six to nine months	10.2%
About a year	4.9%
More than a year	11.5%
Total Respondents	
(skipped this question)	

9. How did you first hear about the N.C. Zoological Society? An answer is required for this question. If you don't remember, please check "other."	
	Response Percent
Upon arriving at the zoo 	42.8%
Upon exiting the zoo	1.4%
Friend or Acquaintance	15.4%
Newspaper, magazine or other print publication	5.7%
From something received in the mail	8.3%
Radio	0.3%
Internet	7%
Other	19.2%

	Total Respondents	1869
	(skipped this question)	2

10. Tell us about the first time you joined the Zoo Society. Please use the scale of 1 – 6 to rate the following reasons why you first joined the Zoo Society. "1" means the reason had very little to do with why you first joined. "6" means the reason was very important in your decision to join:

	Not Important	2	3	4	5	Very Important	Response Total
Free admission to the Zoo	6% (111)	4% (67)	6% (104)	8% (153)	17% (313)	59% (1096)	1844
Free or reduced admission to other zoos and aquariums	8% (141)	8% (151)	11% (194)	14% (261)	21% (392)	38% (703)	1842
Educational activities	10% (181)	13% (244)	20% (356)	22% (409)	18% (324)	17% (309)	1823
To support the Zoo	1% (23)	2% (32)	6% (120)	14% (266)	23% (429)	53% (978)	1848
To support conservation	3% (61)	5% (97)	12% (226)	18% (320)	21% (386)	40% (734)	1824
To attend member programs	24% (430)	23% (424)	22% (406)	16% (297)	9% (154)	6% (100)	1811
To learn about Zoo animals	6% (117)	8% (154)	15% (268)	22% (394)	24% (427)	25% (456)	1816
Alive Magazine	22% (389)	20% (351)	22% (404)	18% (333)	12% (207)	6% (116)	1800
Gift Shop Discounts	26% (463)	21% (378)	20% (358)	16% (298)	11% (193)	7% (125)	1815
						Total Respondents	1855
						(skipped this question)	15

11. If some other factor or factors influenced your decision to join, please tell us what these factors were.

	View Total Respondents	441
	(skipped this question)	1425

12. If you plan to renew your membership, please use the scale of 1 – 6 to rate the following member benefits in terms of their importance to your decision to renew. "1" means the benefit is not important. "6" means the benefit is very important to you.

	Not important	2	3	4	5	Very Important	Response Total
Free admission to the Zoo	4% (70)	3% (49)	6% (98)	7% (122)	17% (296)	64% (1114)	1749
Free or reduced admission to other zoos and aquariums	5% (92)	6% (109)	9% (160)	12% (215)	23% (392)	44% (773)	1741

Educational activities	9% (162)	11% (187)	18% (319)	23% (401)	19% (330)	19% (327)
To support the Zoo	1% (22)	2% (30)	6% (110)	13% (232)	22% (387)	55% (960)
To support conservation	3% (46)	5% (78)	12% (207)	16% (282)	21% (365)	43% (748)
To attend member programs	20% (342)	21% (356)	22% (382)	17% (299)	11% (192)	8% (139)
To learn about Zoo animals	6% (99)	8% (138)	13% (218)	21% (358)	25% (435)	28% (475)
Alive Magazine	19% (316)	16% (280)	21% (358)	21% (351)	14% (246)	9% (154)
Gift Shop Discounts	24% (412)	20% (334)	17% (288)	16% (282)	12% (208)	11% (188)
Total Respondents						
(skipped this question)						

13. If some other factor or factors influenced your decision about renewing your membership, please tell us about them.

[View](#) **Total Respondents**

(skipped this question)

14. If you do not plan to renew your membership, please tell us why. Select all that apply.

	Response Percent
Too expensive	13%
Not enough new exhibits	13%
I have moved or will move away from the area	9.8%
Children grown/gone	10.9%
Didn't use membership	34.8%
Benefits did not meet my expectations	6.5%
Service did not meet my expectations	5.4%
Other	37%
Total Respondents	
(skipped this question)	

15. If you answered that our services did not meet your expectations or "other" to question 14, please give us more details about your experiences.

View Total Respondents
(skipped this question)

16. If you plan to renew, how will you do it?

	Response Percent
Mail 	33.9%
Online 	34.1%
At the Zoo 	28.2%
Over the phone 	1.5%
Other 	2.2%
Total Respondents	
(skipped this question)	

17. If you have renewed your membership in the past, which of the following best describes your feelings about the renewal process?

	Response Percent
The process is convenient and simple. 	93%
The process could be better but I can live with it. 	5.9%
The process is too complicated.	0.1%
I get too many renewal notices.	1%
Total Respondents	
(skipped this question)	

18. Rank the Zoo's missions in order of importance to you. "1" means most important, "5" means least important.

	Most Important			Least Important	N/A
Conservation	49% (776)	28% (441)	21% (325)	2% (28)	1% (10)
Education	31% (508)	49% (800)	18% (286)	1% (21)	1% (14)
Recreation	28% (481)	23% (392)	45% (774)	4% (62)	1% (9)
Other	3% (24)	2% (20)	4% (35)	57% (467)	33% (270)
Total Respondents					

(skipped this question)

19. What makes the zoo different than other area providers of educational entertain

[View](#) Total Respondents

(skipped this question)

2. Please Tell Us About Yourself

20. If you could make one change to the Zoo or the Zoo Society what would it be?

[View](#) Total Respondents

(skipped this question)

21. What is your gender?

	Response Percent
Male 	34.2%
Female 	65.8%
Total Respondents (skipped this question)	

22. What year were you born? (This question requires an answer.)

[View](#) Total Respondents

(skipped this question)

23. What is your ethnicity?

	Response Percent
African American	1.8%
Asian	0.8%
Caucasian 	94.6%
Hispanic	1%
Native American/Alaskan Native	0.4%
Pacific Islander	0%
Other	1.3%

Total Respondents
(skipped this question)

24. How many children do you have living at home?

	Response Percent
None	36.4%
One	17.9%
Two	29.1%
Three	10.9%
Four	4.3%
More than four	1.4%
Total Respondents	
(skipped this question)	

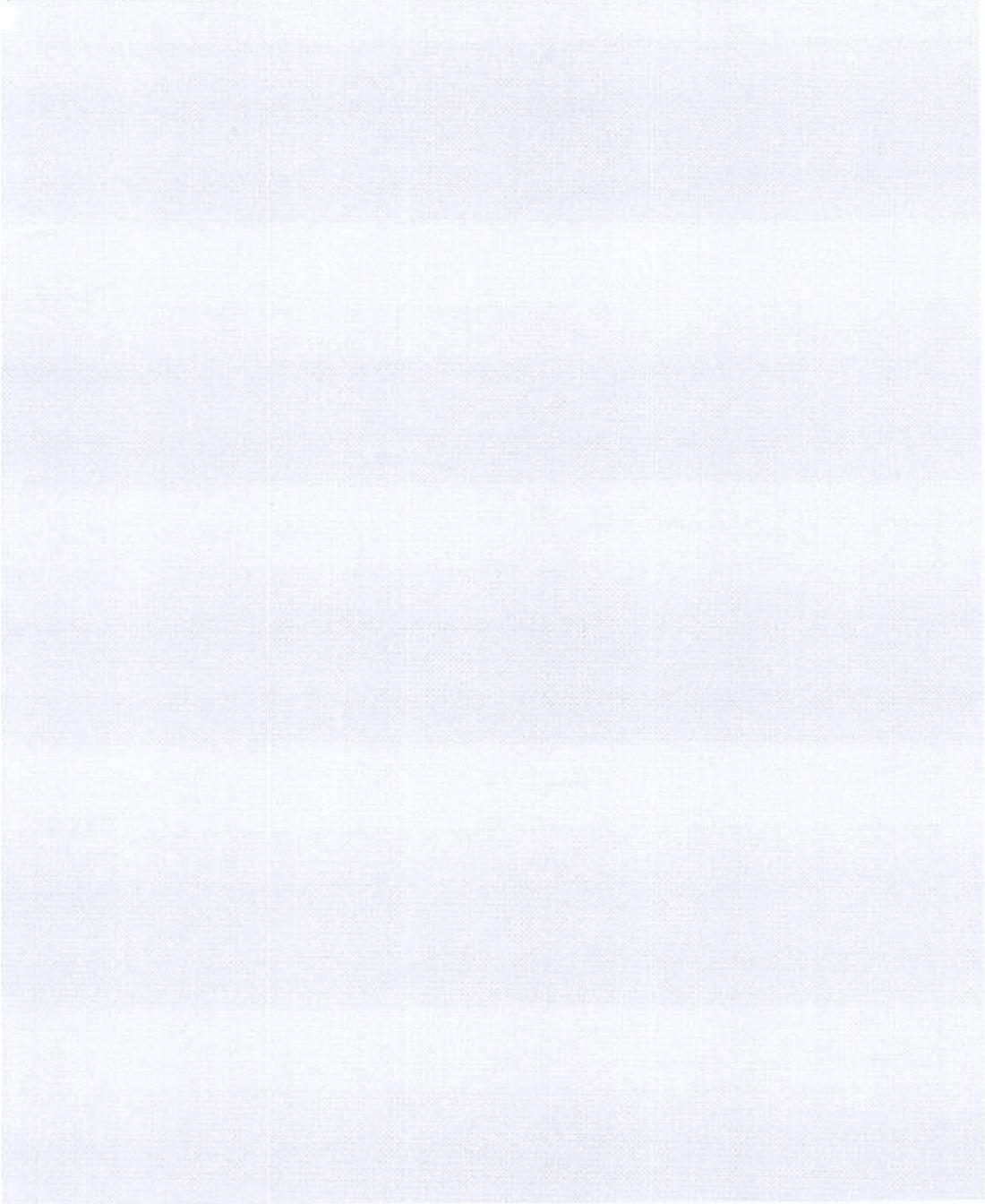
25. What level of education have you attained?

	Response Percent
High School/GED	5.6%
Some College	17.3%
Associates	9.6%
Bachelors	36.6%
Masters/Professional	23.5%
Doctorate	7.5%
Total Respondents	
(skipped this question)	

26. What is your yearly household income?

	Response Percent
Less than \$25,000	2.8%
\$25,000-\$50,000	19.9%
\$50,000-\$75,000	26.4%
\$75,000-\$100,000	22%
More than \$100,000	28.8%

	Total Respondents	1600
	(skipped this question)	270



2/21/07 6:4

APPENDIX D

AZA Survey of Membership Prices

*American Zoo and Aquarium Association 2003 Annual Survey**

Copyright Policy: The information is copyright of the American Zoo and Aquarium Association. Permission to reprint must be obtained by contacting AZA at (301)-562-0777, ext. 229. Excerpts may be reproduced provided that AZA is cited as the source. * The American Zoo and Aquarium Association 2003 Annual Survey is based on 2002 data collected from AZA member institutions.

Membership Price by Category

Institution	Individual	Individual Plus	Couple	Family/Grand-parents	Family Plus	Grand-parents	Single Parent	Senior Individual	Senior Couple	Student
Abilene Zoological Gardens	\$20.00	\$30.00	N/A	\$35.00	\$60.00	N/A	N/A	N/A	N/A	N/A
African Safari Wildlife Park	\$19.95	\$29.95	N/A	\$59.95	\$69.95	\$59.95	\$29.95	\$15.95	\$29.95	\$15.95
Akron Zoological Park	\$35.00	\$45.00	N/A	\$55.00	\$65.00	\$55.00	N/A	N/A	N/A	N/A
Alameda Park Zoo	\$15.00	N/A	N/A	N/A	\$25.00	N/A	N/A	\$12.50	\$12.50	N/A
Albuquerque Biological Park	\$40.00	N/A	\$50.00	\$55.00	\$70.00	N/A	N/A	\$35.00	\$45.00	N/A
Alexandria Zoological Park	\$20.00	N/A	\$30.00	N/A	\$40.00	\$30.00	\$30.00	N/A	N/A	N/A
American National Fish and Wildlife Museum, The	\$35.00	\$60.00	\$50.00	\$75.00	\$100.00	\$85.00	N/A	\$25.00	\$45.00	\$25.00
Aquarium of the Bay	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aquarium of the Pacific	\$45.00	N/A	\$75.00	N/A	\$105.00	N/A	N/A	\$40.00	\$65.00	N/A
Arizona-Sonora Desert Museum	\$40.00	\$40.00	N/A	\$50.00	\$50.00	N/A	N/A	N/A	N/A	N/A
Audubon Aquarium of the Americas	\$45.00	\$60.00	N/A	\$70.00	\$90.00	N/A	N/A	\$30.00	\$45.00	\$30.00
Audubon Zoo	\$45.00	\$60.00	N/A	\$70.00	\$90.00	N/A	N/A	\$30.00	\$45.00	\$30.00

Institution	Individual	Individual Plus	Couple	Family/Grand-parents	Family Plus	Grand-parents	Single Parent	Senior Individual	Senior Couple	Student
Baltimore Zoo	\$31.00	\$43.00	N/A	\$64.00	\$76.00	\$64.00	N/A	N/A	\$31.00	N/A
Belle Isle Aquarium	N/A	\$60.00	N/A	\$74.00	\$89.00	\$74.00	N/A	N/A	N/A	N/A
Belle Isle Zoo	\$45.00	\$60.00	N/A	\$74.00	\$89.00	N/A	N/A	N/A	N/A	\$45.00
Bergen County Zoological Park	\$20.00	N/A	\$25.00	\$30.00	N/A	N/A	N/A	N/A	N/A	N/A
Bermuda Aquarium, Museum, and Zoo	\$30.00	N/A	\$50.00	\$50.00	N/A	N/A	\$50.00	\$10.00	\$20.00	\$10.00
Binder Park Zoo	\$45.00	\$60.00	N/A	\$60.00	\$75.00	\$65.00	N/A	N/A	N/A	N/A
Biodorne de Montreal	\$30.00	N/A	N/A	\$55.00	N/A	N/A	N/A	\$22.00	N/A	\$22.00
Birch Aquarium at Scripps Inst. of Oceanography	\$50.00	N/A	\$60.00	\$66.00	N/A	N/A	N/A	N/A	N/A	N/A
Birmingham Zoo	\$30.00	\$50.00	N/A	\$75.00	\$125.00	\$75.00	N/A	N/A	N/A	N/A
Blank Park Zoo	\$34.50	\$39.50	N/A	\$49.50	\$59.50	\$47.50	N/A	\$20.50	\$29.50	N/A
Boonshoft Museum of Discovery	N/A	N/A	N/A	\$55.00	N/A	N/A	N/A	N/A	N/A	N/A
Bramble Park Zoo	\$40.00	N/A	N/A	\$50.00	N/A	N/A	N/A	N/A	N/A	N/A
Brandywine Zoo	\$20.00	N/A	N/A	N/A	\$30.00	N/A	N/A	\$20.00	\$30.00	\$20.00
BREC's Baton Rouge Zoo	\$15.00	N/A	N/A	\$25.00	\$50.00	N/A	N/A	N/A	N/A	N/A
Brevard Zoo	N/A	\$35.00	N/A	\$45.00	N/A	\$45.00	\$35.00	N/A	N/A	N/A
Bronx Zoo	\$65.00	\$80.00	N/A	\$100.00	\$120.00	\$80.00	N/A	\$52.00	\$64.00	N/A
Brookfield Zoo	\$44.00	\$49.00	N/A	\$64.00	\$81.00	\$39.00	N/A	N/A	\$39.00	N/A

Institution	Individual	Individual Plus	Couple	Family/Grand-parents	Family Plus	Grand-parents	Single Parent	Senior Individual	Senior Couple	Student
Brookgreen Gardens	\$50.00	\$75.00	\$75.00	N/A	\$75.00	N/A	\$75.00	\$50.00	\$75.00	\$50.00
Buffalo Zoological Gardens	\$30.00	N/A	N/A	\$50.00	\$65.00	\$35.00	N/A	\$10.00	\$15.00	N/A
Busch Gardens Tampa Bay	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cabrillo Marine Aquarium	\$30.00	N/A	\$40.00	N/A	N/A	N/A	N/A	\$20.00	\$40.00	\$20.00
Caldwell Zoo	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Calgary Zoo, Botanical Garden, & Prehistoric Park	\$42.80	\$96.30	\$85.60	N/A	N/A	N/A	\$75.00	\$55.00	\$120.00	\$55.00
Cameron Park Zoo	\$25.00	N/A	N/A	\$40.00	N/A	\$30.00	N/A	\$10.00	\$20.00	N/A
Cape May County Park Zoo	\$20.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Capron Park Zoo	\$20.00	N/A	N/A	\$30.00	N/A	N/A	N/A	N/A	N/A	N/A
Caribbean Gardens, The Zoo in Naples		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Central Florida Zoological Park	\$25.00	\$40.00	N/A	\$50.00	N/A	\$50.00	N/A	N/A	\$30.00	N/A
Central Park Zoo	\$65.00	\$80.00	N/A	\$100.00	\$120.00	\$80.00	N/A	\$52.00	\$64.00	N/A
Chaffee Zoological Gardens of Fresno	\$35.00	\$45.00	N/A	\$50.00	N/A	N/A	N/A	\$25.00	N/A	\$25.00
Chahinkapa Zoo	\$25.00	N/A	\$45.00	\$45.00	N/A	\$45.00	N/A	N/A	N/A	N/A
Charles Paddock Zoo	\$20.00	\$25.00	N/A	\$35.00	\$45.00	N/A	N/A	\$15.00	N/A	\$15.00
Chattanooga Zoo at Warner Park	N/A	\$25.00	N/A	\$40.00	N/A	\$40.00	N/A	N/A	N/A	N/A
Chehaw Wild Animal Park	\$25.00	N/A	N/A	\$35.00	\$45.00	N/A	N/A	N/A	N/A	N/A

Institution	Individual	Individual Plus	Couple	Family/Grand-parents	Family Plus	Grand-parents	Single Parent	Senior Individual	Senior Couple	Student
Cheyenne Mountain Zoo	N/A	\$55.00	N/A	\$69.00	\$89.00	N/A	N/A	N/A	N/A	N/A
Cincinnati Zoo & Botanical Garden	\$39.00	\$64.00	\$66.00	\$66.00	\$91.00	\$66.00	\$54.00	\$39.00	\$66.00	\$36.00
Cleveland Metroparks Zoo	N/A	\$45.00	N/A	\$55.00	\$75.00	N/A	N/A	N/A	\$40.00	N/A
Clyde Peeling's Reptiland	\$29.00	N/A	\$39.00	N/A	\$39.00	\$39.00	\$29.00	\$29.00	\$39.00	\$29.00
Colorado's Ocean Journey	\$35.00	\$65.00	\$65.00	\$85.00	\$85.00	\$85.00	\$85.00	\$35.00	\$65.00	\$35.00
Columbus Zoo and Aquarium	\$54.00	\$59.00	\$64.00	\$64.00	\$78.00	\$64.00	\$59.00	\$54.00	\$64.00	N/A
Connecticut's Beardsley Zoo	\$30.00	N/A	N/A	\$45.00	\$60.00	N/A	N/A	N/A	N/A	N/A
Cosley Zoo	\$30.00	N/A	N/A	\$50.00	N/A	N/A	N/A	N/A	N/A	N/A
Coyote Point Museum	\$35.00	N/A	N/A	\$55.00	N/A	N/A	\$45.00	\$30.00	N/A	\$30.00
Dakota Zoo	\$28.00	N/A	N/A	\$45.00	\$75.00	\$45.00	N/A	\$28.00	N/A	N/A
Dallas World Aquarium, The	\$45.00	\$80.00	\$80.00	\$105.00	\$140.00	\$70.00	\$75.00	\$35.00	\$55.00	\$35.00
Dallas Zoo	\$40.00	\$50.00	N/A	\$55.00	\$75.00	N/A	N/A	N/A	N/A	N/A
Denver Zoological Gardens	\$34.00	\$49.00	\$49.00	\$68.00	\$95.00	N/A	\$68.00	N/A	N/A	N/A
Detroit Zoological Park	\$45.00	\$60.00	N/A	\$74.00	\$89.00	\$74.00	N/A	N/A	N/A	N/A
Dickerson Park Zoo	N/A	\$45.00	N/A	\$45.00	\$60.00	N/A	N/A	N/A	N/A	N/A
Disney's Animal Kingdom	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Institution	Individual	Individual Plus	Couple	Family/Grand-parents	Family Plus	Grand-parents	Single Parent	Senior Individual	Senior Couple	Student
El Paso Zoo	\$25.00	N/A	N/A	\$35.00	N/A	\$35.00	\$30.00	\$25.00	N/A	N/A
Ellen Trout Zoo	\$15.00	N/A	N/A	\$35.00	N/A	\$35.00	N/A	N/A	N/A	N/A
Elmwood Park Zoo	\$30.00	N/A	N/A	\$40.00	\$50.00	\$35.00	N/A	\$25.00	N/A	N/A
Emporia Zoo	\$15.00	N/A	N/A	\$25.00	N/A	N/A	N/A	N/A	N/A	N/A
Erie Zoo	N/A	\$45.00	N/A	\$45.00	\$50.00	N/A	\$45.00	N/A	N/A	N/A
Florida Aquarium, The	\$25.00	\$25.00	\$50.00	\$75.00	\$100.00	N/A	\$25.00	\$25.00	\$45.00	N/A
Folsom Children's Zoo & Botanical Gardens	N/A	\$42.00	N/A	\$52.00	N/A	\$52.00	N/A	N/A	N/A	N/A
Fort Wayne Children's Zoo	\$35.00	\$50.00	N/A	\$50.00	\$65.00	\$50.00	\$45.00	N/A	N/A	N/A
Fort Worth Zoo	\$50.00	\$125.00	\$85.00	\$122.50	\$197.50	N/A	\$87.50	\$50.00	\$85.00	\$20.00
Fossil Rim Wildlife Center	\$72.00	N/A	\$90.00	N/A	\$120.00	N/A	\$72.00	\$40.00	\$75.00	\$15.00
Franklin Park Zoo	\$40.00	N/A	N/A	\$55.00	\$75.00	N/A	N/A	N/A	N/A	N/A
Gladys Porter Zoo	\$30.00	\$45.00	\$50.00	\$50.00	\$65.00	\$45.00	\$50.00	\$30.00	\$50.00	\$30.00
Glen Oak Zoo	\$25.00	\$35.00	N/A	\$35.00	\$45.00	\$35.00	N/A	N/A	N/A	N/A
Granby Zoo	675CDN	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Great Plains Zoo & Deibridge Museum of Natural His	\$25.00	N/A	N/A	\$60.00	N/A	N/A	N/A	\$25.00	N/A	N/A
Greenville Zoo	\$27.00	N/A	N/A	\$42.00	\$59.00	\$36.00	N/A	N/A	N/A	N/A

Institution	Individual	Individual Plus	Couple	Family/Grand-parents	Family Plus	Grand-parents	Single Parent	Senior Individual	Senior Couple	Student
Grizzly & Wolf Discovery Center	\$35.00	N/A	N/A	N/A	\$65.00	N/A	N/A	\$30.00	N/A	\$25.00
Happy Hollow Zoo	\$30.00	N/A	N/A	\$60.00	\$80.00	N/A	N/A	\$20.00	N/A	\$20.00
Henry Vilas Zoo	\$20.00	\$25.00	\$25.00	\$25.00	N/A	\$25.00	\$20.00	\$15.00	\$20.00	\$15.00
Henson Robinson Zoo	\$20.00	\$35.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Honolulu Zoo	\$25.00	N/A	\$35.00	N/A	\$35.00	N/A	N/A	\$20.00	N/A	N/A
Houston Zoological Gardens	N/A	\$35.00	N/A	\$60.00	\$100.00	\$75.00	N/A	N/A	N/A	N/A
Hutchinson Zoo	\$20.00	N/A	N/A	\$35.00	N/A	N/A	N/A	N/A	N/A	N/A
Indianapolis Zoological Society, Inc.	N/A	\$59.00	N/A	\$69.00	\$89.00	N/A	N/A	N/A	N/A	N/A
International Crane Foundation	\$25.00	\$35.00	\$35.00	\$35.00	\$35.00	N/A	N/A	\$20.00	\$35.00	\$20.00
Jackson Zoological Park	\$15.00	\$25.00	N/A	\$35.00	\$60.00	N/A	N/A	N/A	N/A	N/A
Jacksonville Zoological Gardens	N/A	\$50.00	\$65.00	\$65.00	\$75.00	\$65.00	\$65.00	\$45.00	\$58.50	N/A
John Ball Zoological Garden	N/A	\$30.00	N/A	\$45.00	\$55.00	N/A	N/A	\$25.00	N/A	N/A
John G. Shedd Aquarium	\$60.00	N/A	N/A	\$80.00	\$15 add'l child after 4	N/A	N/A	N/A	N/A	N/A
Kansas City Zoo	\$35.00	\$45.00	N/A	\$60.00	\$80.00	N/A	N/A	N/A	N/A	N/A
Knoxville Zoological Gardens	N/A	\$49.00	N/A	\$59.00	\$69.00	\$39.00	\$49.00	N/A	\$39.00	N/A
Lake Superior Zoological Gardens	\$20.00	\$30.00	N/A	\$40.00	\$50.00	\$40.00	N/A	N/A	N/A	N/A

Institution	Individual	Individual Plus	Couple	Family/Grand-parents	Family Plus	Grand-parents	Single Parent	Senior Individual	Senior Couple	Student
Lee Richardson Zoo	\$20.00	N/A	N/A	\$30.00	N/A	N/A	N/A	N/A	N/A	N/A
Lincoln Park Zoo	\$40.00	N/A	N/A	\$60.00	N/A	N/A	N/A	N/A	N/A	N/A
Lion Country Safari	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Little Rock Zoo	\$30.00	\$40.00	\$40.00	\$50.00	\$60.00	\$50.00	\$40.00	\$30.00	\$35.00	\$30.00
Living Desert	\$40.00	N/A	\$50.00	\$60.00	N/A	N/A	N/A	N/A	N/A	N/A
Living Desert Zoo & Gardens State Park	\$15.00	N/A	N/A	\$30.00	N/A	N/A	N/A	N/A	N/A	N/A
Living Seas	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Los Angeles Zoo	\$40.00	N/A	\$50.00	\$60.00	\$100.00	N/A	N/A	\$30.00	\$40.00	\$30.00
Louisville Zoological Garden	\$32.00	\$45.00	N/A	\$55.00	\$85.00	N/A	N/A	N/A	N/A	N/A
Lowry Park Zoological Society of Tampa, Inc.	\$35.00	N/A	\$50.00	\$55.00	\$80.00	\$55.00	\$50.00	\$28.00	N/A	N/A
Memphis Zoo	\$50.00	\$60.00	\$60.00	\$65.00	\$85.00	\$65.00	\$65.00	\$50.00	\$60.00	\$50.00
Mesker Park Zoo & Botanic Garden	\$19.00	N/A	\$29.00	\$39.00	\$49.00	\$29.00	N/A	\$15.00	\$29.00	N/A
Miami Metrozoo	\$33.00	\$45.00	\$45.00	\$55.00	\$65.00	\$55.00	\$55.00	\$27.00	\$40.00	N/A
Micke Grove Zoo	N/A	\$35.00	N/A	\$45.00	N/A	N/A	N/A	\$20.00	N/A	\$20.00
Mill Mountain Zoo	\$15.00	\$20.00	N/A	\$35.00	N/A	\$30.00	N/A	N/A	N/A	N/A
Miller Park Zoo	\$15.00	N/A	N/A	\$45.00	\$70.00	\$45.00	N/A	\$10.00	N/A	N/A

Institution	Individual	Individual Plus	Couple	Family/Grand-parents	Family Plus	Grand-parents	Single Parent	Senior Individual	Senior Couple	Student
Milwaukee County Zoological Gardens	\$40.00	\$45.00	N/A	\$54.00	\$70.00	\$54.00	\$54.00	N/A	N/A	N/A
Minnesota Zoological Garden	\$30.00	\$50.00	N/A	\$65.00	\$85.00	N/A	N/A	N/A	N/A	Advocate \$150 (same as Family plus but w/2 free guests)
Monterey Bay Aquarium	\$85.00	\$150.00	\$85.00	\$85.00	\$150.00	N/A	N/A	\$35.00	\$70.00	\$35.00
Montgomery Zoo	N/A	\$30.00	N/A	\$40.00	N/A	\$40.00	N/A	N/A	N/A	N/A
Mote Marine Laboratory and Aquarium	N/A	N/A	N/A	\$75.00	\$100.00	N/A	N/A	N/A	N/A	\$25.00
Museum of Science	\$55.00	\$65.00	N/A	\$89.00	\$150.00	N/A	N/A	N/A	N/A	N/A
Mystic Aquarium & Institute for Exploration	\$45.00	N/A	\$65.00	\$100.00	\$160.00	\$65.00	N/A	N/A	N/A	N/A
National Aquarium in Baltimore	\$45.00	N/A	\$70.00	\$85.00	\$125.00	\$85.00	N/A	\$50.00	\$50.00	N/A
National Aviary	\$30.00	\$40.00	\$40.00	\$40.00	\$55.00	\$40.00	\$40.00	\$25.00	\$40.00	\$25.00
New England Aquarium	\$40.00	N/A	\$70.00	\$70.00	\$100.00	N/A	N/A	N/A	N/A	N/A
New Jersey State Aquarium	N/A	\$55.00	N/A	\$75.00	\$95.00	N/A	N/A	N/A	N/A	N/A
New York Aquarium	\$65.00	\$80.00	N/A	\$100.00	\$120.00	\$80.00	N/A	\$52.00	\$64.00	N/A
New York State Living Museum	\$25.00	\$35.00	\$35.00	\$35.00	\$35.00	\$35.00	\$35.00	\$25.00	\$25.00	\$25.00
Newport Aquarium	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Institution	Individual	Individual Plus	Couple	Family/Grand-parents	Family Plus	Grand-parents	Single Parent	Senior Individual	Senior Couple	Student
North Carolina Aquarium at Fort Fisher	\$25.00	N/A	N/A	\$40.00	N/A	N/A	N/A	N/A	N/A	N/A
North Carolina Aquarium at Pine Knoll Shores	\$25.00	N/A	N/A	\$40.00	N/A	N/A	N/A	N/A	N/A	N/A
North Carolina Aquarium on Roanoke Island	\$25.00	N/A	N/A	\$40.00	N/A	N/A	N/A	N/A	N/A	N/A
North Carolina Zoological Park	\$35.00	\$45.00	N/A	\$59.00	\$69.00	N/A	N/A	N/A	N/A	N/A
Northeastern Wisconsin (NEW) Zoo	\$30.00	\$40.00	N/A	\$45.00	\$50.00	N/A	N/A	N/A	N/A	N/A
Northwest Trek Wildlife Park	N/A	\$40.00	\$40.00	\$60.00	N/A	\$60.00	\$60.00	N/A	\$60.00	N/A
Oakland Zoo	\$25.00	\$43.00	N/A	\$48.00	\$73.00	\$48.00	\$43.00	N/A	N/A	\$25.00
Ocean Park Corporation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Oglebay's Good Zoo	\$26.00	N/A	N/A	\$33.00	\$55.00	N/A	N/A	N/A	N/A	N/A
Oklahoma City Zoological Park	\$30.00	\$30.00	N/A	\$50.00	\$75.00	\$75.00	\$50.00	N/A	N/A	N/A
Omaha's Henry Doorly Zoo	N/A	N/A	N/A	\$60 during driver: drive	N/A	N/A	N/A	N/A	N/A	N/A
Oregon Coast Aquarium	\$39.00	\$55.00	N/A	\$70.00	\$100.00	N/A	N/A	N/A	N/A	N/A
Oregon Zoo	\$39.00	\$59.00	\$49 Zoo4 Two & \$64 Zoo4 Two Plus	\$59.00	\$84.00	\$59.00	N/A	N/A	N/A	N/A
Palm Beach Zoo at Dreher Park	\$40.00	\$40.00	N/A	\$55.00	\$65.00	\$55.00	N/A	N/A	\$30.00	N/A

Institution	Individual	Individual Plus	Couple	Family/Grand-parents	Family Plus	Grand-parents	Single Parent	Senior Individual	Senior Couple	Student
Philadelphia Zoo, The	N/A	\$59.00	\$79.00	N/A	\$99.00	N/A	N/A	N/A	N/A	N/A
Phoenix Zoo	\$45.00	\$60.00	\$60.00	\$65.00	\$75.00	\$65.00	\$50.00	\$40.00	\$55.00	\$35.00
Pittsburgh Zoo & PPG Aquarium	\$40.00	N/A	N/A	\$55.00	\$75.00	\$55.00	N/A	N/A	\$40.00	N/A
Point Defiance Zoo & Aquarium	\$35.00	\$35.00	\$35.00	\$49.00	\$75.00	\$49.00	\$35.00	\$35.00	\$35.00	\$35.00
Potawatomi Zoo	\$25.00	N/A	N/A	\$48.00	\$63.00	\$45.00	N/A	\$15.00	\$30.00	\$15.00
Potter Park Zoological Gardens	\$25.00	N/A	N/A	\$40.00	N/A	N/A	N/A	\$15.00	N/A	N/A
Prospect Park Zoo	\$65.00	\$80.00	N/A	\$100.00	\$120.00	\$80.00	N/A	\$52.00	\$64.00	N/A
Pueblo Zoo	\$30.00	N/A	N/A	\$40.00	\$46.00	N/A	N/A	\$20.00	\$35.00	\$20.00
Queens Zoo	\$65.00	\$80.00	N/A	\$100.00	\$120.00	\$80.00	N/A	\$52.00	\$64.00	N/A
Racine Zoological Gardens	N/A	N/A	N/A	\$50.00	N/A	N/A	N/A	N/A	\$25.00	N/A
Rainforest at Moody Gardens, Inc.	\$85.00	N/A	N/A	N/A	\$260.00	N/A	N/A	N/A	N/A	N/A
Reid Park Zoo	\$25.00	\$35.00	N/A	\$40.00	\$50.00	N/A	N/A	\$15.00	N/A	N/A
Ripley's Aquarium	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ripley's Aquarium of the Smokies	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Riverbanks Zoo & Garden	\$29.00	\$39.00	N/A	\$49.00	\$64.00	N/A	N/A	N/A	N/A	N/A
Roger Williams Park Zoo	\$40.00	N/A	N/A	\$55.00	\$70.00	N/A	N/A	\$30.00	\$50.00	N/A

Institution	Individual	Individual Plus	Couple	Family/Grand-parents	Family Plus	Grand-parents	Single Parent	Senior Individual	Senior Couple	Student
Rolling Hills Zoo	\$35.00	\$65.00	\$110.00	\$110.00	N/A	N/A	N/A	N/A	N/A	N/A
Roosevelt Park Zoo	\$25.00	N/A	N/A	\$40.00	\$60.00	\$40.00	N/A	\$15.00	N/A	N/A
Rosamond Gifford Zoo at Burnet Park	\$29.00	\$41.00	\$41.00	\$55.00	\$67.00	N/A	N/A	\$19.00	\$31.00	N/A
Ross Park Zoo	\$30.00	N/A	\$45.00	\$45.00	N/A	N/A	N/A	\$25.00	N/A	\$25.00
Sacramento Zoo	N/A	\$39.00	N/A	\$55.00	\$95.00	N/A	N/A	\$25.00	\$34.00	\$25.00
Saint Louis Zoological Park	\$55.00	N/A	N/A	\$75.00	N/A	N/A	N/A	\$45.00	N/A	\$45.00
Salisbury Zoological Park	\$25.00	N/A	N/A	\$40.00	\$60.00	N/A	N/A	\$20.00	N/A	\$20.00
San Antonio Zoological Gardens & Aquarium	\$40.00	\$60.00	\$60.00	\$60.00	\$80.00	N/A	N/A	\$30.00	\$40.00	N/A
San Diego Wild Animal Park	\$66.00	N/A	\$84.00	N/A	N/A	N/A	N/A	\$35.00	\$50.00	\$32.00
San Diego Zoo	\$66.00	N/A	\$84.00	N/A	N/A	N/A	N/A	\$35.00	\$50.00	\$32.00
San Francisco Zoological Gardens	\$55.00	N/A	N/A	\$70.00	\$85.00	N/A	N/A	N/A	\$40.00	\$40.00
Santa Ana Zoo	\$39.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Santa Barbara Zoological Gardens	\$40.00	N/A	\$50.00	\$60.00	\$100.00	N/A	N/A	\$40.00	\$50.00	N/A
Santa Fe Community College Teaching Zoo	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scovill Zoo	\$20.00	N/A	N/A	\$35.00	N/A	N/A	N/A	N/A	N/A	N/A
Sea Life Park Hawaii	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Institution	Individual	Individual Plus	Couple	Family/Grand-parents	Family Plus	Grand-parents	Single Parent	Senior Individual	Senior Couple	Student
Seattle Aquarium	\$40.00	\$40.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$40.00	\$50.00	\$40.00
SeaWorld Orlando	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SeaWorld San Antonio	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SeaWorld San Diego	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sedgwick County Zoo	N/A	\$45.00	N/A	\$58.00	\$75.00	N/A	N/A	\$36.00	\$42.00	N/A
Seneca Park Zoo	\$27.00	\$46.00	\$45.00	\$45.00	\$64.00	\$45.00	\$45.00	\$27.00	\$36.00	\$27.00
Sequoia Park Zoo	\$15.00	N/A	N/A	\$25.00	N/A	N/A	N/A	N/A	N/A	N/A
Shark Reef at Mandalay Bay	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Silver Springs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Six Flags Marine World	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Six Flags Worlds of Adventure	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Smithsonian National Zoological Park	\$39.00	N/A	\$44.00	\$49.00	N/A	N/A	N/A	\$28.00	\$32.00	N/A
South Carolina Aquarium	\$40.00	\$70.00	\$60.00	\$80.00	\$110.00	\$70.00	N/A	N/A	N/A	N/A
St. Augustine Alligator Farm	\$49.95	N/A	N/A	N/A	\$79.95	\$69.95	N/A	N/A	N/A	N/A
St. Paul's Como Zoo	\$30.00	N/A	N/A	\$50.00	\$65.00	N/A	N/A	N/A	N/A	N/A
Staten Island Zoo	\$25.00	N/A	N/A	\$45.00	N/A	N/A	N/A	N/A	N/A	N/A

Institution	Individual	Individual Plus	Couple	Family/Grand-parents	Family Plus	Grand-parents	Single Parent	Senior Individual	Senior Couple	Student
Steinhart Aquarium	\$45.00	N/A	N/A	\$60.00	N/A	\$60.00	N/A	\$35.00	\$40.00	N/A
Sunset Zoological Park	\$30.00	\$35.00	N/A	\$45.00	N/A	N/A	N/A	\$20.00	N/A	N/A
Tautphaus Park Zoo	\$25.00	\$35.00	N/A	\$50.00	N/A	N/A	N/A	N/A	N/A	N/A
Tennessee Aquarium	\$35.00	\$60.00	\$55.00	\$65.00	\$90.00	\$55.00	\$65.00	\$30.00	\$55.00	\$30.00
Texas State Aquarium	\$35.00	\$55.00	\$45.00	\$60.00	\$80.00	\$50.00	N/A	\$25.00	\$35.00	N/A
Texas Zoo	\$25.00	N/A	N/A	\$50.00	\$100.00	N/A	N/A	\$20.00	\$35.00	N/A
Toledo Zoological Gardens	\$35.00	\$40.00	N/A	\$55.00	\$75.00	\$45.00	N/A	N/A	N/A	N/A
Topeka Zoo	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toronto Zoo	\$55.00	N/A	\$100.00	\$115.00	N/A	N/A	\$80.00	\$35.00	\$60.00	\$35.00
Tracy Aviary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Trevor Zoo	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tulsa Zoo and Living Museum	\$45.00	\$45.00	N/A	\$55.00	\$90.00	\$55.00	\$55.00	\$55.00	\$55.00	N/A
Utah's Hogle Zoo	\$30.00	N/A	\$40.00	\$50.00	\$60.00	N/A	\$40.00	N/A	N/A	N/A
Utica Zoo	\$33.00	N/A	N/A	\$43.00	\$53.00	\$38.00	N/A	N/A	N/A	N/A
Vancouver Aquarium Marine Science Centre	\$38.00	N/A	N/A	\$95.00	\$110.95	N/A	N/A	\$30.00	N/A	\$30.00
Virginia Marine Science Museum	N/A	\$50.00	N/A	N/A	\$80.00	\$65.00	N/A	N/A	N/A	N/A

Institution	Individual	Individual Plus	Couple	Family/Grand-parents	Family Plus	Grand-parents	Single Parent	Senior Individual	Senior Couple	Student
Virginia Zoological Park	\$35.00	\$40.00	N/A	\$45.00	\$55.00	N/A	N/A	N/A	N/A	N/A
Waikiki Aquarium	\$35.00	N/A	\$45.00	\$45.00	\$75.00	N/A	\$35.00	\$25.00	\$45.00	N/A
Western North Carolina Nature Center	\$30.00	N/A	\$45.00	\$55.00	N/A	N/A	N/A	N/A	N/A	N/A
Wildlife Safari	\$40.00	\$65.00	\$75.00	\$75.00	\$100.00	N/A	N/A	\$27.00	\$49.00	\$12.00
Wildlife World Zoo	\$45.00	\$45.00	\$90.00	\$95.00	N/A	N/A	\$45.00	\$45.00	\$90.00	\$20.00
Wilds, The	\$40.00	\$40.00	N/A	\$50.00	N/A	\$50.00	N/A	N/A	N/A	N/A
Woodland Park Zoological Gardens	\$45.00	N/A	\$65.00	\$65.00	\$120.00	N/A	\$65.00	\$45.00	\$65.00	N/A
Zoo Atlanta	\$59.00	\$74.00	N/A	\$79.00	\$94.00	N/A	N/A	\$49.00	N/A	\$49.00
Zoo Boise	\$25.00	N/A	N/A	\$45.00	N/A	\$40.00	N/A	N/A	N/A	N/A
ZOO	\$40.00	N/A	N/A	\$75.00	N/A	N/A	N/A	N/A	N/A	N/A
ZOOAMERICA - North American Wildlife Park	\$25.00	\$45.00	N/A	N/A	\$80.00	N/A	N/A	N/A	N/A	N/A
ZooMontana	\$30.00	N/A	N/A	\$40.00	N/A	\$40.00	N/A	N/A	N/A	N/A