The Information-Seeking Behavior of High School Students:
An Annotated Bibliography

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Introduction and Scope

This bibliography encompasses the information-seeking behavior of high school students with an emphasis on their use of technology. The fifteen research articles included in the bibliography were published between the years of 1996 and 2009, with a focus on articles that were published within the last five years in order to provide the most current research in this area. Any articles not written in English have been excluded from this bibliography. The research conducted in these articles took place in the United States, Canada, England, and Denmark. Some of the articles discuss the various information needs of high school students. Other articles center around the information-seeking behavior of high school students in general, while others accentuate this user group's utilization of the Internet. Fourteen of the articles focus exclusively on high school students. One article includes a comparison of the information-seeking behavior of middle and high school students, which gives the reader an idea of how information-seeking behavior changes as students reach the high school level.

Definition of User Group

High school students have a wide range of distinctive information needs. This user group is composed of students that are approximately ages 14 to 18 and are in grades nine through twelve. Due to the scarcity of research on the information-seeking behavior of high school students, this bibliography focuses on high school students in general instead of on a segment of this user group. However, some of the articles in this bibliography do concentrate on specific segments of this population, such as honors students and urban high school students. High school students have a broad array of information needs since they are in the process of maturing and trying to find their place in the world. They are in an unique position because they are between childhood and adulthood, and there is a lack of research concerning their information needs. They are also in a unique position because they are "children, teenagers, and adults simultaneously" (Agosto & Hughes-Hassell, 2006a, p. 1401). Since they are still developing, high school students do not have fully developed critical thinking skills. As a result, they struggle with finding valid resources for themselves. They tend to rely on people of authority for
the answers to their questions, or simply assume that all information is equally valid (Lorenzen, 2001).

**Summary of Findings**

Although high school students have unique information needs and information-seeking behavior, there has been little research conducted on this user group. What little information that does exist on this topic tends to focus on their use of the Internet and other forms of technology. Despite the small amount of literature about high school students' information-seeking behavior, researchers have studied their everyday information needs in addition to their academic information needs. Interestingly, little research has been done about this population's use of libraries. Explanations for the scarcity of information about the information-seeking behavior of high school students include the lack of concrete methods for studying this population, problems in obtaining consent to work with this population, researchers experiencing difficulty in working effectively with this age group, and researchers hesitating from working with this population because of a fear of being charged with misconduct (Shenton, 2007). The majority of the research on this topic appears to have been conducted within the past twenty years, and many of the articles about this user group have been published within the past five years. Hopefully this is a sign that researchers understand the shortage of information and are beginning to explore the information needs and behavior of high school students. The findings across the articles overall yielded similar results. As more is written about this user group, new discoveries should be made.

Researchers have tended to use similar approaches to studying the information needs and behavior of high school students. The vast majority of the studies in this bibliography used qualitative methods. A few researchers used both qualitative and quantitative methods. Questionnaires and individual and group interviews were commonly utilized to collect information. Other methods of data collection included observation, written activity logs, analysis of documents and assignments generated by the students, and audio journals. Agosto and Hughes-Hassell (2006a) even used pictures taken by the participants as a form of data collection. As more research is conducted with high school students, even more new methods for studying this topic will be found. While some researchers do not view qualitative data as
credible, other researchers view it as important because it results in "richer and more detailed responses" (Lorenzen, 2001, p. 156).

As mentioned previously, high school students have a broad range of information needs. Agosto and Hughes-Hassell (2006a) created a model of the information needs that reflects this concept. Their theoretical model places the information needs of urban high school students into the categories of social, emotional, reflective, physical, creative, cognitive, and sexual. The most frequent information need of high school students is usually information for school (Agosto, Paone, & Ipock, 2007; Latrobe & Havener, 1997). One of the other types of information this user group most commonly sought was related to popular culture, especially music and sports (Agosto & Hughes-Hassell, 2006b; Shenton, 2007). Other popular information needs of high school students include popular fiction books, history, sexuality, current events, careers, anime and manga, information about the paranormal, science and technology, consumer products, and computer games (Agosto & Hughes-Hassell, 2006b; Agosto et al., 2007; Shenton, 2007). Less common but more critical information needs include health issues and personal finances (Agosto & Hughes-Hassell, 2006b; Latrobe & Havener, 2007). When seeking information, high school students prefer to find the most current information possible and information that they can relate to in some way (Agosto & Hughes-Hassell, 2005; Shenton, 2007). Information needs are similar between males and females (Agosto et al., 2007). Furthermore, Agosto and Hughes-Hassell (2006b) found that "teenagers have similar information needs across socioeconomic, ethnic, cultural, and geographic boundaries" (p. 1425).

The information-seeking behavior of high school students is varied, although the majority of articles in this bibliography found that this population prefers to use the Internet as their main information resource (Fidel et al., 1999; Gunn & Hepburn, 2003; Julien & Barker, 2009; Lorenzen, 2001; Madden, Ford, & Miller, 2007; Pors, 2008). Reasons given for their preference of the Internet include the belief that they do not have to think through their search strategy in advance, they can find the needed information much faster, they can find any information about any subject on the Internet, and it is easier to use the Internet to find information (Fidel et al., 1999). The findings of other studies demonstrate a preference for people resources, especially friends and family. Students enjoy interacting with people more than computers to find the needed information (Agosto & Hughes-Hassell, 2005; Agosto & Hughes-Hassell, 2006b; Latrobe & Havener, 1997). Other studies even found that some high school students actually
High School Students prefer print resources due to the difficulties they have in evaluating the credibility of information on the Internet (Chung & Neuman, 2007; Latrobe & Havener, 1997). Agosto & Hughes-Hassell (2005) found that urban high school students use numerous information resources, including people such as friends and family, telephones, televisions, and computers. In contrast, Lorenzen (2001) discovered that often the Internet is the only resource consulted by high school students. Another difference among the researchers included in this bibliography is the differences in information-seeking behavior between male and female high school students. Burdick (1996) and Latrobe and Havener (1997) both ascertained that there are few gender differences in the information-seeking behavior of this user group. However, Pors (2008) discovered that female high school students are more likely to use both school and public libraries while male high school students are less likely to use school and public libraries. Female high school students are also more likely to find libraries to be valuable in meeting their library needs, and to have a more optimistic opinion of libraries as information resources. Male high school students are more likely to view libraries as a place of entertainment rather than as a source of information (Agosto et al., 2007).

One aspect of information-seeking behavior that was similar across the articles in this bibliography is the problems that high school students face when they are seeking information. Unsurprisingly, the majority of problems students had as they were seeking information were related to the Internet in some way (Shenton, 2008). One major problem this user group face is that they do not realize the multitude of resources available to them on the Internet. They tend to use only one search engine, which is usually Google. Many students rely solely on Google and Wikipedia, even though they know that Wikipedia is not a very good resource for school projects. Some students even believe that there is no difference between Google and the Internet (Julien & Barker, 2009; Pors, 2008). Another problem that high school students face as they are searching for information is that they struggle with thinking of appropriate search statements. They often do not plan their searches out in advance, and as a result have a "highly reactive" approach to the searching process (Fidel et al., 1999, p. 27). High school students rarely utilize Boolean operators, limiters, wildcards, and advanced search options, and often are unaware of these types of search options (Gunn & Hepburn, 2003). They are also unaware of controlled vocabulary and how it can improve their searches. Instead, students prefer to use basic keyword searches, but even have trouble thinking of high-quality keywords (Chung & Neuman, 2007).
Despite the difficulties high school students experience when searching for information, they still believe that they are excellent searchers and are satisfied with the information that they have retrieved (Gunn & Hepburn, 2003; Julien & Barker, 2009). In spite of the problems high school students face when they are searching for information, Latrobe and Havener (1997) found several encouraging characteristics in their search habits, including "flexibility, determination, curiosity, and self-confidence" (p. 196).

Unfortunately, there is not much information about high school students' use of libraries. Agosto and Hughes-Hassell (2005) uncovered numerous unfavorable opinions of libraries and librarians. These high school students found that librarians did not understand their information needs, and as a result libraries and librarians are among their least frequently used resources. This is one area that needs immediate attention in the research. High school students around the world struggle with meeting their information needs, and need to be able to turn to information professionals to meet these needs. If librarians are unaware of this population's needs, future research needs to address this issue. Other future research should focus on continuing to connect information-seeking behavior with developmental theory (Agosto & Hughes-Hassell, 2006a).

Overall, more research needs to be conducted that involve this population's information-seeking behavior. More studies exploring the differences that result in information-seeking behavior from factors such as gender, race, ethnicity, and geographic location. Studies examining how information behavior changes between ninth and twelfth grade would also be instructive. More quantitative research would be a beneficial addition to the literature since the majority of the studies on this topic use qualitative research methods. It is of great concern that so little information about the information needs and behavior of high school students is available. The literature that does exist demonstrates that this demographic is struggling with meeting their information needs and a great deal of their information-seeking behaviors are worrisome. It is promising that several articles concerning this specific user group have been published in the last few years, and hopefully this trend continues. In order to properly serve high school students, information professionals must know and understand all of the information needs and information-seeking behaviors of this population.
Bibliography


Abstract: "This article presents preliminary findings from a research grant on the everyday life information-seeking (ELIS) behaviors of urban young adults. Twenty-seven teens aged 14 through 17 participated in the study. Qualitative data were gathered using written activity logs and semi-structured group interviews. A typology of urban teens’ preferred ELIS sources, media types, and query topics is presented. The typology shows friends and family as preferred ELIS sources, cell phones as the preferred method of mediated communication, and schoolwork, time-related queries, and social life as the most common and most significant areas of ELIS. The results indicate a heavy preference for people as information sources and that urban teens hold generally unfavorable views of libraries and librarians. The conclusion lists questions that information practitioners should consider when designing programs and services for urban teens and calls for researchers to consider this often-ignored segment of the population as potential study participants." [Article abstract]

Annotation: Focuses on urban adolescents, who have been overlooked in the information-seeking behavior literature. Furthermore, this article is unique in that it identifies people as a favored resource over electronic resources for these teenagers while also demonstrating their unwillingness to use librarians as a resource. Provides an excellent introduction to Agosto and Hughes-Hassell's later research with this population, and is from a scholarly, peer-reviewed journal in the field of library science.

Search Strategy: Agosto and Hughes-Hassell's articles "Toward a model of the everyday life information needs of urban teenagers, part 1: Theoretical model" and "Toward a model of the everyday life information needs of urban teenagers, part 2: Empirical model," were about the information behavior of high school students, and I thought that maybe these authors had conducted more research about this topic. Therefore, I decided to conduct an author search for Denise Agosto in the Dialog OneSearch category Library and Information Services [INFOSCI]. I decided I would be able to find many more articles by this author if I searched numerous databases at once, which is why I chose the OneSearch category INFOSCI instead of searching a single database. I expanded on the last name "Agosto," and then searched several different

**Abstract:** "This is the first part of a two-part article that offers a theoretical and an empirical model of the everyday life information needs of urban teenagers. The qualitative methodology used to gather data for the development of the models included written surveys, audio journals, written activity logs, photographs, and semistructured group interviews. Twenty-seven inner-city teens aged 14 through 17 participated in the study. Data analysis took the form of iterative pattern coding using QSR NVivo 2 software (QSR International, 2002). The resulting theoretical model includes seven areas of urban teen development: the social self, the emotional self, the reflective self, the physical self, the creative self, the cognitive self, and the sexual self. The researchers conclude that the essence of teen everyday life information seeking (ELIS) is the gathering and processing of information to facilitate the teen-to-adulthood maturation process. ELIS is self-exploration and world exploration that helps teens understand themselves and the social and physical worlds in which they live. This study shows the necessity of tying youth information-seeking research to developmental theory in order to examine the reasons why adolescents engage in various information behaviors." [Article abstract]

**Annotation:** Places the everyday life information seeking behaviors of urban high school students into the context of developmental theory to gain an understanding of this population's information needs and information behaviors. The resulting theoretical model provides a new perspective for researchers to consider the information needs of high school students. This article has also been chosen for its concentration on an often ignored population, its currency, and for this journal's outstanding reputation.
Search Strategy: I selected Library, Information Science, & Technology Abstracts because this is one of the databases highly recommended for the subject area of library science. Since I was just beginning my research, I felt that a keyword search would be most appropriate.

Database: Library, Information Science, & Technology Abstracts

Method of Searching: Keyword Search

Search String: ("information seeking behavior*" or "information seeking behaviour*" or "information need*" or "search strateg*") and ("high school*" or "high school student*" or adolescent* or teen* or "secondary education" or "secondary school*") and limited to Scholarly Journals


Abstract: "This is the second part of a two-part article that presents a theoretical and an empirical model of the everyday life information needs of urban teenagers. Part 2 focuses on the derivation of the empirical model and on its relationship to the theoretical model presented in Part 1. Part 2 also provides examples from the project data to support each of the components of the empirical model, which ties 28 information needs topics to the seven independent variables in the theoretical model. Comparison of the empirical model to the results of past youth information behavior research shows that the participants in this study tended to have the same types of information needs as previous researchers have found with more advantaged, nonminority groups of teens. This finding is significant because it suggests that teenagers have similar information needs across socioeconomic, ethnic, cultural, and geographic boundaries. Due to the exploratory nature of this study, however, additional research is necessary to confirm this possibility." [Article abstract]

Annotation: In Part 2 of this article, the authors offer detailed examples of everyday life information seeking needs of urban teenagers for each of their theoretical variables. It is distinctive because Agosto and Hughes-Hassell find that the urban high school students in this study have comparable information needs to other populations of teenagers that have been
High School Students

studied. Additionally, this article was published in an esteemed journal in the field of library and information science.

**Search Strategy:** I selected Library, Information Science, & Technology Abstracts because this database is highly recommended for the subject area of library science. Since I was just beginning my research, I decided to start with a keyword search.

**Database:** Library, Information Science, & Technology Abstracts

**Method of Searching:** Keyword Search

**Search String:**

("information seeking behavior*" or "information seeking behaviour*" or "information need*" or "search strateg*")
and ("high school*" or "high school student*" or adolescent* or teen* or "secondary education" or "secondary school*") and limited to Scholarly Journals


**Abstract:** "This article reports the results of a written survey of ninety-seven female and male adolescents, ages fourteen through seventeen, at two U.S. public libraries. In addition to exploring gender-related variance in the reasons for which teenagers use public libraries, the survey investigated how frequently the respondents needed information relating to twelve major topic areas and how useful they considered public libraries in helping them to find information relating to these topics. For the most part, the results indicated no significant gender difference in the respondents' reasons for using libraries or in their frequency of information needs. The only major gender difference was the girls' tendency to rate libraries as more useful in helping them to meet their personal information needs, making public libraries "female-friendly spaces" for adolescent girls. The authors conclude with suggestions for helping both female and male adolescents realize the full potential of public libraries and public library services." [Article abstract]

**Annotation:** Well-respected researchers provide a current analysis of gender differences in teenagers' information needs and their utilization of libraries. More similarities than differences
are discovered in this study, one of the few studies that have been conducted on this topic in the field of library and information science.

**Search Strategy:** Agosto and Hughes-Hassell's articles "Toward a model of the everyday life information needs of urban teenagers, part 1: Theoretical model" and "Toward a model of the everyday life information needs of urban teenagers, part 2: Empirical model," were about the information behavior of high school students, and I thought maybe these authors had conducted more research about this topic. Therefore, I decided to conduct an author search for Denise Agosto in the Dialog OneSearch category Library and Information Services [INFOSCI]. I decided I would be able to find many more articles by this author if I searched numerous databases at once, which is why I chose the OneSearch category INFOSCI. I expanded on the last name "Agosto," and then searched several different variations of this author's name. The record for this article was in the Gale Group Magazine database.

**Database:** Dialog [INFOSCI-Gale Group Magazine Database]

**Method of Searching:** Author Search

**Search String:**

s au=agosto, d.e. or au=agosto, denis e or au=agosto, denise or au=agosto, denise e or au=agosto, denise e.


**Abstract:** "Analyses of the search styles of 47 female and 56 male high school students revealed that an equal number of males and females focused clearly and remained detached (Detached Navigators) or focused clearly and became involved (Involved Navigators). Gender differences were found in topics, task perception, and affective experience. Also discusses the Information Search Styles Model. (PEN)"

**Annotation:** Despite being an older article, it is among the first articles studying how gender relates to information-seeking behavior, and is often referred to in the information behavior research of other authors. Compares the information-seeking behavior of males and females in terms of Kuhlthau's Information Search Process model. The article is from a refereed, scholarly journal.

**Search Strategy:** ERIC is a database that includes articles about education and library science. Since my user group is high school students, I felt that ERIC would be a good database to start
with. Since I was still in the beginning stages of researching my user group, I conducted a keyword search using synonyms for different terms. I limited my search by journal articles only and publication dates after 1989 only in order to retrieve more current articles.

**Database:** Dialog [ERIC]

**Method of Searching:** Keyword Search

**Search String:** ss (information()behavior? or information()seeking or information()need? or search()strateg? or research()skill?) and (high()school()student? or high()school()senior? or high()school()junior? or high()school()sophomore? or high()school()freshm?n or grade()9 or grade()10 or grade()11 or grade()12) and dt=journal articles and py>1989


**Abstract:** "This study details the activities and strategies that 11th grade students with high academic abilities used during their information seeking and use to complete class projects in a Persuasive Speech class. The study took place in a suburban high school in Maryland, and participants included 21 junior honors students, their teacher, and their library media specialist. Each student produced a 5–7-minute speech on a self-chosen topic. Conducted in the framework of qualitative research in a constructivist paradigm (E.G. Guba, & Y.S. Lincoln, 1998), the study used data collected from observations, individual interviews, and documents students produced for their projects—concept maps, paragraphs, outlines, and research journals. Interview and observation data were analyzed using the constant comparative method (B. Glaser & A. Strauss, 1967) with the help of QSR NVivo 2 (QSR International Pty Ltd, 2002); students' documents were analyzed manually. The findings show that students' understanding, strategies, and activities during information seeking and use were interactive and serendipitous and that students learned about their topics as they searched. The research suggests that high school honors students in an information-rich environment are especially confident with learning tasks requiring an exploratory mode of learning." [Article abstract]
Annotation: Demonstrates high school students' preference for impetuous keyword searches in electronic sources. Differs from previous research because it finds that these high school students are not burdened by the quantity of information available to them via the Internet. Has been chosen for currency and authority, since it is a 2007 article from a journal considered to be academic and scholarly by Ulrich's International Periodical Directory.

Search Strategy: Raya Fidel's research with the searching behavior of teenagers was mentioned in numerous articles I read, so I conducted a cited author search in the Web of Science citation databases in order to discover which articles cited this author. I assumed that some of the articles that cited this author would contain information relevant to this bibliography.

Database: Web of Science
Method of Searching: Citation Search
Search String: Cited author Fidel r*


Abstract: "Analyzes Web-searching behavior for homework assignments of high school students through field observations in class and at the computer terminal with students thinking aloud, and through interviews with various participants. Results emphasize the need for training and for system design based on user seeking and search behavior. (Author/LRW)"

Annotation: An early study examining the information-seeking behavior of high school students using the Internet. Fidel has repeatedly been cited in the information behavior literature, and this specific article has been cited over one hundred times. Even though this article was published a decade ago, it is still relevant today, as demonstrated by similar findings in current research.

Search Strategy: I searched the ERIC Thesaurus in order to find controlled vocabulary terms for information behavior and high school students. I looked at broader terms, narrower terms, and related terms so that I could create the most complete search possible. By using controlled vocabulary, I could increase the precision of my results so that I did not have so many irrelevant records included in my results.

Database: Dialog [ERIC]
Method of Searching: Controlled Vocabulary Search

**Abstract:** "This paper reports the findings of a study undertaken in four Nova Scotia public schools of twelfth grade students’ information seeking strategies when they use the Internet as an information source. Various Nova Scotia Department of Education curriculum documents hold high expectations of students’ information seeking strategies when using the Internet for educational purposes. This study looks at whether these expectations are being realized. The results include the students’ use of specific information seeking strategies, knowledge of World Wide Web Search engines, as well as how students acquired their Internet information seeking knowledge, and students' perceptions of their ability to locate information on the Internet. The results of the study have important implications for Internet education and the role of information professionals in public schools." [Article Abstract]

**Annotation:** Shows the ways in which high school students struggle with their online search methods, while also believing that their search methods are of high-quality. Although this study is of Canadian high school students, the results are similar to those of studies conducted in the United States, while also providing a new perspective of the information-seeking behavior of this population. The authors are researchers in the field of education instead of library science, which also allows for a different perspective. The article is from a peer-reviewed journal categorized as "Academic/Scholarly" by Ulrich's International Periodicals Directory.

**Search Strategy:** I searched the ERIC Thesaurus in order to find controlled vocabulary terms for information behavior and high school students. I looked at broader terms, narrower terms, and related terms so that I could create the most complete search possible. By using controlled
vocabulary, I could increase the precision of my results so that I did not have so many irrelevant records included in my results.

**Database:** Dialog [ERIC]

**Method of Searching:** Controlled Vocabulary Search

**Search String:**

ss (secondary schools/de or secondary school students/de or grade 9/de or grade 10/de or grade 11/de or grade 12/de or high schools/de or high school students/de or high school freshmen/de or high school seniors/de) and (information seeking/de or search strategies/de or information needs/de or information sources/de or information skills/de or online searching/de)


**Abstract:** "This study examined the relationship between curricula in secondary-level science classrooms, which support development of information literacy skills, and actual student skills. A vast body of research reflects deep concern with the level of information literacy skill development among secondary and post-secondary students. But even when educational curricula mandate skill development, many students are unable to demonstrate sophisticated information searching and critical evaluation skills. The findings of this study, which we based on analyzing information seeking tasks and conducting interviews with students in three biology classes in a large urban high school, demonstrated a similar lack of skills. Pressure on teachers to "teach to examinations"-that is, to focus on substantive content rather than on information literacy skills and information literacy skills deficits among teachers themselves-is a possible explanation for these results. The study is of particular interest to teachers of the curriculum applicable in the study context, but the broader implications of repeated indications of gaps in students' information literacy skills are a significant indicator that schools must assume a larger responsibility for information literacy instruction. Leaving skill development to the post-secondary environment will not ensure that citizens are sufficiently skilled to participate fully in 21st century life, in workplaces or in their personal life contexts." [Article abstract]
**Annotation:** Problems found with the information-seeking behavior of high school students include a belief in Google being equivalent to the entire Internet and a high usage of Wikipedia despite knowing that it is not a credible source. Also explains the reasons why high school students prefer the Internet to print sources. Even though the study was conducted in Canada, the findings were similar to information-seeking behavior studies conducted in the United States. Furthermore, this article was published in 2009, making this the most current article in this bibliography.

**Search Strategy:** Raya Fidel's research with the information-seeking behavior of high school students was mentioned in numerous articles that I read. I assumed that some of the articles that cited this author might be appropriate for this bibliography, so I conducted a cited author search in the Web of Science citation databases to discover which articles cited this author.

**Database:** Web of Science  
**Method of Searching:** Citation Search  
**Search String:** Cited author Fidel r*


**Abstract:** "Reports a study of the information seeking behaviour of students in an Eleventh grade honours maths class. Questions and discussions explored the entire information universe of each student. Although library use was investigated, it was not the main focus of the study, as the researchers considered that by looking at the full range of student information seeking behaviour in both academic and personal contexts, librarians can more successfully design services and programmes that are integrated into the wider patterns of students' lives. As an exploratory study, it was intended to guide further research rather than provide generalizable answers. However, the patterns that emerged are compatible with the findings of other studies and suggest some possibilities for librarians' intervention in the information environments of young people."

**Annotation:** Concentrates on the information needs and information behavior of high school students, finding that there is a crucial need for information resources on the subject of health, and finding a partiality for people and print resources over electronic ones. Different from other research in its positive approach to the information-seeking behavior of high school students. While most articles concentrate solely on the unsound searching strategies of this user group,
these authors focused on what is beneficial about this user group’s information-seeking behavior. Although this article is not as current as others, the different approach taken by these esteemed researchers and the findings that differ from other research make this research essential.

**Search Strategy:** I chose the LISA database because it is a highly recommended database for the field of library science. I browsed the LISA thesaurus for terms relating to information behavior and high school students, and then searched by using the controlled vocabulary terms I found. Once I received my results, I clicked on the Peer-Reviewed Journals tab in order to refine my results even more.

**Database:** Library & Information Science Abstracts (LISA)

**Method of Searching:** Controlled Vocabulary Search

**Search String:**
(secondary school children or secondary schools) in Descriptors and (information seeking behaviour or search strategies) in Descriptors and a limit to Journal Articles Only and a limit to English Only

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**Abstract:** "The use of the World Wide Web by high school students to complete school assignments was studied by interviewing high school students. The author expected to find that students were using the World Wide Web as their primary source of information and that the students had difficulty in evaluating whether information on a web site was scholarly. The author considered Perry's Scheme of Student Development and the unique nature of the World Wide Web to come to these assumptions, which were only partially validated by this study. As is typical in a qualitative study, the sample was small, but some themes that could help provide direction to further research emerged. It was discovered that the students in the study used a good variety of resources, including libraries and the World Wide Web, to find information for school assignments. However, the students were weak at determining the quality of the information that they found on a web site. Students did poorly at evaluating web site information in the absence of gatekeepers." [Article Abstract]

**Annotation:** Unique in its finding that high school students believe both libraries and electronic resources to be highly suitable sources of information. Also draws attention to Internet sources...
high school students tend to use, and their difficulties in determining credible sources on the Internet. The article is from a well-respected, refereed, and scholarly journal.

**Search Strategy:** I found this article referenced in the Julien and Barker (2009) article "How high-school students find and evaluate scientific information: A basis for information literacy skills development." I thought this article sounded relevant to my topic so I checked the citation to find out which journal the article was in. I then went to the Drexel University Libraries webpage, clicked on Electronic Journals under Resources, found the title *Research Strategies*, and then used the SFX link to find page 151 in volume 18. This link took me directly to the full text of the article, which was available in the ScienceDirect database.

**Database:** N/A

**Method of Searching:** Footnote chasing

**Search String:** Referenced in:


**Abstract:** "The purpose of this research is to study the information-seeking habits of children at an English secondary school. Data from two different research exercises were collated in order to provide an insight into how students perceived and used a range of information resources. Design/methodology/approach - In the first research exercise, groups of children from each academic year were asked to discuss a set of information resources and to rank them according to perceived usefulness. In the second, students were asked to report, throughout the school year, on the resources they used to complete homework assignments. Findings - The findings from these two exercises are best interpreted by using them to provide the answers to three questions: Which information resources did students consider to be the most useful? Which information resources did students use the most? When an information resource was referred to, how likely was it that students found it to be useful? The rankings differed considerably, depending on
which question was being asked. Originality/value - The results gave an insight into how different information resources were used for different subjects. They also provide evidence of the fact that students' reliance on other people as an information source begins to decline as they get older, and there is a corresponding increase in their use of books and electronic information sources." [Article Abstract]

**Annotation:** Although the sample of this study included younger students with the high school students, it is still important research since it demonstrates how information-seeking behavior changes as students reach the high school level. Focuses exclusively on the information sources used by the students in this study. This research also provides a different point of view since it was conducted in England. The article is from a journal considered to be scholarly by Ulrich’s International Periodicals Directory.

**Search Strategy:** I chose the LISA database because it is a highly recommended database for the field of library science. I browsed the LISA thesaurus for terms relating to information behavior and high school students, and then searched by the controlled vocabulary terms I found. Once I received my results, I clicked on the Peer-Reviewed Journals tab in order to refine my results even more.

**Database:** Library & Information Science Abstracts (LISA)

**Method of Searching:** Controlled Vocabulary Search

**Search String:** (secondary school children or secondary schools) in Descriptors and (information seeking behaviour or search strategies) in Descriptors and a limit to Journal Articles Only and a limit to English Only


**Abstract:** "Purpose -- The purpose of this paper is to present the main findings of a nation-wide survey of Danish high school students and their use of libraries and digital resources. The presentation of the main findings includes different organisations of the data in clusters and user types. This organisation and analysis gives indications of the factors that influence the high school students' use of libraries and digital resources and it also explains the preferences and expectations the students have. Design/methodology/approach -- The study was conducted as a
nation-wide online survey to a sample of high schools in Denmark. The data collection was conducted in several steps. A sample of high schools was selected and asked if they would accept the opportunity to participate in the study. If they agreed, the director or a person appointed by the director selected two to three classes of students. The students received a link to the online questionnaire and completed it during a class hour. The result was 998 usable and valid responses. There was no way to secure a true random sample, but the sample is very much like the student population as it is registered in statistical yearbooks in relation to characteristics such as type of high school, gender and geographical distribution.

Findings -- The findings indicate that traditional demographic factors alone cannot explain all of the variability in the students’ information behaviour. Type of high school, gender and study year influence the use of libraries and digital resources but it also becomes clear that perceptions of the study and study preferences influence the information behaviour. It is also indicated that a correlation exists between the amount of use of libraries and digital resources. Further, it is indicated that high school students possess a rather traditional view of the importance of the different services and facilities offered by libraries.

Research limitations/implications -- The limitations of the research are inherent in the methodology. First of all, one only gets answers in relation to the stated questions and statements. This implies that the students’ use of other information grounds, horizons, social technologies are omitted from the study. It is probably valid to argue that the data collection methods bias the results in a "conservative" way.

Originality/value -- The research is the first nationwide investigation into different aspects of high school students’ use of libraries and information resources in Denmark." [Article Abstract]

Annotation: Although the study was conducted in Denmark, the findings are comparable to the findings of studies conducted in the United States, Canada, and England. Important because it is the largest sample I found that explores the information-seeking behavior of high school students, with a sample consisting of high school students throughout Denmark. None of the other studies in this bibliography have such an extensive sample. Differs from previous research because it finds that the level of use of libraries increases once students reach high school, gender affects the level of library use, and there is much inconsistency between high school students’ information-seeking behavior. Also chosen because of its currency, and because Pors and the journal this article is published in are both well-respected in the field of library science.
Search Strategy: I chose the LISA database because it is a highly recommended database for the field of library science. I browsed the LISA thesaurus for terms relating to information behavior and high school students, and then searched by the controlled vocabulary terms I found. Once I received my results, I clicked on the Peer-Reviewed Journals tab in order to refine my results even more.

Database: Library & Information Science Abstracts (LISA)
Method of Searching: Controlled Vocabulary Search
Search String: (secondary school children or secondary schools) in Descriptors and (information seeking behaviour or search strategies) in Descriptors and a limit to Journal Articles Only and a limit to English Only


Abstract: "A total of 77 pupils in an English high school contributed data via an online questionnaire about their information needs. Many pertained to popular culture and technology, with sport and computer games inspiring particularly large numbers. Current information was especially important to the participants. Future research incorporating interviews would be invaluable in collecting richer data on young people's information needs." [Article Abstract]

Annotation: Findings demonstrate that high school students information needs tend to most often fall into the categories of popular culture and science and technology. Unlike other researchers in this field, Shenton draws attention to the fact that every individual in a user group will have their own distinctive set of information needs. Though the study was conducted in England, the results of the study are comparable to those that have been conducted in The United States, and the journal that the article was published in is a scholarly one.

Search Strategy: I chose to search the Library Literature & Information Science Full Text database because it is a highly recommended database for the field of library science. I tried using controlled vocabulary terms from the database's thesaurus, but I was only retrieving the same articles I had already found using other databases. I then tried a keyword search, which is how I found this article.

Database: Library Literature & Information Science Full Text

**Abstract:** "Purpose - The problems experienced by young people when looking for information are significantly under-researched and this paper aims to attempt to expand the fragmented knowledge base. It concentrates on action taken by English high schoolers to meet academic information needs. Design/methodology/approach - The work draws on qualitative data elicited via an online questionnaire administered in October and November 2006. Thirty-five participants contributed data on the problems they had encountered. Findings - Inductive coding of the data revealed that over 20 individual problems were apparent. The most frequently mentioned was an inability to locate the desired information. Some of the other issues related to information use, rather than information-seeking. Research limitations/implications - The project was small scale, with data collected from pupils in only one school. It relied solely on self-reported data and insight into information-seeking problems was gained purely in terms of behaviour to satisfy academic information needs. A future project may consider issues that develop when youngsters are intent on meeting leisure-oriented needs. Practical implications - The findings have implications for the improvement of Web filters and the teaching of information skills, especially with respect to the effective use of search engines and the training of learners in information-seeking methods beyond the use of the Internet. Originality/value - The paper is unusual in exploring information-seeking problems entirely from the perspective of information users. It is envisaged that the research will be of use to academics interested in information behaviour, teachers in secondary schools and information professionals who work with young people."

[Article Abstract]

**Annotation:** Presents a different viewpoint by examining the challenges high school students face as they are searching for information to meet an information need. This study was also
conducted in England, and its findings are similar to those of other studies. Shenton is an expert in the field of library and information science, having written numerous research articles about the information-seeking behavior and information needs of children and young adults. Therefore, this article has been chosen for authority and for currency, since it was published in 2008.

**Search Strategy:** After reading Shenton's article "The interest-related information needs of teenagers in an English high school," I decided to conduct an author search to see if he had written any other articles about the information behavior and information needs of high school students. I decided to conduct an author search for A.K. Shenton in the Dialog OneSearch category Library and Information Services [INFOSCI], but I excluded files 35, 47, and 148 since those three databases tend to include little scholarly literature. I expanded on "Shenton," and then searched several different variations of this author's name, and also included a keyword search in order to refine my results. The record for this article was in the Inspec (1898-present) database.

**Database:** Dialog [INFOSCI (not files 35, 47, 148)-Inspec (1898-present)]

**Method of Searching:** Author Search and Keyword Search

**Search String:**

s(au=shenton, a.k. or au=shenton, andre k or au=shenton, andrew or au=shenton, andrew k or au=shenton, andrew k or au=shenton, andrew kenneth) and (s information()need? or information()seeking or information()behaviour?)

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**Recommended Resources**

This list provides high school students with seven recommended resources to meet their information needs. Due to their varied information needs, this list of resources is an eclectic one. One resource was chosen to meet their health related information needs, another was chosen to meet their popular culture needs, a third was chosen to meet their financial information needs, and three more resources were chosen to help meet this user group’s academic information needs. A seventh resource, *Internet Public Library for teens: TeenSpace*, was chosen to cover the multitude of information needs that high school students experience. This population tends to rely on Google and Wikipedia, and struggle with finding and evaluating resources for
themselves. The following resources will help high school students meet their various information needs.


This free health website, run by the Alice!, Health Promotion Program at Columbia University, provides answers to questions that are asked regarding the topics of alcohol and other drugs, fitness and nutrition, emotional health, general health, sexuality, sexual health, and relationships. Anyone can send a question using the easily located "Ask Alice!" form, and there are now more than 3,000 questions and answers posted, with more questions posted every Friday. Furthermore, as information changes, past answers are updated. The simple and colorful layout; interactive nature through the use of the weekly poll, theme of the week, "Get Alice! in your box" feature, and anonymous "Ask Alice!" form; and the easily searched website makes this website ideal for high school users. Users can browse by subjects that are broken down into numerous categories, or they can conduct a keyword search to find questions and answers relating to their keyword. All of the information provided in the answers is accurate and objective, and often suggestions for other resources or referrals are made. According to their website, all "responses undergo a standardized review process to insure high quality and accuracy." Finding health related information can be challenging for high school students, and often the information they are seeking is critical. Therefore, this website is an excellent resource for this population. The only negative aspect of this website is that I feel that the information about where to find immediate assistance should be prominent on the homepage. The only thing about this on the homepage is a message in small font stating "If you are in an urgent situation, please click here to view a list of 24 hour support services and hotlines," but the link takes users to the emergency hotlines at Columbia University rather than national hotlines.


This free website, created and run by AMG, is an excellent source of anything relating to music. The website includes over 1.5 million albums, over 15 million tracks, 350,000 album reviews,
and more than 5.5 million music samples. The highly accurate information is provided by AMG editors and other experts in music. Included in this website are complete artist/group biographies, that have the genre of music, styles and moods of the artist/group's music, where the group was formed, what years the artist/group was active, albums, songs, awards, artists they were influenced by, artists that they influenced, music videos, and album critiques. All music genres and music from around the world are covered in this website. The website is easy to search, with a keyword search by artist or group, album, song, or classical work. Users can also browse by music genres, instruments, countries, moods, and themes. Users also have the option for an advanced search that can be searched by details such as the birthplace of an artist or by the style and year of release of an album. The site targets people of all ages, but the site is ideal for teens of high school age because it is easy for users to navigate, and because it includes an Allmusic blog, music videos, and an "Album of the day" section that teenagers would enjoy. Links to the Allmovie and Allgames websites will also be appealing to teenagers, who often have information needs related to popular culture. Due to the accuracy of the information in this website, students can use the information provided in this website for both their leisure and academic information needs. The only feature of this website that high school students may not like is that they need to register for a free account in order to access some of the information provided on the website.


This highly accessible print guide, published by SourceAid LLC, provides students with advice on every stage of the research process. Includes information on choosing and modifying a research topic, current examples of the negative outcomes of plagiarism, search strategies that can be used in search engines such as Google in order to improve the results, details on how to determine if a source is trustworthy, keeping yourself organized throughout the search process, and explains and provides examples for four citation styles, including MLA and APA. Information in this manual is presented in a simplified, easy to find manner. A table of contents, a general index, an index for each of the four citation styles, a list of different citation formats given for each citation style, markings on the outside of the guide to distinguish each chapter, and a large font size result in a very user-friendly guide. The simplified explanations and the
emphasis on the types of resources high school students tend to use, such as blogs, podcasts, and other online sources, make it clear that this guide is targeted for high school students. The only disadvantage of this resource is that it is not an electronic resource, the type of resource high school students prefer. However, this guide presents high school students with all of the information they need to complete a research project from start to finish, in one easy to use, compact guide.


This database produced by Gale Cengage Learning provides users with information about issues and countries around the world from multiple points of view. The topics covered in this resource include "Business and Economics," "Conflict and Diplomacy," "Environment," "Government and Politics," "Health and Medicine," "Science and Technology," "Society and Culture," and "Women, Children, and Family." In all, there are more than 250 topics, approximately 200 countries, and information provided from over 400 full-text worldwide resources in this database. There is a "portal" page for each country and issue that contains a portion of the full-text article, videos, images, related topics, information about governments and organizations related to that issue or country, podcasts, and numerous other articles. Information can be translated into eight different languages. Students can conduct a keyword search in the basic search box, can conduct an advanced search using Boolean operators and place limits on things such as content type, date of publication, and reading level. Students can also browse issues and topics, or click on an interactive map to browse different countries or regions. This database is targeted towards high school students with the multiple methods of finding information, podcasts and RSS feeds, information that can be downloaded into MP3 format, a homepage that they can customize, and the colorful and highly interactive layout. Despite the vast amount of information provided in this database, it is presented in a manner that will not overwhelm students. The only negative aspect of this database is the fact that a school or public library must subscribe to it in order for high school students to use it.
This is a free website targeted towards teens, that is hosted by the iSchool at Drexel, College of Information Science and Technology. It contains links to excellent websites that cover the numerous information needs that high school students have. The "Hot Topics" section of the website include "Homework Help," "Graphic Novels Guide," "FAQs: Answers to Frequently Asked Embarrassing Questions," "A+ Writing," "Poetry Wiki," "Procrastinator" which includes information and links for leisure time. The directory includes the topics of "Clubs and Organizations," "Health and Sexuality," "Money and Work," "Technology," "Reading and Writing," "School and Homework Help," and Sports, Entertainment, and Arts." Teenagers can browse the "Hot Topics" or "Directory," can conduct a basic keyword search in either the IPL TeenSpace or the entire IPL, or they can fill out a form to "Ask an IPL Librarian." The results from the keyword search include links and information about which category the link can be found in. This website is an excellent starting point for any information need a high school student may have. It has a well-organized layout, is colorful and has images to break up the text, has a multitude of useful links, and the contact form enables students to ask for help when they need it. However, some of the links that I tested no longer worked, which could be a source of frustration to high school students. Some students may also prefer to have the information that they need contained in one website instead of clicking on numerous links.

This free website is targeted towards high school students and was created by the National Endowment for Financial Education, a national, nonprofit foundation. Financial issues is a common information need for high school students, and this website provides students with the highly accurate financial and job information that they need. The website has a format that will be pleasing for teens. It is set up to look like a bulletin board, with photographs that move, and all of the sections as pieces of papers that are tacked on. The website is broken up into different units, including "Financial Plan," "Budgeting," "Investing," "Good Debt, Bad Debt," "Your
Money,” "Insurance,” and "Your Career” that are available in both English and Spanish. Each unit includes important information that students need to know, that is explained in an age-appropriate manner. The homepage contains a few articles that are geared towards financial issues for teenagers and includes a sign-up form for an e-mail newsletter. It also includes interactive games that reinforce the concepts presented in the different units, and some of the games link to important resources such as the Bureau of Labor Statistics "Occupational Outlook Handbook, 2008-09 Edition." Students can browse the different units or there is a basic keyword search box that can be used. The downside of this website is that no sample answers are given to the practice assignments and questions within each unit, and it would be beneficial if the website had a list of other resources about this issue. Also, the basic search does not work very well, so only the most basic of terms will retrieve any results. It is up to the student to browse for the information that they need.


The Opposing Viewpoints Resource Center is a database produced by Gale Cengage Learning that provides users with pro and con arguments for over 4,700 contentious current social issues. The social issues include themes such as government, crime and law, science and technology, economics, health and medicine, society, world issues, and teen issues such as teen pregnancy. There are currently 4,789,797 articles, 9,100 pro and con viewpoint articles, 300 primary sources, over 1,800 images, and thousands of podcasts. The resources included in this database are the pro and con viewpoint articles, reference articles, magazine articles, news articles, academic journal articles, primary sources, statistics, multimedia such as audio files and podcasts, and related websites. Users can conduct a basic search that is a keyword, subject, or entire document search that includes limiters such as content level and content type. An advanced search option is also available that allows users to search by keyword, subject, document title, publication title, document author, entire document, person name, place name, named work, company name, publisher name, ISSN, ISBN, and previous searches. Even more limiters are available for the advanced search. Boolean operators, proximity operators, and wildcard characters are all available in both the basic and advanced searches. Users can also
browse popular issues through the subject guide or conduct a publication search. Major strengths of this database are that users can listen to the articles and even download the MP3 of the articles, the articles can be translated into eight different languages, it includes the Merriam-Webster's Collegiate Dictionary, and it contains a "Toolbox" that helps students with every aspect of completing a research project. The database is continuously updated, and all of the content is updated every three years. This database is targeted towards middle school, high school, and undergraduate students. Unfortunately, since this is a subscription database, the school or public library must have a subscription in order for students to use it. Other negative aspects include a slightly outdated "Further readings" lists and a lack of many primary sources and websites for some of the issues.

**Conclusion and Personal Statement**

I learned a great deal from this assignment that will be useful to me throughout my career as an information professional. First of all, I learned everything that is involved in critically evaluating research articles. I have never before had to read research articles so carefully in order to determine what it is that makes that particular article unique to the literature about that topic. In the past when I have worked on research projects, I have simply gathered information based on how relevant articles were. I never considered authority, currency, objectivity, accuracy, and coverage. I also learned how difficult it is to find and evaluate resources for a specific group of users. I found choosing appropriate resources for high school students to be one of the most complex aspects of this project. I have never had to think of resources in terms of how others would view them, so doing so was very enlightening to me.

I also learned how important planning an excellent search strategy is. When I first began researching this topic I was so focused on searching with terms such as "high school students" and "secondary education" that it took me awhile to realize I should also be searching under terms such as "teenager" and "adolescent." I also discovered how important it is to keep a log of my searches. If I had not done so, I would have never found some excellent descriptors to use in some of my searches and I most likely would have ended up repeating a lot of my searches without realizing it.

One of the most important things I gained from completing this assignment is the knowledge I now have of my user group. I plan on becoming a young adult librarian after I
graduate, so I will need to understand the information needs and information-seeking behavior of teenagers. If I do not understand these things, I cannot be a very effective librarian. Furthermore, young adults would have a negative perception of me and most likely of libraries in general. I found it very interesting that some of the studies found that high school students prefer people sources, but not librarians. This suggests that librarians need to learn how to become more accessible to this user group. The knowledge I have about the information needs and information-seeking behavior of high school students will also be of use to me now since many teenagers come into the library where I work with reference questions. Now I can recommend more useful resources, and I now know that they may need help with constructing their search statements in search engines and databases. I am glad that I chose high school students as my user group because I made some startling discoveries that will enable me to better serve this unique population.