Stacey M. Yusko. A study of the information and reading interests of boys, ages seven to thirteen, in North Carolina. A Master's paper for the M.S. in L.S. degree, April, 2003. 44 pages. Advisor: Brian W. Sturm

This study analyzes the current information and reading interests of boys ages seven to thirteen in North Carolina. Information was drawn from response cards distributed by the North Carolina State Library Program that asked the question "what would you like to know more about?" From a total of about 150,000 responses, 1,400 responses that were submitted by boys ages 7 to 13 were analyzed and graphed.

The findings of this study are that boys are interested in a wide variety of topics, but that there are a few general areas in which interests seem to cluster. Animals, science and sports are popular across all ages, while interest in computers and biography increases as age increases. There is a marked interest in non-fiction, which supports previous findings of research into reading interests.

Headings:

Boys' reading interests

Surveys – Boys' reading

A STUDY OF THE INFORMATION AND READING INTERESTS OF BOYS, AGES SEVEN TO THIRTEEN, IN NORTH CAROLINA

by
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of the School of Information and Library Science
of the University of North Carolina at Chapel Hill
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Approved by:

Advisor

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Introduction

There has been an increased focus on boys and reading, or lack thereof, in the past decade. Many studies have been conducted to determine relationships between reading interest and achievement. Scholars have gathered statistics, expressed opinions and proposed theories to explain why it appears that boys don't like to read. Teachers, librarians, parents, authors and educational consultants have dedicated significant time and resources to investigating the possible causes for this lack of interest or motivation. Anna Quindlen believes there are few books in which male characters are portrayed as devoted readers, thus discouraging boys from reading as a pastime (1998). Popular author Jon Scieszka is firm in his belief that gender plays a role, but he credits the influence of teachers as being pivotal to whether a boy perceives reading to be a feminine pursuit (Walstrom, 2002). Various theories have emerged but no single easy answer or solution exists. Reading is highly personal, idiosyncratic, and internally motivated. Reading interests change frequently and as a boy ages his interests naturally evolve as well. Reading affects every aspect of school performance, and a child who struggles with reading will struggle in science and history as well, as these courses rely so heavily on the printed word for instruction. To complicate matters, children's choices in literature are made on an unconscious level (Schlager, 1975). There is no formula for guaranteed success in reading that works for every child, but it is important that we continue to strive to understand what makes children want to

read, in order to foster a love of reading and help them accomplish their educational goals.

Interest guarantees that we engage in thought and that we learn (Smith, 1990). As librarians we need to provide materials that draw readers in, expose them to alternate realities and expand their worldviews. Before we can develop a collection that will accomplish these lofty goals, we need to know what the readers want. This research focuses on the interests of boys ages seven to thirteen and was designed with the following questions in mind.

Research Questions

1. Are there trends in what interests boys when they enter a library?
2. Are these interest areas different across ages?
3. Does this study contradict or support earlier research?

Literature Review

The strongest motivation for effective learning is a true, unfeigned interest. A curriculum should be developed in accordance with a child's needs, interests and problems in order to have maximum significance and application (Witty, 1964). Because reading ability serves as the basis for success in so many subjects, it is vitally important to nurture achievement in each student. Reading "may also impel him to acquire various types of knowledge that may deepen his understanding of the work…the process of clarification and enrichment of successive literary experiences will foster sound critical habits" (Rosenblatt, 1995, p. 117). There is value in reading as a source of information, learning and emotional satisfaction (Hummel & Fisher, 1985). Research has repeatedly shown

that high interest in a topic can motivate readers to read and understand materials that would normally be considered above their reading level or ability (Kincaid, Kleine & Vaughn, 1993; Wigfield & Asher, 1984). Lev Vygotsky referred to this phenomenon as the zone of proximal development, in which a child reaches beyond his developmental level to comprehend concepts that were out of reach before (Bruner, 1986).

There have been numerous investigations into reading comprehension, interest and achievement over the past 150 years. Survey instruments have included interviews, paper and pencil questionnaires, and journal and circulation records evaluation (Weintraub, 1977). There were eight studies done prior to 1920 with an elementary age audience that focused on students' interests. Twenty-four more were completed between 1921 and 1929 (McKay, 1986). In 1937 May Lazar administered a questionnaire to 2,000 New York state students in an attempt to determine if there were differences in reading interests among "bright, average and dull" children. The students ranged in age from second grade through eighth and were asked to check the kinds of books they liked, if they had a library card and how many books they had read in the last month. She found marked gender related differences in choices of books as well as a correlation between intelligence and types of books preferred. All three groups of boys reported liking mystery, adventure and detective stories, although the order of top areas of interest varied somewhat as seen in Table 1 below.

Table 1: Favorite Genres

Bright Boys	Average Boys	Dull Boys
Adventure	Mystery	Mystery
Mystery	Adventure	Detective
Detective	Detective	Adventure
Science	History	History
History	Invention	Nature & Animal

In 1941 Thorndike performed a study on comparative reading interests using a list of fictitious annotated titles. Three thousand New York schoolchildren in grades four through eight filled out questionnaires designed to eliminate the usual barriers of socio-economic background, reading level and past experience. He hoped he would get a truer picture of what children wished to read about when all stumbling blocks had been removed. He found a consistent pattern of boys' interests in both fiction (crime, mysteries and sport stories) and non-fiction (sports, exploration, airplanes, war and biography). Pearl McCarty echoed these findings with her 1950 analysis of withdrawals from school libraries in Florida. She studied more than 4,800 records from fifteen schools scattered across Florida. Boys in grades seven through twelve preferred adventure, general fiction, animals, mystery and detective stories. Herbert C. Rudman included information needs alongside reading choices in his study of 4,500 fourth through eighth graders in 270 U. S. communities (1955). Children in his study showed a strong interest in animals and when subcategories are combined, science was among the top three categories. Sports gained in interest as the children rose in grade level, and this confirmed Rudman's argument that there was a close

correlation between an increase in grade level and an increase in reading materials that closely matched their leisure activities.

Stanchfield (1962) used personal interviews with 150 boys in grades four, six and eight in Los Angeles to determine if reading achievement had an effect on reading interest. She found strong similarities among reading material preferences for all three grades regardless of achievement. They were most interested in outdoor life, explorations and expeditions, and sports and games. Ashley conducted a study in 1970 that contrasted popular topics with most disliked topics in an attempt to paint a clearer picture of interests in individualized reading. Nine hundred elementary children grades 4 through 7 were asked to state their preferences with no adult interference. Once again mysteries and adventure were at the top of the lists, with comics, science fiction and animals following close behind. Least favorite for boys were love stories, Nancy Drew and the Bobbsey Twins, and poetry. In 1974 Beta Upsilon conducted a survey of children age seven to twelve. Eight hundred surveys were completed by answering the prompt, “I like to read about….” Animals, science, transportation and mysteries were the favored topics. When Summers and Lukasevich (1983) administered their paired comparisons survey, they found mystery, adventure and sports were popular. Boys in two other studies expressed great interest in adventure, machines and animals (Wolfson, Manning & Manning, 1984) and liked football, dinosaurs and battles (Carter, 1986).

Several underlying themes have emerged from recent research that are noteworthy.

1. Reading Challenges for Boys

The National Center for Education Statistics, which tracks trends in education and classroom achievement, reported in 1999 that for all assessment years and ages, the average reading achievement score for females was higher than that of males. Boys have far more frequent and severe reading problems than girls (Stanchfield, 1962).

2. Strong Interest in Non-fiction

Boys read more non-fiction than girls (Carter, 1986; Childress, 1985; McCarty, 1950). Boys are more likely to select fiction than girls are to choose non-fiction (Childress, 1985; Langerman, 1990). Boys are less predictable and more catholic in their tastes, mixing fiction and non-fiction with frequency (Childress, 1985).

3. Peak Reading Years

The years from 10-13 are the peak years for developing and broadening the reading habit, with 11-year-olds reading a little more than children of other ages (Ashley, 1970; Lazar, 1937; Summers & Lukasevich, 1983). There is a trend towards an earlier development of wider reading interest that can be attributed to the information available through television, radio and computers. “Interest can move from the community to the world scene in first grade as easily as sixth” (Huus, 1977, p. 38).

4. Subtle Changes in Reading Interests

Changes in interest are gradual and are to be expected (Fisher, 1988; McCarty, 1950; Rudman, 1955; Staunchfield, 1962; Thorndike, 1941).

Changes in interest can be due to content preferences (Fasick, 1985), stages of emotional and mental development (Schlager, 1978), or societal concerns and attitudes (Wolfson, Manning & Manning, 1984).

5. Multiple Factors Affect Interest

There are a number of factors that influence reading interest. Gender, age, social class, race, region, grade, language, literary quality, authors, parental example and teacher support all play a role in the type of reader a child becomes (Huus,1977; Kincade, 1993; Wigfield & Asher, 1984).

6. Multiple Variables Complicate Reading Research Process

The vast amount of literature on the topic of reading interests is hard to synthesize because of differences in methodology and categorization. The lack of rigor in defining categories and terms is a problem prevalent throughout the history of reading research (Weintraub, 1977). Terms can be ambiguous and confusing (Summers & Lukasevich, 1983) and sample groups are not always comparable (Huus, 1977). In addition, the methodology used to collect data has been proven to affect the outcome of the study, making it important to know the strategy of the study in order to evaluate its validity (Kincade, Kleine & Vaughn, 1993).

Research Methodology

The purpose of this study was to examine the reading interests of boys, and determine if those interests changed across the age distribution. Data were gathered from a pool of responses that the North Carolina State Library collected

during the spring of 2000. A grant from the Institute of Museum and Library Services, a division of the North Carolina Department of Cultural Resources, provided 100% of the funding for the project. Cards were distributed through public and school libraries as part of a reading enrichment exercise. Children were asked to provide their name, address, age and library on the front side of a colorful 3 x 5 card. The reverse side suggested “the best place to start” when you want to know more about something is the library and posed four questions: “What would you like to know more about?”, “Ask your librarian where to start. By the way, who *is* your librarian?”, “Where did your librarian tell you to start?” and “Name the most amazing thing you found out.” Children were motivated to complete the cards because they counted as entries for an end-of-summer raffle with prizes.

Cards were randomly selected from a pool of 150,000 and screened for age, gender and completeness of information. Two hundred cards completed by boys were pulled for each age level between seven and thirteen, generating a final count of 1,400 response cards. Duplicate cards were discarded, and all were replaced by suitable substitutes. Name, age, gender, reading interest and recommended source were recorded from each card in a spreadsheet.

Responses about reading interests were assigned to one of thirty-one categories, based on areas of natural concentration. Previous studies were consulted in the development of the category list, and descriptive sub-categories were defined as an aid to further analysis. For example, the animal category contains dinosaurs, pets and wild animals. The Places category refers to

countries, states, and travel destinations as well as straight geography questions. See Appendix A for a complete listing of category definitions. After coding was completed, the process was repeated by a research assistant. Cohen's Kappa was used to assess inter-coder reliability, resulting in a 91.9% agreement, which exceeded the commonly applied minimum criteria of 70.0%. Appendix B lists the number of actual responses for each category for each age. Appendix C lists those numbers as age-specific percentages, making it easy to compare interest in specific categories across ages.

Definitions

Interest: "a feeling of intentness, concern or curiosity about something" (McKechnie, 1983).

Limitations

1. The researcher had no input into the design of the survey.
2. The question "What do you want to know more about?" is slightly ambiguous, and might lead to answers about information needs rather than reading preferences. Responses may be biased toward information or non-fiction interests, and away from literature and fiction interests.
3. Data may not be representative of all boys because this data was gathered from children who had visited a library, which presupposes an interest in reading and information. It is likely that there are boys who rarely go to the library, and this survey will not capture their interests, needs or concerns, thereby losing valuable information.

4. Answers were very short, leaving the possibility for misinterpretation and/or miscategorization due to lack of supporting detail.
5. Interests change over time and are individual, so the reported results must be taken as a snapshot of a defined group at a specific moment in time.

Results

Results for all responses for all ages have been summarized in the following table (Table 2). Thirty-one categories are listed with the number of responses and that number as a percentage of the whole. Results were broken down into age groups and interpreted within a developmental framework.

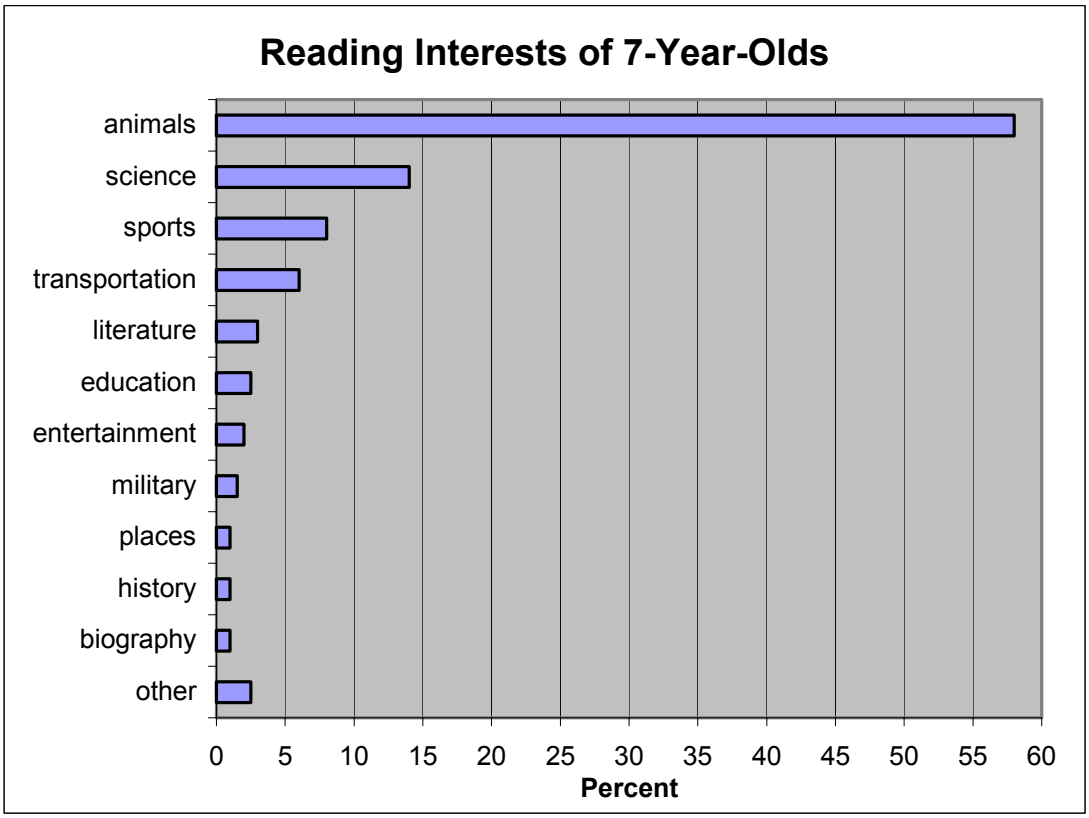
Animals were the most preferred topic by a large margin, with sports and science in second and third places respectively. Literature, biography, computers, places, history, military and transportation were the next most frequently indicated interests. Most of the preceding topics would be considered non-fiction, thus supporting earlier research that boys prefer non-fiction. Education and entertainment each generated approximately 2% of the total responses. Only one response was assigned to each of the categories of codes, finance, jokes, law and love. The researcher was surprised by the relative disinterest in the jokes category, as through practical experience this seems to be a more popular topic than is indicated in this study.

Table 2: Total Responses Ranked by Popularity

Category	Responses	Percent
Animals	448	32.0%
Sports	249	18.0%
Science	159	11.0%
Literature	69	5.0%
Biography	51	4.0%
Computers	52	4.0%
Places	52	4.0%
History	38	3.0%
Military	44	3.0%
Transportation	48	3.0%
Education	30	2.0%
Entertainment	30	2.0%
Arts & Crafts	15	1.0%
Careers	16	1.0%
Music	13	0.9%
People	12	0.8%
Facts	11	0.8%
Library Collection	10	0.7%
Supernatural	10	0.7%
Architecture	7	0.6%
Food	8	0.5%
Health	7	0.5%
Magic	8	0.5%
Religion	4	0.3%
Fashion& Beauty	2	0.2%
Holidays	2	0.2%
Codes	1	.07%
Finance	1	0.07%
Jokes	1	0.07%
Law	1	0.07%
Love	1	0.07%
Totals	1,400	100%

Results By Age

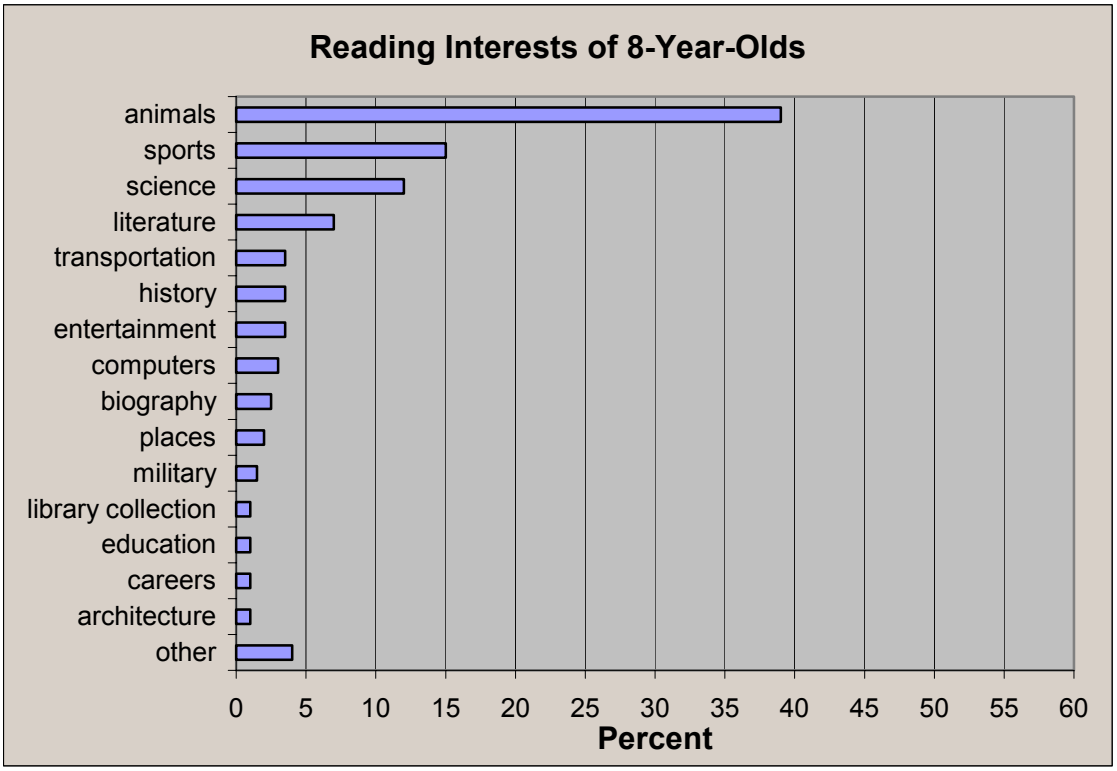
Figure 1: Results for 7-Year-Olds



These boys expressed the greatest interest in animals of all other ages, with 115 of the 200 responses being assigned to that single category. One possible reason for the popularity of animals as a topic is the inclusion of dinosaurs (15) in the subcategory. If dinosaurs had been coded into science or even history, there would have been a significant impact on the results. The researcher felt that the information about dinosaurs that the children were seeking was most similar to questions about animals rather than a scientific or historical query. They wanted to know what dinosaurs ate, where they lived, and what they looked like. This seemed to indicate an interest similar to those about

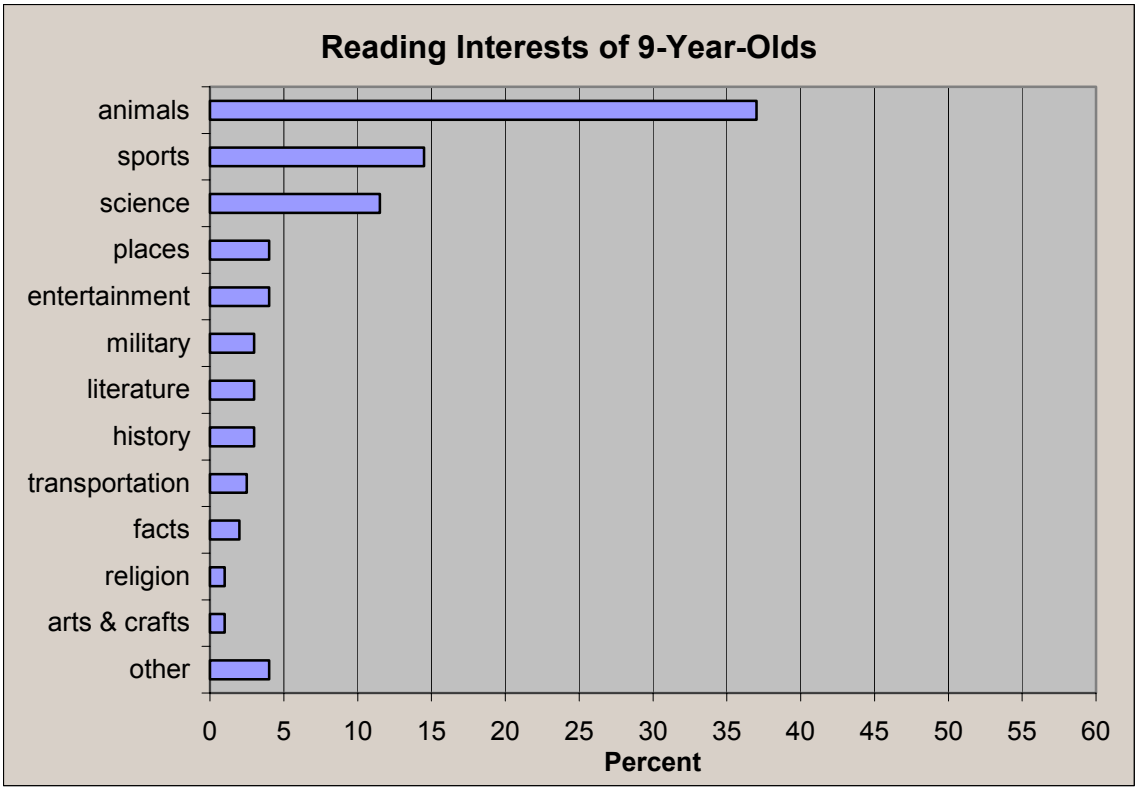
gerbils, snakes and other animals. This youngest group expressed an interest in only 16 of 31 categories, which was the lowest number of all groups. This could be attributed to the belief that as we grow we expand our horizons. These boys were very focused on animals, sports, science and transportation. There was no interest in careers, health, love, religion or arts & crafts, and minimal interest in computers, food and magic. One could hypothesize that this lack of interest in careers, health and religion stems from the age of the children and their relative lack of life experience. The lack of interest in arts & crafts and love could be related to differences based on gender, as reported in Ashley's study, which asserted that 82.9% of boys disliked stories involving love (1970, p.1092).

Figure 2: Results for 8-Year-Olds



The 8-year-olds requested materials for information on 23 of the 31 categories. This interest in 74% of the categories contrasts with the younger group's 51% interest rate, perhaps signaling the broadening of interests. These boys are still most interested in animals, but sports have overtaken science for second place. Literature moves up the list as transportation drops, and interest in computers and the Internet begins to increase. These 8-year-olds are not interested in law, fashion & beauty, music or love. They have little interest in religion, the supernatural, food or magic.

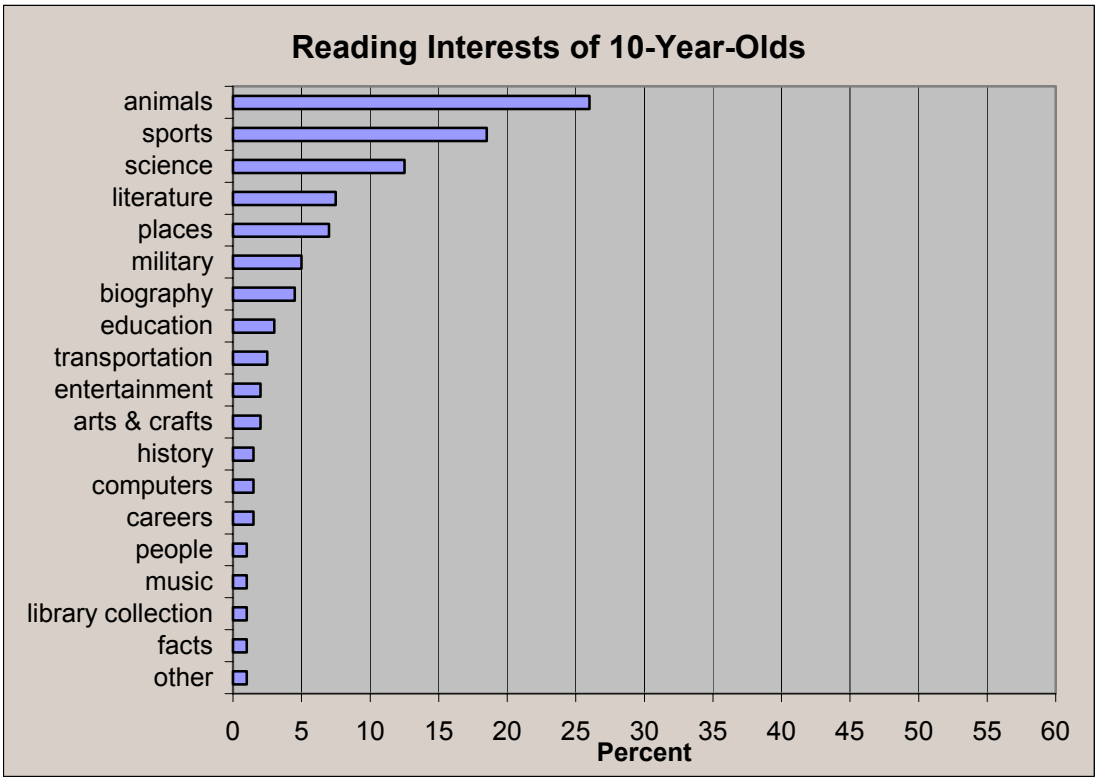
Figure 3: Results for 9-Year-Olds



The interest in animals remains top priority for this group of boys, although the percentage continues to decrease. Seven-year-olds chose animals 58% of

the time, while only 37% of the 9-year-olds chose animals. Sports remains in second place with 14.5% of the responses, while science holds steady at 11.5%. Places and entertainment have moved ahead of literature and transportation. There is an increased interest in computers and military, but a lack of interest in careers, magic, and health. These boys responded to 23 of the 31 categories, maintaining the trend towards a more diverse range of interests.

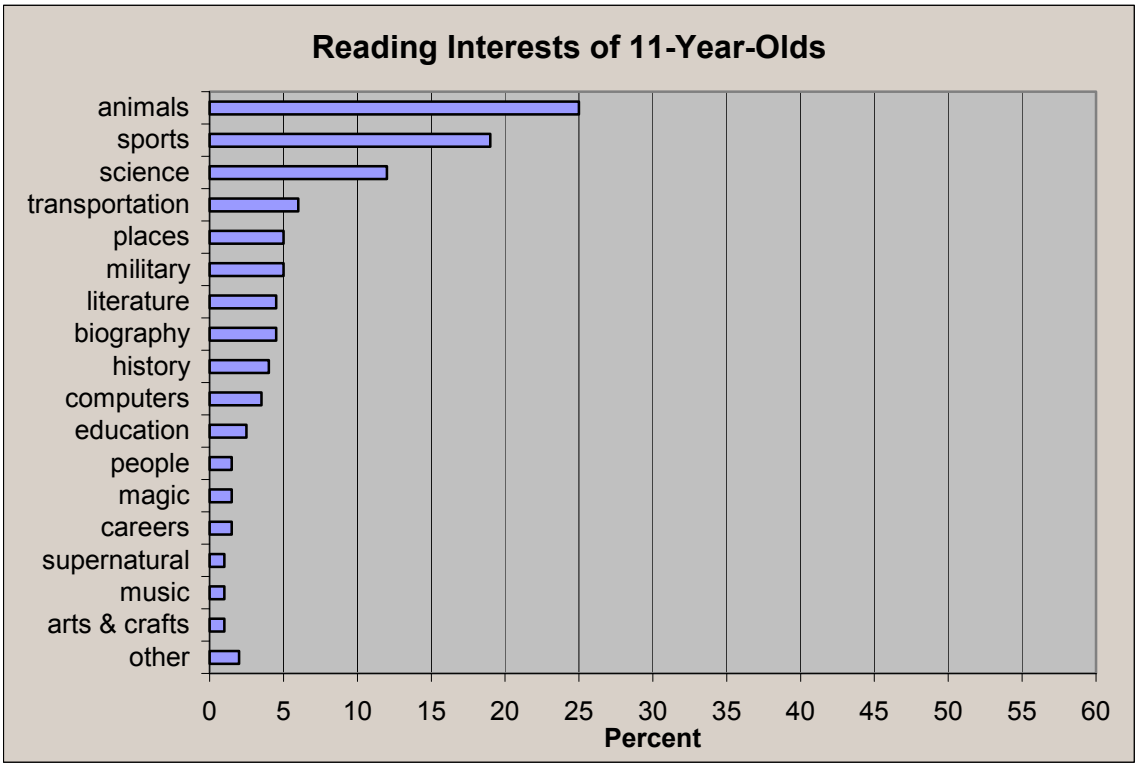
Figure 4: Results for 10-Year-Olds



The results continue to be consistent in the top three categories. Animals are first with 26%, sports are second with 18.5% and science continues in third place with 12.5% of total responses. Sports have made a large percentage gain with this group as the 9-year-olds chose sports only 14.5% of the time. Although

animals remain the favorite interest of 10-year-old boys, the number declines as the sports category becomes more popular. Literature regains fourth place with 7.5% of boys expressing an interest in books and authors. Military and places are topics that generate more interest for 10-year-olds than for the younger age groups. Ten-year-olds' responses were categorized into 20 areas of interest out of a possible 31. Although this number is slightly less than the 9-year-olds', it represents an interest in more than two-thirds of all topics.

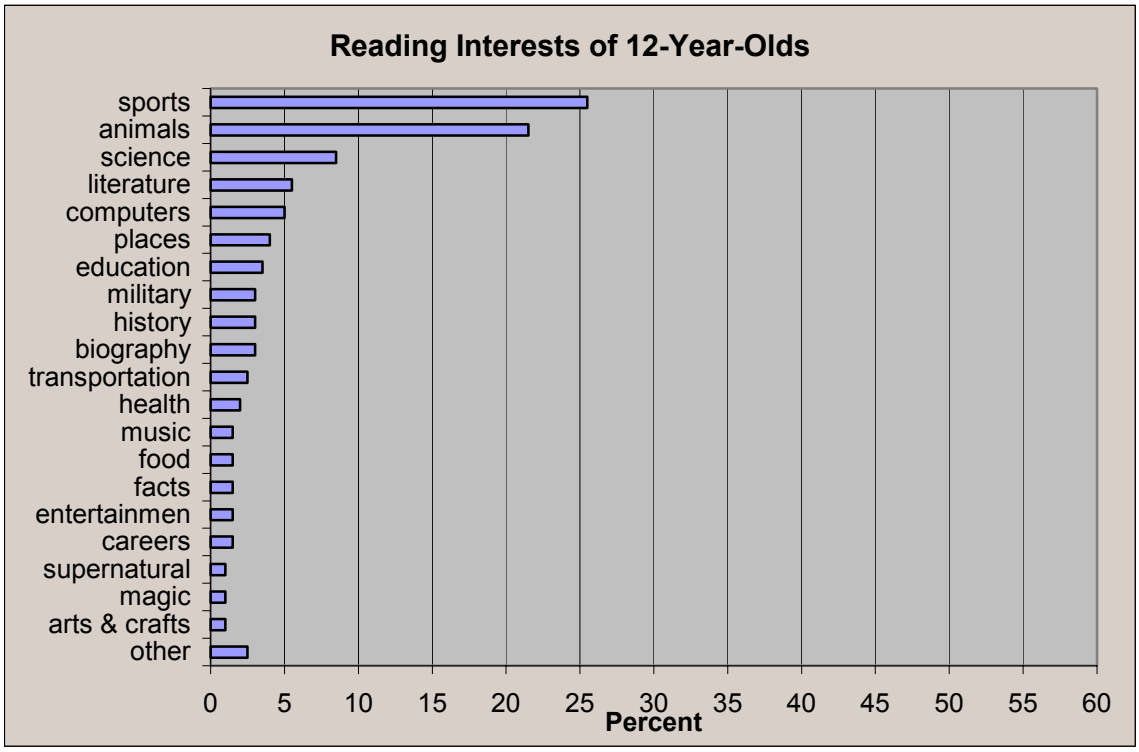
Figure 5: Results for 11-Year-Olds



Boys are still most interested in animals, although the number of responses continues to fall. Sports holds steady in second place with science close behind. Literature falls from the fourth position to the seventh, due to the

rise of transportation, places and all things military. The category of transportation includes airplanes, boats, cars and motorcycles, all of which would appeal to an active, adventuresome boy. There is little about love, religion or health that interests these 11-year-old boys, but these topics require more self-awareness than an average child this age would have. The boys maintain their interest in a wide array of topics, responding to 21 of the 31 possible categories. This age is believed to be close to the peak of reading activity, but it is impossible to draw that conclusion from this data set because the methodology created equally-weighted peer groups (Ashley, 1970; Summers & Lukasevich, 1983). Casual assessment of all cards examined during data selection showed a preponderance of responses from the 10 and 11-year-olds.

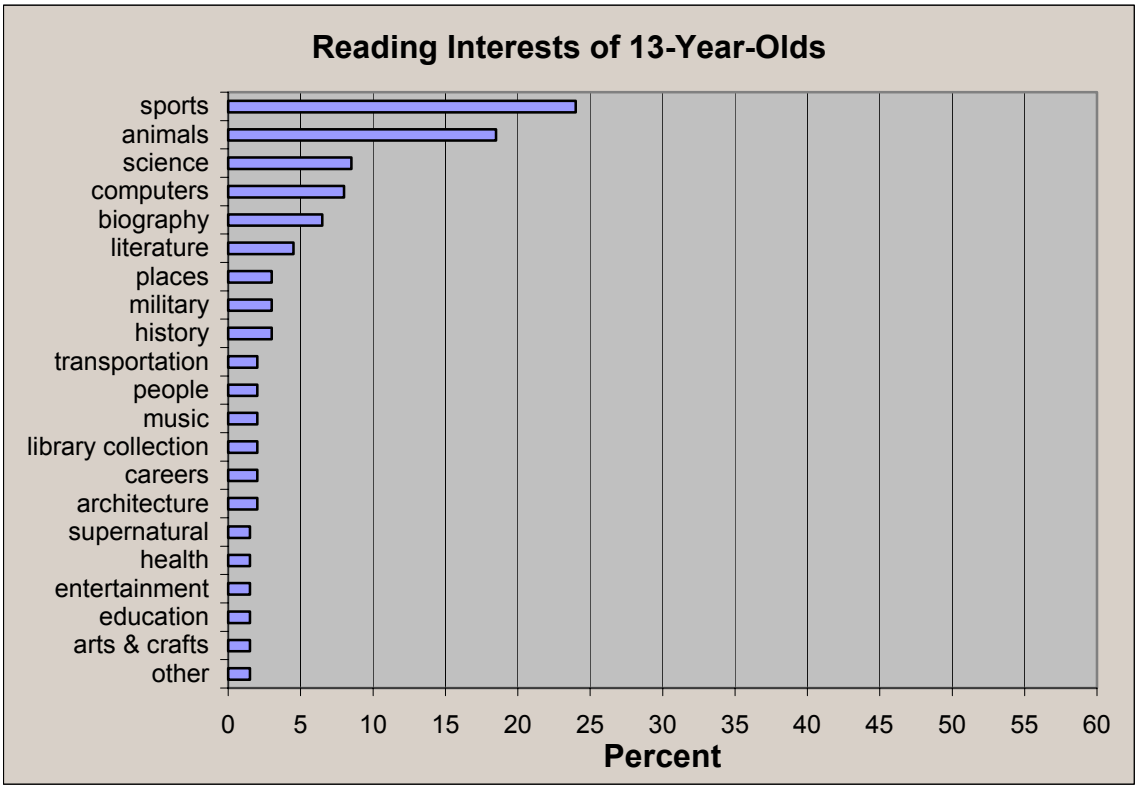
Figure 6: Results for 12-Year-Olds



Sports replace animals on the list in the top position for the first time with this age group. This dramatic shift could be attributed to a natural inclination to learning more about the activities that take up more of their extra-curricular time. Sports play a large role in the life of an early adolescent, and whether they are reading about a sports figure or a story that features a sport theme, they are exploring their own reality. Animals retain their allure as second in interest for these 12-year-olds. Science remains in third place with 8.5% of the responses, a position it has held in every group since the 8-year-olds. There is an increasing interest in literature and computers, which dovetails with the emphasis placed on these subjects through the curriculum. According to the North Carolina Department of Public Instruction, curriculum for the 7th grade in English includes

interpreting and synthesizing information, researching multiple resources and reading a variety of formats and genres, all of which are tasks which are facilitated by the use of a computer. In middle school, students are expected to perform independent research to augment the use of class texts in the completion of their projects. Twelve-year-old boys demonstrated the widest range of interests of all age groups, responding to 25 of the 31 categories. Education, biography, places and history garnered significant interest, while the categories that held no interest for them were architecture, codes, holidays, jokes, love and religion.

Figure 7: Results for 13-Year-Olds



Sports are the dominant interest for teenagers in this survey. The boys expressed interest in a variety of sports and sports figures as well as college and professional teams. Animals remain in second place and science narrowly edges out computers to claim third place. Computers were more popular with this age group than any other, receiving 8% of the total responses. This peak of interest could be the result of increasing mastery of the Internet and all it offers, and an argument could be made that some interest in computers is really an interest in entertainment. Boys can play video games, instant message friends, read online zines and obtain sports scores. This peak could also be the result of the curriculum focus in 8th grade, which specifies that students be able to use spreadsheets, graphs, charts and databases as well as conduct research online and evaluate information. These young men selected 23 of 31 topics, a small decline from the 12-year-old mark of 25. Thirteen-year-olds were not interested in reading about codes, fashion & beauty, finance, holidays, jokes, law, love or religion. There was a stronger interest in biography, music and careers than in other age groups. The increase in interest in careers and biography might be a reflection of the search for identity that comes with adolescence (ADOL, 1997). These boys may be thinking about who they want to be and what they want to do and biographies provide them with an example and a perspective which they can accept or reject.

Results by Topic

The chart below presents the three most popular categories distributed over the age of the respondents. The interest in science was fairly steady from age 7 to age 13, with less volatility than the topic of animals. Interest in sports was also a steady trend across the ages, with a slight rise in interest (16%) accompanying the increase in age. The topic of animals tells a more interesting story. It starts out as the top interest for 7-year-olds and then declines, albeit at a slow pace, until it reaches its low with the 13-year-olds.

Figure 8: Reading Interest Categories

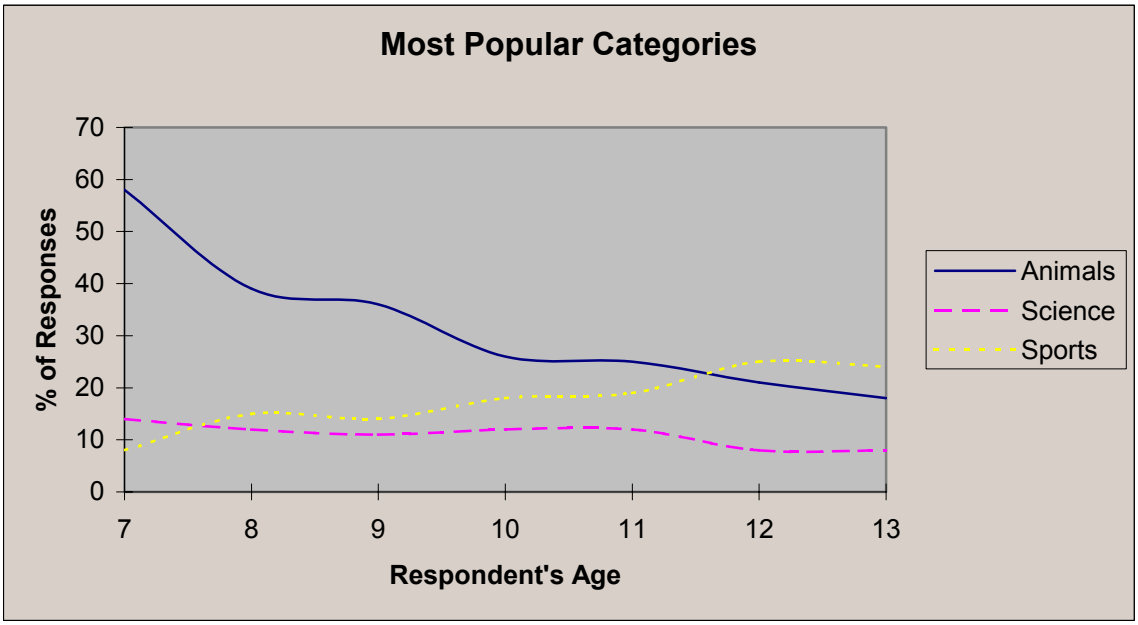
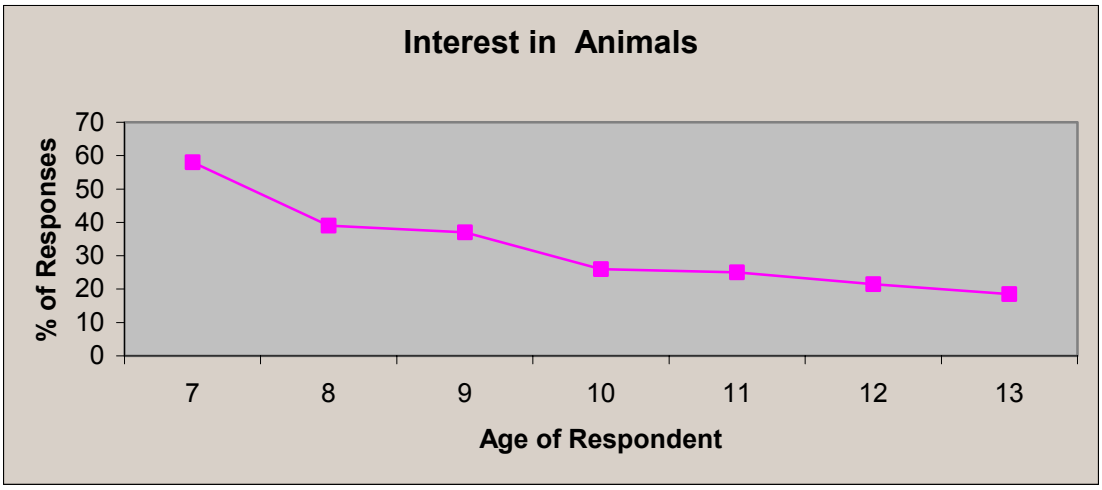
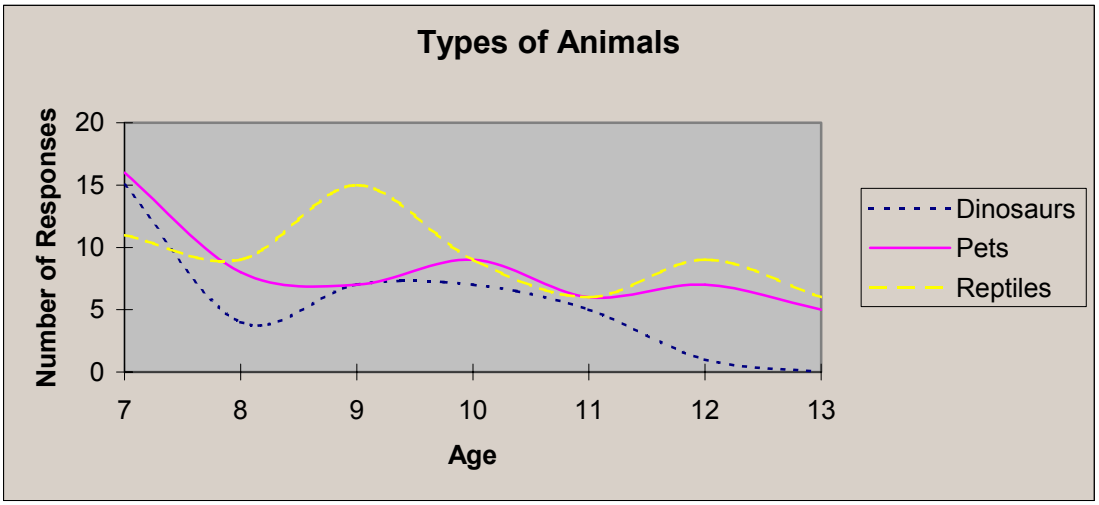


Figure 9: Age-Specific Reading Interests - Animals



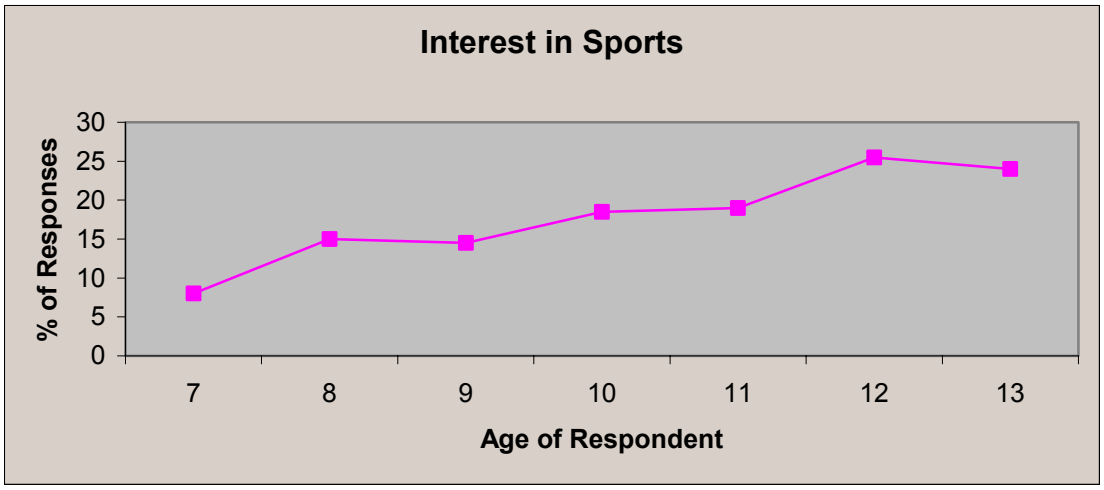
The category of animals was overwhelmingly favored by the younger age groups and was still popular with the 12 and 13-year-olds, although their interest had shifted into an interest in sports. The interest in this category is at its peak with the 7-year-olds and represents more than half of all responses. This might reflect both an avid curiosity about nature as well as an information need spurred by school projects. Science classes at this age often focus on mammals. The level of interest starts to decline with age, but it remains one of the top categories for all age levels.

Figure 10: Subcategories of Animal Classification



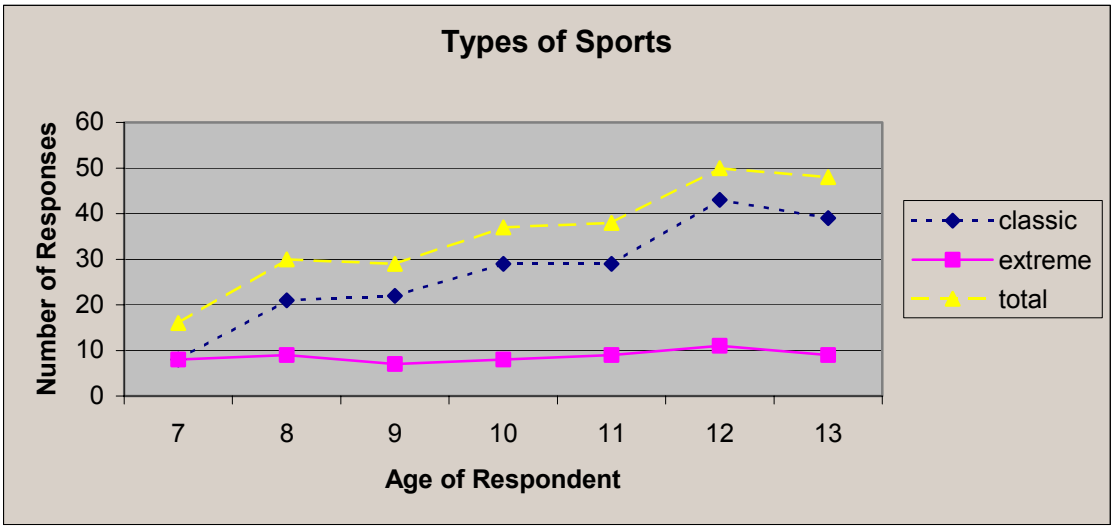
There are interesting trends to be observed when the category of animals is broken down into the top three subcategories. Dinosaurs, pets and reptiles were the three most popular subjects across all ages, but the distribution of interest varied with the age of the respondent. As expected, the 7-year-old boys were more interested in dinosaurs than any other group of boys, but they were equally interested in pets. There was a drop of interest in dinosaurs for the 8-year-olds, but the interest seemed to reoccur for the 9-year-olds and then held steady until it finally dropped off the chart for the 12 and 13-year-olds. The reptile subcategory held the interest of more of the boys across all ages, peaking at age 9. Pets were a steady favorite, and it should be noted that some of the responses concerning reptiles could have been classified as pets, as many boys have frogs, snakes and lizards as pets. This would have strengthened the pet number, but it was impossible to be certain of the motivation behind the reptile response so in categorization they were not tagged as pets.

Figure 11: Age-Specific Reading Interests - Sports



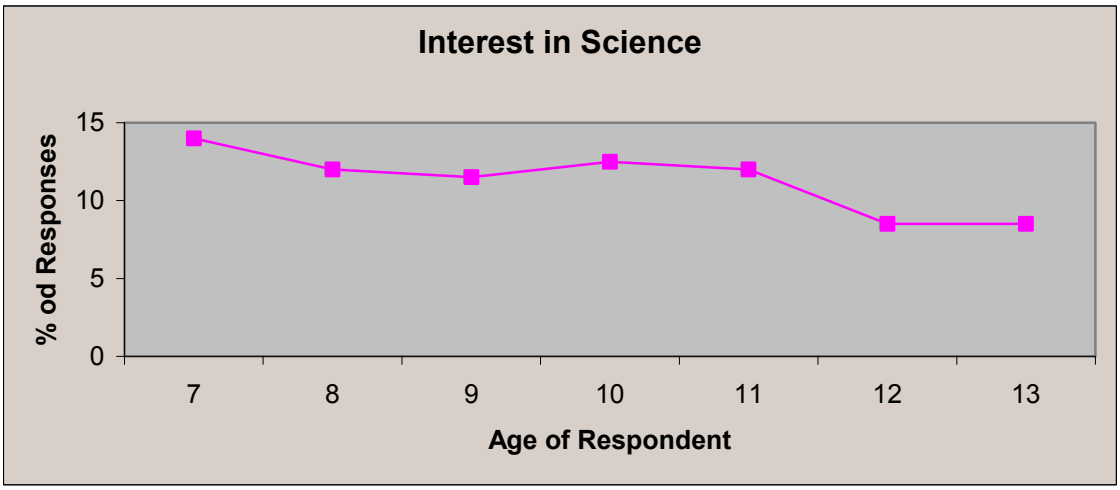
There is a strong interest in sports at all ages. There is a marked increase in the level of interest from the youngest respondents to the oldest. This survey found a steady upward trend, peaking at age 12 with only a slight drop-off at age 13. “As children advance through the elementary grades, they are increasingly interested in books about sports and recreational activities- an interest which reflects, perhaps, their increasing participation in these activities” (Rudman, 1955, p. 510).

Figure 12: Subcategories of Sports Classifications



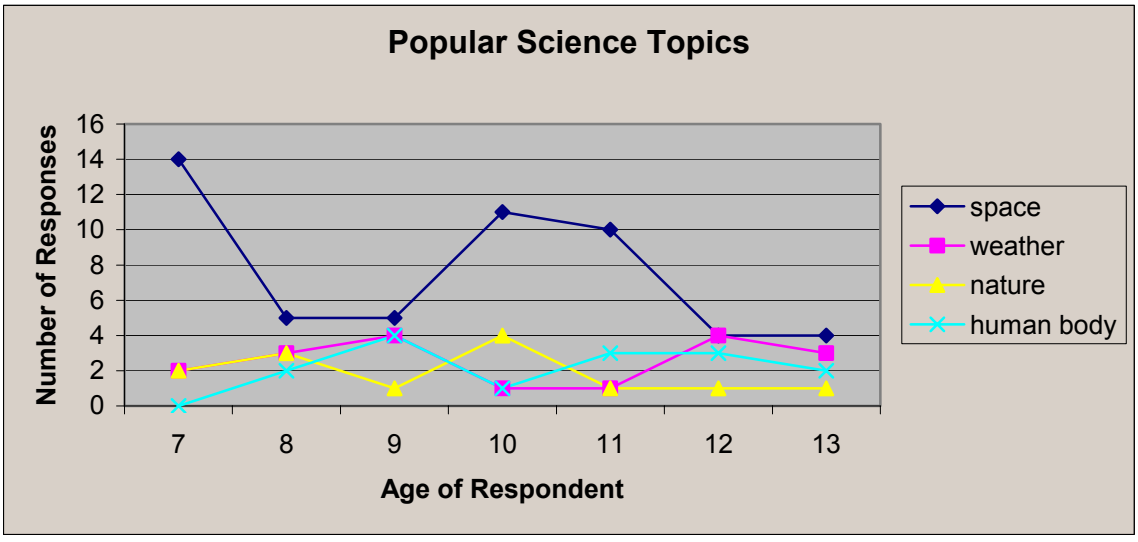
The sports category was split into classic sports, such as baseball, football and basketball and extreme sports, such as karate, dirt bikes and skateboarding. The results were surprising, as the researcher expected to find an increase in interest in the more dangerous sports as the age of the respondents increased. Instead, there was an increase in interest in the more classic athletic games. This could be interpreted in two ways. First, it is possible that a certain type of boy is drawn to the more extreme sports and he is drawn to them from the earliest age. Or, the results could be interpreted as a reflection of the boys' own extra-curricular activities. It could be argued that more boys will play the classic sports than the extreme sports, due to availability of opportunities and lack of need for specialized and expensive equipment. Plainly stated, there are far more boys who will play football than go snowboarding in North Carolina, so context has an impact on any discussion of results. A different result might be obtained with a survey of youth in Colorado or a survey of non-library users.

Figure 13: Age-Specific Reading Interests - Science



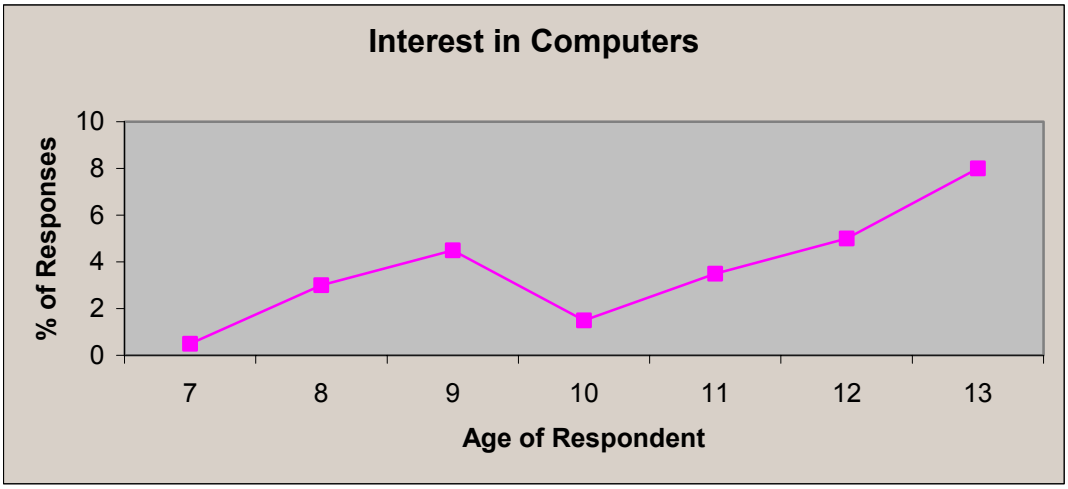
Interest in science remains fairly steady and constant across all age levels. Boys are interested in factual information, and the science category encompassed a variety of topics that would be appealing to an agile mind. Questions about space, plants, anatomy and physiology occurred with great frequency.

Figure 14: Subcategories of Science Classifications



Boys across the ages were enthralled by the topic of space. Black holes, planets, constellations and space exploration were just a few of the areas that interested these children. Seven-year-olds had the most interest in this category, but a steady interest was maintained by all ages, with a peak occurring at ages 10 and 11. This subject was the clear favorite of all the ages, while interest in the other three subcategories fluctuated. The subcategory of weather was second most favorite, driven by questions about hurricanes, tornadoes and other natural disasters. Human anatomy was another area of strong interest, with many inquiries about specific body parts such as the brain, ears and eyes. A curiosity about plants and the environment made nature a popular category,

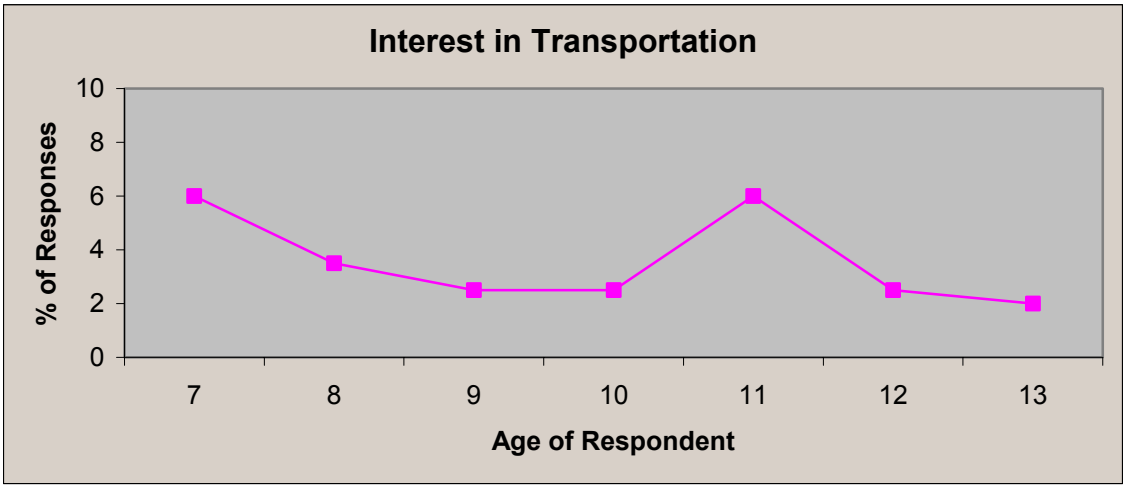
Figure 15: Age-Specific Reading Interests - Computers



The category of computer and computer-related issues best illustrates the effect of age and developmental level on reading interests. While the 7-year-olds expressed only minimal interest in these issues, (one response of 200), the 13-year-olds were interested enough to make this category the fourth most popular.

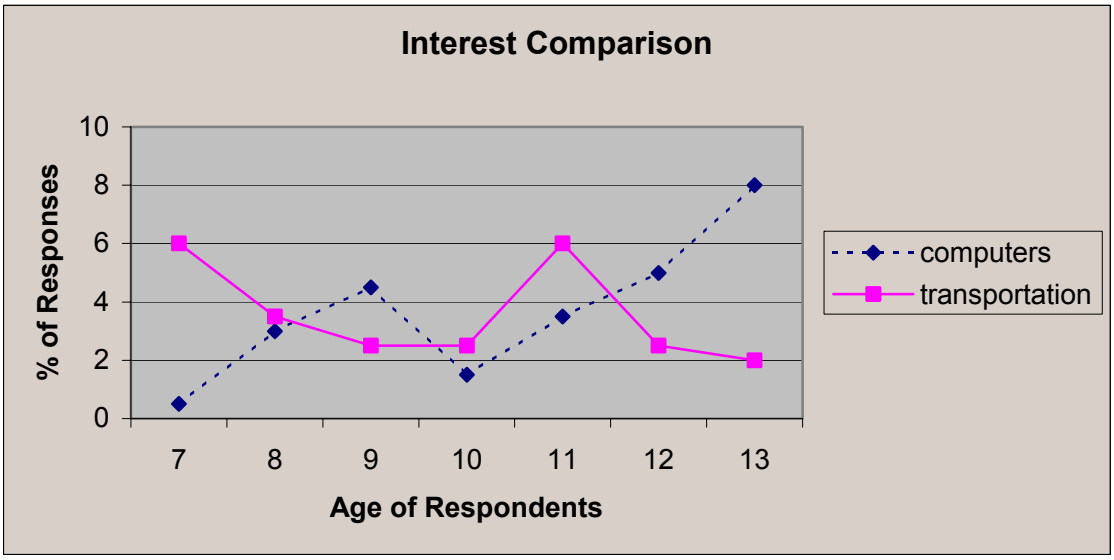
As the children are required to use computers and the Internet more often in their academic endeavors, as evidenced by the curriculum of the NC standard course of study, they will become more interested in learning about all the possibilities that technology offers them. An important point to be made is that this expressed interest is not an interest in using the computer in the library, but interest in information about computers. There is a spike of interest at age 9, which might be explained by the emphasis in the curriculum on developing email and word processing skills.

Figure 16: Age-Specific Reading Interests - Transportation



Boys of all ages are interested in modes of transport. Boats, cars, trucks, planes, helicopters and trains all capture the imagination. They want to know how these vehicles work, how fast they can go, how much they can pull. What starts as playing with the dump truck in the sandbox becomes an interest in the latest sports car as a boy imagines getting his drivers' license.

Figure 17: Topic Comparison of Computers and Transportation



There appears to be an interesting inverse relationship between interest in computers and transportation across the age chart. It is difficult to formulate an absolute correlation between the two, but the pattern is easily observed in Figure 16. One possible explanation for the fluctuations is an increase in interest in technology as it becomes more important through the curriculum of the older student. Another theory could be that the younger child does not possess the cognitive ability to fully engage with computers and technology, and as the children age they develop this ability, triggering a greater interest in computers. An alternate explanation may be that young boys are drawn to the physical, concrete object quality of the car or truck, and as they age they need this hands-on, manipulative quality less. They become interested in the more abstract properties of the computer, and learn to control its resources on a higher cognitive plane.

Conclusions

The results of this study both contradict and support the earlier research findings. Carter (1986) asserted that boys between the ages of 7-11 preferred football, battles and dinosaurs, which parallels this study when dinosaurs are categorized into animals and battles renamed military. Rudman (1955) noted the strong interest in animals through the eighth grade, which contradicts Lazar's (1937) theory that only the youngest readers are interested in animals. Animals were the number one area of interest for boys between the ages of 7 and 11, and were second most popular for 12 and 13-year-olds in this survey. An elementary school librarian might make use of this interest in animals as a way to frame that portion of the collection so as to encourage further exploration into other related topics. Books about animals could be organized into "kingdoms" or "continents", clustering topics together but also including information or choices that the child would not make on their own. An interest in lions could be expanded into planning a photographic safari and then further extended into a look at African culture.

Sports were very popular with boys of all ages, which supports Fisher's findings that sports were one of the top three categories for elementary age children. Their interests went beyond the traditional sports of baseball, basketball and football. Students sought information on BMX motocross biking, scuba diving, skiing and skateboarding. It is worth noting that while the interest in the theme of sports remains constant, there is a changing focus on the type of sport.

There is a strong interest in non-fiction topics. This is evidenced by the emphasis given by respondents to sports, science, biography, transportation and animals. Boys like practical, factual information and want to read about real-life situations. The emphasis on scientific topics should not be underestimated, and materials should be purchased that will encourage this interest.

Interests do vary with age. This is illustrated by noting the broadening of interests as the respondents' age increased. Seven-year-olds' interests fell within 51% of possible topics, while the 12-year-olds' responses filled 81% of the categories. This change in interest is gradual, as can be seen by the slow but steady decline of animals as a popular subject. At their peak with 7-year-olds, animals garnered 58% of total responses. This number dropped to 39% for 8-year-olds, 37% for 9-year-olds, 26% for 10-year-olds and finished with 18.5% of the 13-year-olds' interest. The reverse trend can be seen in the rise of computers as a theme, with only 0.5% of 7-year-olds and 8% of 13-year-olds expressing an interest. The implication for library professionals is the clear need to remain aware of the developmental differences across the ages and to provide materials for all that match their needs. The librarian must be vigilant in updating the collection and must acknowledge the role that popular culture plays in influencing the interests of pre-teens and adolescents.

As stated by Ashley (1970) and Stanchfield (1962), boys are not interested in home-life, love or relationships. This survey found a clear lack of engagement in any of these areas, which contradicts Wolfson and Manning (1984), who found boys were more interested in personal problems than in

physical science. Neither of these results is necessarily correct, only indicative of the sample group involved.

One major difference between this study and others is the lack of specificity or a clear focus on literature as a genre. Many earlier studies broke literature down into categories such as mysteries, adventure and detective stories. This difference in methodology and interpretation makes it difficult to compare results on this issue.

Choosing books to meet the specific needs of a diverse group is difficult, and as interests are as personal and idiosyncratic as a fingerprint, it would be almost impossible for a librarian or teacher to provide all that is desired. Information on reading interests should be used as a starting point from which a professional can provide materials that will captivate and reward the reader. “The trick is to catch the wave of interest as it builds, buy enough to meet demand at the crest, and have all the materials wear out in time for them to be discarded when the interest dies” (Fasick, 1985, p.17). Librarians and teachers need to strive to be in tune with the specific needs of their patron base and be positioned to take advantage of an expressed interest by suggesting other suitable choices.

The real challenge is getting boys to the library. No matter how current the materials, how pleasant the surroundings, or how helpful the staff, if the boys are unaware of the tremendous opportunities offered by the library, they will not utilize it. The key is to reach the intended audience, and there are several trends, which were evident in the research, that could be used to better focus public relations campaigns and programming efforts. The results of this study suggest

that boys are interested in sports, so informational flyers could be posted at the local recreational gyms and facilities, inviting boys to a pick-up basketball game at the gym followed by a “book talk” on biographies featuring Michael Jordan and Shaquille O’Neal by a local librarian. Lists of suggested reading titles for training for triathlons or honing lacrosse skills could be passed out at the gym or posted on a bulletin board. Capitalizing on the interest in animals, the local animal shelter or pet supply stores could offer a pamphlet that lists books which would be helpful for families adopting a new pet, as well as titles of stories which feature animals as the lead character. The library needs a dynamic interactive web-site that captures the imagination of the technologically savvy kids, promising high-speed access to the Internet and the most up-to-date computer equipment available. Local libraries could place ads in the newspaper on the comics or sports page, increasing the chances that boys will stumble across them. On a more national level, the ALA could support efforts to introduce boys to the library by designing a clever ad campaign and featuring it in magazines such as *Sports Illustrated for Kids, Mad Magazine* and *Boys’ Life*.

Once the boys are in the library, the challenge becomes finding a way to keep them there. Internal programming must be directed at their specific interests and it must be powerful and applicable to their lives. Use their expressed interest in science to motivate them to come to the library on a Saturday morning to conduct hands-on experiments that use household items to create magic. Have book talks that feature sports heroes, famous pilots, world-renowned scientists and then offer some related fiction titles to expand their focus. Recreate a

famous battle with toy soldiers on a large low surface so they can manipulate the pieces. Offer opportunities to learn how to play chess, checkers or other games that stimulate the mind and supplement the instruction with reading materials on strategy, tactics and biographies of famous players.

The research indicates that boys have strong preferences for reading materials relating to their current life experiences and activities. Library professionals can use the results of this study to design programs that appeal to boys' desire for action, adventure and investigation as well as a guide for collection development. Teachers and librarians can gain insight into the changing interests of boys across the ages and tailor activities and reading materials more closely.

Further Research

Valuable information could be gained by broadening a study of this type to include high-school age students, whose age and developmental stage could provide additional insights. Because there are theories that reading habits seem to be developed at an early age, it would also be helpful to study the pre-school and kindergarten age students to seek clues as to what early influences make a successful reader. Extending the scope of the study to include a more national sample would be helpful and would eliminate local and regional bias. In addition, there is a need for a long-term longitudinal study that would follow a specific group of children through their school careers, gathering important information on the variable nature of reading interests as children mature. It would be difficult

but extremely worthwhile to examine not just what children choose to read, but why children choose the reading materials they do.

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Appendix A

Category Definitions

Category	Definition
Animals	Wild or domesticated, pets, dinosaurs, insects, reptiles, etc.
Architecture	Building, construction, engineering, etc.
Arts & Crafts	Drawing, painting, quilting, fine arts, crafts, hobbies
Biography	Names (other than author)
Careers	Anything related to a job or vocation (police, doctors)
Codes	Codes and spy ciphers
Computers	Computers, technology, Internet references
Education	Anything related to school, math, reading, college
Entertainment	Video games, TV, movies, Pokemon, pop culture
Facts	World records, specific questions for factual information
Fashion/Beauty	Fashion, clothing, grooming
Finance	Money, stocks, banking, Wall Street
Food	Any reference to food, drink or recipes
Health	Diseases, medicines, drugs (not anatomy or physiology)
History	References to specific events or places
Holidays	Reference to any religious or national day
Jokes	Any comics, joke, humor
Law	Legal issues
Library Collection	General library questions
Literature	Authors, books, poetry, mythology, all genres
Love	Love, marriage, dating relationships
Magic	Magic, magic tricks, magical creatures, fantasy (dragons)
Military	War, weapons, armed forces, military history
Music	Music, musical groups, songs, etc.
People	Cultures (more general than Biography)
Places	Countries, states, geography, travel destinations
Religion	References to God, church, heaven
Science	Biology, botany, geology, meteorology, space, anatomy, physiology, environment
Sports	Football, baseball, soccer, dirt bikes, racing, 4 wheelers, etc.
Supernatural	Ghosts, monsters, UFO’s, aliens
Transportation	Cars, trucks, planes, helicopters, motorcycles (racing = Sports)

Appendix B

Number of Responses

Category	7 yr	8 yr	9 yr	10 yr	11 yr	12 yr	13 yr	Total
Animals	115	77	74	52	50	43	37	448
Architecture	0	2	1	0	0	0	4	7
Arts & crafts	0	1	3	4	2	2	3	15
Biography	2	5	7	9	9	6	13	51
Careers	0	3	0	3	3	3	4	16
Codes	0	0	0	0	1	0	0	1
Computers	1	6	9	3	7	10	16	52
Education	5	2	2	6	5	7	3	30
Entertainment	4	7	8	4	1	3	3	30
Facts	0	1	4	4	0	3	1	11
Fashion & Beauty	0	0	1	0	0	1	0	2
Finance	0	0	0	0	0	1	0	1
Food	1	1	1	0	1	3	1	8
Health	0	0	0	0	0	4	3	7
History	2	7	6	3	8	6	6	38
Holidays	1	0	1	0	0	0	0	2
Jokes	0	1	0	0	0	0	0	1
Law	0	0	0	0	0	1	0	1
Library Collection	0	2	0	2	1	1	4	10
Literature	6	13	6	15	9	11	9	69
Love	0	0	1	0	0	0	0	1
Magic	1	1	0	0	3	2	1	8
Military	3	3	6	10	10	6	6	44
Music	1	1	0	0	3	2	1	8
People	0	1	1	2	3	1	4	12
Places	2	4	8	14	10	8	6	52
Religion	0	1	2	1	0	0	0	4
Science	29	24	23	25	24	17	17	159
Sports	16	30	29	37	38	51	48	249
Supernatural	0	1	1	1	2	2	3	10
Transportation	11	7	5	5	11	5	4	48
Totals	200	200	200	200	200	200	200	1,400

Appendix C

Responses as a Percentage

Category	7 yr	8 yr	9 yr	10 yr	11 yr	12 yr	13 yr	Total
Animals	58.0	39.0	37.0	26.0	25.0	21.5	18.5	32.0
Architecture	0.0	1.0	0.5	0.0	0.0	0.0	2.0	0.6
Arts & crafts	0.0	0.5	1.5	2.0	1.0	1.0	1.5	1.0
Biography	1.0	2.5	3.5	4.5	4.5	3.0	6.5	4.0
Careers	0.0	1.0	0.0	1.5	1.5	1.5	2.0	1.0
Codes	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.07
Computers	0.5	3.0	4.5	1.5	3.5	3.5	1.5	4.0
Education	2.5	1.0	1.5	3.0	2.5	3.5	1.5	2.0
Entertainment	2.0	3.5	4.0	2.0	0.5	1.5	1.5	2.0
Facts	0.0	0.5	2.0	1.0	0.0	1.5	0.5	0.8
Fashion & Beauty	0.0	0.0	0.5	0.0	0.0	0.5	0.0	0.2
Finance	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.07
Food	0.5	0.5	0.5	0.0	0.5	1.5	0.5	0.5
Health	0.0	0.0	0.0	0.0	0.0	2.0	1.5	0.5
History	1.0	3.5	3.0	1.5	4.0	3.0	3.0	3.0
Holidays	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.2
Jokes	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.07
Law	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.07
Library Collection	0.0	1.0	0.0	1.0	0.5	0.5	2.0	0.7
Literature	3.0	7.0	3.0	7.5	4.5	5.5	4.5	5.0
Love	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.07
Magic	0.5	0.5	0.0	0.0	1.5	1.0	0.5	0.5
Military	1.5	1.5	3.0	5.0	5.0	3.0	3.0	3.0
Music	0.5	0.0	0.0	1.0	1.0	1.5	2.0	0.9
People	0.0	0.5	0.5	1.0	1.5	0.5	2.0	0.8
Places	1.0	2.0	4.0	7.0	5.0	4.0	3.0	4.0
Religion	0.0	0.5	1.0	0.5	0.0	0.0	0.0	0.3
Science	14.0	12.0	11.5	12.5	12.0	8.5	8.5	11.0
Sports	8.0	15.0	14.5	18.5	19.0	25.5	24.0	18.0
Supernatural	0.0	0.5	0.5	0.5	1.0	1.0	1.5	0.7
Transportation	6.0	3.5	2.5	2.5	6.0	2.5	2.0	3.0
Totals	100.5	100.5	100.0	100.0	100.5	100.0	100.0	100.0

(Totals are results of rounding and so may not equal 100%)