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The purpose of this study was to investigate undergraduate students' information seeking behaviors when searching for career information. No known current studies within the library and information science field address the career information seeking behaviors of college undergraduates, especially in the digital age. Qualitative interviews were conducted with ten junior and senior humanities majors and two university staff members who provide career guidance to humanities majors. Analysis of this study focused on students' information needs, information source preferences, the nature of the career information seeking process, and how an aspect of personality (extraversion) was related to source preferences. Results showed that participants utilized a core set of both human and information sources, although several of these sources received mixed reviews, as well as a long tail of many other sources. For undergraduates, the career information seeking process is not always satisfying and is highly unique and repetitious in nature.

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HOW UNDERGRADUATES SEEK CAREER INFORMATION

by
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Introduction

Information seeking is broadly defined as “a conscious effort to acquire information in response to a need or gap in your knowledge” (Case, 2007, p. 5). Researchers in the field have investigated a variety of everyday life information seeking situations, which are daily life situations not related to work or academic endeavors. Looking for career information is an important everyday life information situation in that much of a person’s livelihood and day-to-day activities can be influenced by their career. Career information has been identified as one of the three most frequently needed information types in the United States (Bunch, 1982). Moreover, four nationwide surveys commissioned by the National Career Development Association (NCDA) found that nearly 7 in 10 adult workers said they would get more information about jobs if they were starting over (Brown, 2007, p. 10). But exactly how people look for career information has not been widely explored, especially not recently and not by scholars in the library and information science (LIS) field. Indeed, the development of a career and finding a job is a complex process that encompasses social norms, personal backgrounds, and general interests. However, service providers, especially career counselors and librarians, can better serve their customers if they have a clearer picture of the specific sources and information seeking behaviors associated with finding career information.

The majority of the current research is from the vocational, psychology, and education fields, which tends to focus on the larger career development continuum, career

counseling, career decisions, personalities, and interests. Two previous LIS studies (Julien 1999; Webber & Zhu 2007) did explore career information seeking, in Canadian high school students and in Chinese young adults living in England, respectively. In Julien's (1999) study, 59% of participants reported finding it difficult to find all of the information necessary to make a career decision, 38% felt they needed to go to too many places to obtain the information they needed, and many participants either lacked awareness of some sources of information or found the information to be scattered. In Webber and Zhu's (2007) study, 55% of participants reported experiencing barriers to finding career information.

While Webber and Zhu's study did encompass the Internet, Julien's study was just early enough that the Internet is barely discussed as a potential source of career information. Julien did discover some of the more affective issues surrounding the search for career information, and Webber and Zhu did identify some preferred career information channels (the Internet, magazines, and newspapers). These studies, though, lack depth into why the participants chose certain sources and what process they used to locate information. The studies were also done on two specific populations, and one study (Julien's) may be outdated due to the current popularity of the Internet.

A recent study of the research habits of American undergraduate students found that 67% of them had conducted research for career information in the past six months (Head & Eisenberg, 2010). Indeed, undergraduates – especially juniors and seniors – are close to starting their first real job or selecting their long-term career. The U.S. recession has made it an especially precarious time for undergraduates seeking employment. The National Association of Colleges and Employers (NACE) reported that college-graduate

hiring fell 22% in 2009, and in spring of 2010 the *Wall Street Journal* reported that the outlook “remains grim” for recent college graduates (Murray, 2010). The good news is that, for the first time in 18 months, NACE reported that an “absolute majority” (51.5%) of the companies participating in its monthly hiring survey intended to add recent graduates to the spring 2011 payroll (Giegerich, 2011). Still, recent undergraduates are just beginning to recover from the recession in terms of post-college employment opportunities, and no current LIS research exists on how American undergraduate students look for career information.

This study aims to investigate undergraduate students’ information seeking behaviors when seeking career information. Specifically, it will investigate how they look for career information in terms of the steps they take, the sources they use, and the overall nature of the process for them. It will also explore whether one aspect of people’s personality, extraversion, has any influence on what types of sources they prefer. This study helps fill a gap in our understanding of U.S. college students’ career information seeking behaviors, adds to the LIS research in this area, and helps bring the research studies up to date in terms of technology and sources used for searching.

Literature Review

While little literature has addressed the information seeking behaviors of undergraduate students specifically, combining several categories of previous research illuminates some of the current thinking in the field. Literature about seeking career information, undergraduates' everyday life information seeking, and extraversion preferences in career information seeking provides a more comprehensive picture of what previous scholars have found in this area.

Seeking Career Information

Academic research into the question of career information seeking has historically been scattered amongst vocational, psychology, and education literature, with only a few studies from the library and information science (LIS) literature. The literature primarily has focused on how and why people seek career information and what types of information they tend to pursue. The studies are most frequently geared toward career counselors' considerations; only two empirical studies focused on considerations for librarians.

Career, or vocational or occupational, information has been identified by researchers as critical to everyday life needs. Bunch (1982) identified job information as one of the three most frequently needed information types in the United States. Bunch argues that the main reason people are unemployed is due to a lack of employment information, not a lack of qualifications. Brown (2007) found that one-fifth of college

graduates reported using no source of occupational information. Brown also discusses the results of four nationwide surveys commissioned by the National Career Development Association (NCDA), in which nearly 7 in 10 adult workers said they would get more information about jobs if they were starting over (p. 10). Brown infers from this that there is a considerable need to improve the delivery of career information.

Some research has inquired into why people look for career information. Aiken and Johnston (1973) explored ways to promote career information seeking behaviors in vocationally undecided college freshmen and sophomore males. They found that vocational group reinforcement counseling (two to three one-and-a-half hour sessions) was related to an increase in career information seeking responses amongst the students. It was especially related to the students' cognitive responses; that is, the students reported spending more time thinking about seeking career information after experiencing the group reinforcement counseling. Furthermore, Aiken and Johnston found that the amount of information students seek may be related to their readiness or interest in making vocational plans. They determined that some career exploration behaviors can be taught, but some students are more ready to explore than others.

Similar to the Aiken and Johnston (1973) study, Millar and Shevlin (2003) studied what influences students' career information seeking and deduced that it is important to cultivate patterns of exploratory behavior in young people. They conducted a survey with 278 17-18 year old Irish students to see how students' behavioral intentions influenced their career information seeking. They used the Theory of Planned Behavior (TPB) to inform their study, which showed that intention is a predictive factor of whether young people will seek career information in the future. Furthermore, a positive attitude

toward career information seeking led to a higher behavioral intention to search for this information, which in turn led to higher levels of career information seeking.

Researchers have also explored people's strategies for gathering career information. Gati and Tikotzki (1989) studied the paid use of MEITAM (the Hebrew acronym for Computerized Occupational Information System) by men and women ages 17 to 39, in order to determine their strategies for collecting career information. They found that most career information seekers intuitively used an elimination strategy, eventually limiting the number of career alternatives to which they gave serious consideration. Gati and Tikotzki found that, as the number of potential career alternatives considered increased, the percentage of career alternatives that participants actually explored decreased. Conversely, at times the participants used a compensatory strategy if the number of career options presented by the system was small. Gati and Tikotzki point out that these strategies were sometimes used at specific points in the information seeking process: participants used the elimination strategy in the beginning stages when many options were present, and they used the compensatory strategy in the final stages when not many options were left.

The two empirical studies from the LIS literature (Julien; Webber & Zhu) suggest barriers to career information as well as the choices of information channels used to find career information. Julien (1999) surveyed 399 Canadian adolescents, 59% of whom reported finding it difficult to find all of the information necessary to make a career decision. Thirty-eight percent felt they needed to go to too many places to obtain the information they needed. Julien utilized open-ended survey questions and follow-up interviews in order to discover some of the more affective issues surrounding career

information. Students seemed to “feel blocked by people having the authority to help,” including guidance counselors, librarians, and other “people [who] won’t just give straight answers” (p. 43). Some students experienced emotional difficulties, such as feeling a lot of pressure, being scared and avoiding making a decision, or feeling stupid when asking for help. Other barriers included being overwhelmed by the quantity of information needed and institutional problems. Moreover, Julien’s study revealed that the adolescents did not fully understand what decisions they needed to make about their future and were not clear on “an appropriate process of career decision making.” This confusion led to them feeling “anxious and overwhelmed by the decisions they made” (p. 47).

Julien also found that the adolescents lacked awareness of the existence of some sources for career information. Furthermore, even if students did possess awareness of most sources of help, the information overall was “scattered” (p. 47). Julien points out that many sources of career information provide pieces of information but not the complete picture, so the adolescents might have been missing information since they did not know of all the information sources available to them. Many adolescents questioned the reliability of information in books, pamphlets, and career exploration software, as well as information given to them by guidance counselors. Julien suggests that “information providers must take steps to overcome this distrust” (p. 48).

In another article about the same study, Julien (1997) compared the adolescents’ uses of formal versus informal sources of career information and categorized them as being helpful either instrumentally or emotionally. Instrumental help means helping to gain ideas or understanding, or helping to plan, decide, or prepare; emotional help means

getting support, reassurance, or confirmation, or making things calmer or easier. Julien found that the formal sources of information (materials in school career centers, school and public libraries, guidance counselors, teachers, and the Internet) provided more instrumental help than emotional help. Formal sources of information such as teachers and guidance counselors were described as particularly helpful when the relationship was like that of a friend or parent. Libraries were characterized as the least helpful formal source of information, and the adolescents gave only negative comments about the librarians they had encountered (p. 375). The informal sources of information were less likely to be “purposively” approached; instead, adolescents had more casual conversations with friends, family members, and acquaintances, which provided support, reassurance, and motivation. Adolescents characterized people in a career of interest or people who shared their personal experiences of attending college as being of the greatest help. Interestingly, it was guidance counselors (categorized as a formal source) and parents (categorized as an informal source) who provided help that was both instrumental and emotional, although the guidance counselors were only occasionally of emotional help.

Webber and Zhu’s (2007) study of 18- to 26-year old Chinese residents of Sheffield, United Kingdom, focused less on the affective issues surrounding career information seeking and more on the information channels used by employed versus unemployed young adults. Eighty-nine percent of their respondents said that it was “important” or “very important” to access career information. Webber and Zhu’s survey found that 95% of respondents used the Internet to find job information, while only 27% used human sources. Their participants began to delineate some of the problems they

found with finding career information online: registering at employment sites takes a long time and then they receive junk e-mails afterwards, the authenticity of vacancy announcements could not always be determined, and sometimes they could not tell if a posted vacancy was still current. Webber and Zhu's participants also utilized magazines and newspapers to some extent, and this was the information channel that participants recommended most to their friends. The Internet was the most heavily utilized by far, but it was not the most recommended channel. Similar to Julien's (1999) study, 55% of Webber and Zhu's respondents felt they had encountered barriers when seeking career information. Webber and Zhu did not explore the nature of the barriers.

It has been noted that social influences have a large effect on people's career information seeking. Barak, Carney, and Archibald (1975) and Julien (1999) argue that career information is filtered through people's unique personal systems of attitudes and values, which have been instilled during socialization and in school. Furthermore, Julien (1999) states that a number of human sources, such as family, peers, guidance counselors, teachers, library resources, and the mass media, also provide career information. We can imagine that this information, too, has been filtered through the source's personal system of attitudes and values. In this sense, career information is very different from other information types, such as scholarly or academic information.

The data suggest that there is a wide variation amongst people in terms of the ways in which they seek career information, the amount of information they seek, and what types of information they want. Julien (1997), Sharf (1975), and Millar and Shevlin (2003) found that styles of career information seeking are extremely variable and differ very much from person to person. Julien states of her study, "The complexity of career

decision-making was reflected in the diversity of information needs (gaps) and preferred sources of help” (p. 383). Millar and Shevlin (2003) found that 15 to 16 year old high school students engaged in “widely different” amounts of information seeking for careers over a four month period. Specifically, the students’ total number of individual information seeking activities ranged from 8 to 468 (p. 27). Sharf (1975), who studied non-college-bound high school youths, found that, not only did the types of career information sought vary, the amount of information sought varied even more. Furthermore, students varied in what types of occupational information they examined most – descriptions of occupations were read the most, followed by educational information, qualifications, and salary, while working conditions and employment outlook were examined the least. Sharf describes the resulting styles of career information seeking as “quite idiosyncratic” and encourages career counselors to make individual suggestions for career information seeking, rather than uniform suggestions to groups of students (p. 128).

There is general agreement that the availability of online career information is growing rapidly. Brown (2007) states that in the last five years the amount of occupational information available online has “literally exploded,” and he predicts that online career sources might totally replace print sources. Webber and Zhu (2007) note that many previous studies were done prior to the Internet, or at least prior to its mainstream adoption, and thus might not reflect the dramatic increase in career information available online. Webber and Zhu posit that it is problematic to draw conclusions from studies carried out in previous years regarding the relative use of the Internet versus other information channels.

Undergraduates' Everyday Life Information Seeking

There is a wealth of literature about how undergraduate students seek course-related information, but not nearly as much related to their everyday life information seeking. As Savolainen (1995) defined it, the concept of everyday life information seeking (ELIS) “refers to the acquisition of various informational (both cognitive and expressive) elements which people employ to orient themselves in daily life or to solve problems not directly connected with the performance of occupational tasks” (p. 266, 267). Similar to what Julien (1997), Sharf (1975), and Millar and Shevlin (2003) found in relation to career information seeking, Savolainen posits that the ways in which people search for information to solve specific problems “are determined by values, attitudes, and interests characteristic of their way of life” (p. 267). Savolainen found that people evaluate the relevance of different information sources and channels on the basis of the sources’ familiarity and effectiveness in situations requiring information use.

In terms of studies that cover the ELIS of undergraduate students, Head and Eisenberg (2009, 2010) is one of the very few recent studies. As part of Project Information Literacy at the University of Washington iSchool, their research surveyed several thousand college students nationwide during both 2009 and 2010. The resulting two reports contain a wealth of information about how undergraduate students seek information in the digital age, both for their courses and for their everyday lives.

Head and Eisenberg broadly define “everyday life research” as “the ongoing information-seeking strategies for solving problems that may arise in daily life” (2009, p. 5). In the 2009 report, of topics that students had researched in the past six months for

personal use in everyday life, career information ranked fourth with 56% of respondents reporting they had looked for it. Interestingly, in the 2010 report that number increased, to 67% of student respondents reporting that they had conducted research for work and/or career information.

In the 2009 report, which focused broadly on how students seek information, Head and Eisenberg found that most students had developed an information seeking strategy that relied on a small set of known information sources. Students were driven by familiarity and habit and displayed little fondness for varying the frequency or order of the sources they used, regardless of their information goals. This means that, while the digital information landscape has increased tremendously, students have actually “dialed down the aperture” of all the resources that are available to them by sticking to the tried and true. Students’ frustrations were exacerbated, not solved, by their lack of familiarity with the digital information landscape.

Head and Eisenberg (2009) broke down their study according to contexts, meaning how students get information for interpretation and definition of a topic at various stages of the information seeking process. Broadly, they defined four research contexts that students need to find:

1. Big picture – finding out background for defining and selecting a topic
2. Language – figuring out what words and terms associated with a topic may mean
3. Situational – gauging how far to go with research, based on surrounding circumstances
4. Information-gathering – finding, accessing, and securing relevant research resources (p. 7)

The need for big picture context comes before any of the other contextual needs. Undergraduates in the study discussed going through a “preresearch” stage, in which they spent time thinking about and narrowing down a topic. When conducting everyday life

research, 63% of students reported a need for big picture context “often” or “almost always.” Similarly, 64% of students reported first needing big picture context at the start of their everyday life research. The other contexts following big picture were not as common to the everyday life research process, but they were in fact more common to the beginning of the everyday life research process: in terms of needing to find a context “near the beginning” of the everyday life research process, 62% of students reported first needing to find language context then, and 39% reported first needing an information-gathering context then.

Head and Eisenberg (2009) explored respondents’ information seeking strategies, and the results indicate that the student approach is “based on efficiency and utility.” Most students reported using public sites such as Google early in their research for both coursework and everyday life. The researchers posit that this may be one reason why students find research frustrating in the digital age: they are immediately faced with hundreds of thousands of search results, which they then need to evaluate. Students reported the most frustrations with narrowing down topics, finding relevant sources, sorting through too many results from online searches, and evaluating the credibility of what students choose to use.

In the 2009 report, Head and Eisenberg found that Google, Wikipedia, and friends were students’ go-to resources for everyday life research. Nearly all of the students in the sample reported always using Google, regardless of context or which type of research need they had. Ninety-nine percent of respondents reported using Google for big picture context for everyday life research. They also reported using (in order): Wikipedia, friends, personal collection, government sites, scholarly research databases, social

networks, instructors, other search engines, encyclopedias, and blogs. Library shelves and librarians ranked last on the list of resources used for everyday life research. This is consistent with Julien's (1997) findings that adolescents characterized librarians as the least helpful formal source of career information.

Overall, Head and Eisenberg (2009) characterized students' conceptualization of research as "a competency learned by rote, rather than as an opportunity to learn, develop, or expand upon an information gathering strategy which leverages the wide range of resources available to them in the digital age" (p. 1). Students tended to use a narrow world of resources and to revisit these resources frequently.

Head and Eisenberg (2010) also reported what criteria students use for evaluating web content for everyday life research. The respondents ranked the following criteria as the highest (composite score): interface design, familiarity with the site from previous usage, currency, URL, author's credentials, and having heard about the site before. The lowest-ranked criterion was a librarian referral to the source. In terms of whom students asked for help with evaluation for everyday life research, friends/family ranked first, classmates second, instructors third, licensed professionals fourth, and librarians last.

Finally, Head and Eisenberg (2010) investigated what difficulties students had during the everyday life research process. The top five difficulties were: with filtering irrelevant results (41%), with knowing the answer is somewhere online (33%), with determining credibility (26%), with evaluating sources (24%), and with deciding when they were finished (23%). Notably, 19% of students had difficulty integrating different sources into the search. Head and Eisenberg reported that half of the students had

“nagging uncertainties with concluding and assessing the quality of their own research efforts” (p. 3).

Extraversion Preferences in Career Information Seeking

As has already been partially discussed, numerous factors go into career decision-making and career information seeking. These factors include personal values and beliefs, decision-making styles, career interests, motivation, proclivity for self-exploration, and personality characteristics. Vocational behavior research has demonstrated that personality characteristics may affect people’s career information seeking. Miller (1982) found that greater vocational information seeking was associated with higher levels of occupational extraversion; that is, a higher preference for occupations that need the employee to be more extraverted. Miller’s data also suggested that “career-information-seeking exploratory behavior is, to an important extent, a social, interpersonal activity” (p. 33). His results showed that those who are outgoing, prefer to relate to people rather than to ideas or things, and have a sense of self-confidence are more likely to seek and obtain occupational information. Similarly, Phillips and Bruch (1988, in Reed, et al., 2004) found that shyness was inversely related with career information seeking behavior, and Reed et al. (2004) found that “the assertive, gregarious, and energetic nature of the extraverted person” is likely associated with greater self-worth and career information seeking (Reed, Bruch, Haase, 2004, p. 233).

Conclusion

The literature demonstrates a range of research studying the ways in which people seek career information, but large gaps remain in terms of literature that covers specific groups (such as undergraduate students) and that is up to date in terms of Internet sources. Recent literature about undergraduate information seeking behavior does include everyday life information needs, but very few studies have examined career information seeking. This study aims to fill a gap in the research by learning about the ways in which undergraduate students today seek information for their careers. Specifically, this study investigates which career information sources undergraduates prefer to use and why, what steps undergraduates tend to take when seeking career information, how undergraduates view the nature of the career information seeking process, and how a component of people's personalities (extraversion) plays into information source choices.

Methods

In order to gain substantive insight, this study utilized qualitative in-depth interviews. Primary participants were a subset of undergraduate juniors and seniors majoring in the humanities. Secondary participants were university staffers who assist undergraduate humanities majors with their career planning. The researcher utilized semi-structured interviews with primarily open-ended questions. These methods are described in more detail in this section.

Participants

The primary population sampled in this study was undergraduate juniors and seniors majoring in the humanities at a university, which will be called University X. Humanities majors were selected because these majors generally do not feed into a strict career path, whereas majors such as accounting or chemistry are more likely (though not guaranteed) to have a direct path to a certain career. Humanities disciplines included American studies, art history, fine art, classics, communication studies, creative writing, cultural studies, dramatic art, English, comparative literature, Germanic languages and literatures, linguistics, music, philosophy, religious studies, Romance languages and literatures, Slavic languages and literatures, and women's studies. Subjects majoring in interdisciplinary studies were excluded from the sample, because the major can be comprised of classes from any number of disciplines. Double-major students with at least one major in the humanities were included in the sample.

Humanities majors made up the primary sample in order to decrease sampling variability. Only juniors and seniors were utilized because they are generally closer to making a career decision (whether it be work or graduate school) than freshmen and sophomores, by virtue of the fact that they will graduate sooner. The juniors and seniors likely had thought about their post-graduation plans more than the lowerclassmen had, thus they were more appropriate for this research.

Primary participants were recruited using the university mass emailing system. The recruitment email was sent only to juniors and seniors in the university's College of Arts & Sciences. Participants were also recruited using fliers posted in campus buildings and libraries. Once a potential participant responded to the recruitment materials, the researcher verified that he or she was a junior or senior humanities major. If a participant passed the initial screen, then the researcher corresponded with the participant via email to set up the interview.

Ten primary participants agreed to be interviewed for this study. Of the ten, seven were female and three male. All were juniors or seniors majoring or double-majoring in a humanities discipline. Post-graduate plans included working, going straight to graduate school, and working before attending graduate school.

The secondary population sampled in this study was purposive and aimed to recruit University X staff members who assist a variety of humanities undergraduates with their career planning and questions. This population was sampled in order to gain additional, professional insights into how undergraduate humanities majors seek career information.

Secondary participants were recruited using email messages sent directly to four possible participants, who were identified as providing career guidance either to a substantial humanities-only group or to one specific humanities major that was one of the largest humanities majors at University X. The researcher corresponded with the participants via email to set up the interview. Of the four who were asked to participate, two secondary participants agreed to be interviewed for this study.

Description of Methods

This study was qualitative and exploratory in nature. According to Rubin and Rubin (2005), qualitative interviews allow the researcher to “understand experiences and reconstruct events” for which she was not present (p. 3). Both of the LIS studies regarding career information seeking (Julien, 1999; Webber & Zhu, 2007) used surveys followed up with qualitative interviewing (Julien did 30 interviews, Webber and Zhu did nine). The researcher determined that, for this study, using a survey would have “[stripped] away the context” of the participants’ answers (Rubin & Rubin, 2005, p. 2). Utilizing semi-structured interviews allowed the researcher to ask follow-up questions and probe for more detail, in order to capture the contexts and emotions surrounding the search for career information.

Data Collection

Primary participants attended one interview session lasting approximately 30 minutes. Participants were interviewed in study rooms in the university libraries at times

that were mutually convenient for them and the researcher. The interviews were recorded, with participants' permission, using a handheld digital recorder.

Secondary participants were interviewed for approximately 30 to 45 minutes in their offices on the university campus. These interviews took place during business hours, at a time that was mutually convenient for them and the researcher. The interviews were recorded, with participants' permission, using a handheld digital recorder.

The researcher conducted the interviews using interview guides (see Appendix B). In addition to the questions on the interview guides, the researcher also utilized probes and follow-up questions to elicit more comprehensive responses. The primary participants' interview guide began with questions intended to clarify where the participant was in terms of finalizing his or her post-graduation plans. The following questions asked the participant to think about a specific incident in which he or she searched for career information. This technique was used in order to encourage the participant to think specifically as well as broadly about his or her career information seeking. The last open-ended question asked participants to discuss how much career information seeking they felt they had left to do before graduation.

Next, the primary participants were asked to discuss the sources they use for career information seeking via an exercise with index cards. The participants were asked to tell the researcher which sources they use for finding career information. The researcher wrote these sources down on index cards as the participants spoke. Then the participants were asked to sort the index cards, in order to rank which sources they prefer. The researcher then probed for why certain sources were more preferred than others.

Last, the primary participants completed a short test for extraversion preference (see Appendix C). The test was conducted in order to determine the strength of participants' preference for extraversion.

Primary participants received \$10 for their participation in this study. They were also offered an optional resume review by the researcher, who had participated in hiring committees professionally. One out of the ten participants utilized the resume review.

The secondary participants' interview guides were designed to elicit responses about patterns and trends in the kinds of career information undergraduate humanities majors are searching for, and how they search for it. Secondary participants were asked about the scope of their work in advising humanities undergraduates, what types of information the students tend to ask for, and how they provide services to the students. Interviews with the secondary participants were quite open-ended, and the researcher asked follow-up questions based on what the interviewees explained in previous questions. Secondary participants did not receive any monetary inducements for their participation.

Data Analysis

The researcher took detailed notes during each interview, which served as a guideline for analyzing each interview. Transcription was completed using the electronic files of each interview and Microsoft Word. The researcher used Microsoft Word and Excel as the primary data analysis tools and used JMP for the statistical analysis. The initial stages of analysis took place shortly after each interview.

The researcher used open coding to analyze the data, in which she read through transcripts and recorded as many headings as necessary (Burnard, 1991). The headings accounted for much of the interview data. After identifying headings, the researcher grouped them into “freely generated” categories (Burnard, 1991, p. 462). The researcher then used a constant comparative process to identify further emerging themes and categories in the interviews. Using this process, the themes and categories became more evident as more interviews were conducted. As each new interview was transcribed and open coded, the results were compared with previous interviews. This allowed new categories to emerge and already existing categories to be expanded. This iterative process was used for all of the interviews, so that by the time the interviews were complete, a clear picture of themes and categories had been identified.

The participants’ short tests for extraversion preference were analyzed immediately following the interviews. The researcher scored the tests based on the short form Eysenck Personality Inventory (Eysenck, Eysenck, & Barrett, 1985). Then, for correlation purposes, the researcher categorized the sources each participant named as important to their career information seeking as either Information or Human sources. Then the extraversion test results were correlated with the weighted average rank of participants’ Human sources. The purpose of this was to further investigate how personality plays a role in seeking career information.

Results and Discussion

Participants' Career Plans

Table 1 illustrates the participants' gender, year in school, major(s), and post-graduation career plans.

Table 1: Study Participants

Name**	Gender	Year in School	Major(s)	Post-Graduation Career Plans
Audrey	F	Senior	Music	Work (field undecided) before obtaining a Master's in Music Therapy
Carl	M	Junior	Philosophy* & Political Science	Work in consulting/politics/political strategy before possibly attending law school
Danielle	F	Junior	History* & Political Science	Work (field undecided) before attending law school; or go straight to law school
Ingrid	F	Senior	Linguistics* & Romance Languages*	Probably work in Asia before obtaining a Master's in Teaching
Jason	M	Senior	Communication Studies	Work in social media
Laura	F	Senior	Spanish* & Psychology	Obtain a Master's in Counseling (pending acceptance from the school)
Mary	F	Senior	Spanish* & Sociology	Work in social services before obtaining a Master's in Social Work
Patty	F	Junior	Music* & Spanish*	Study music in France before obtaining a Master's in Music Composition
Rebecca	F	Senior	English	Work in publishing before obtaining an MFA in Creative Writing
Thomas	M	Junior	Philosophy	Travel abroad and then find work in the U.S.

* = denotes humanities major for students with double majors

** = all names are pseudonyms

Of the ten participants who were interviewed, seven were female and three were male. A range of humanities majors were represented, including six double-majors. Participants' career interests varied widely, and most were closely or somewhat related to the students' majors. Three participants spoke of possibly attending graduate school directly after obtaining their Bachelor's degree, while five participants planned to work for one to three years before attending graduate school. Of those eight participants, all eight had already identified the type of graduate degree in which they were interested. None of the participants had already secured post-graduate employment, and nine out of the ten were actively searching for either post-graduation jobs or post-junior year summer internships. The other participant, Laura, was waiting to hear whether she had gotten accepted into a master's in counseling program, and, because she felt confident that she would get in, was not actively seeking employment in case she was denied acceptance.

Information Needs

Participants were asked to describe a specific time in which they needed career information, what information they needed, and why. The students' information needs included finding current job openings, aligning their major with a career, and determining their general career options. The majority of the students were concerned with finding job openings that fit their requirements for work experience, necessary skills and education, and location. Some students spoke of seeking active, open job postings that they could apply for, others spoke of needing information to begin looking for those postings, and still others spoke of needing to learn about careers that fit their interests. A couple of students spoke about needing salary information, but said it was secondary to locating

openings that they were qualified for and interested in. A few students spoke of needing to discover what their options were and how to start. Thomas and Patty, both juniors, and Audrey, a senior, talked about needing to discover where to start finding information on jobs and careers. Audrey said, “I needed to know where I could start looking for jobs and opportunities, whether it be resources online, through classifieds, or if there are networking nights where I can possibly obtain a full-time job.”

About half of the students spoke of their needs to locate job postings that were entry-level or for which their level of experience would be acceptable. All of these students were seniors who were searching for job postings in relatively specific industries, such as social media, publishing, and social work. Jason, Rebecca, and Mary all said that information about years of experience required was their biggest information need, and all felt it was a barrier to finding jobs to apply for. Jason spoke of his concern with finding appropriate jobs to apply for: “I’m nervous because most of [what] I’ve seen, there’s not a lot of entry-level jobs or they require at least one to three years’ experience.” A couple of other students also mentioned wanting to know if employers would be okay with hiring someone “right out of college.” The students seemed unclear as to how their relevant experience, such as summer internships, would apply to employers’ experience requirements.

Two students, Carl and Laura, initially spoke of their information needs in terms of wanting to find what careers were available to them, given their career interests and academic majors. They described their information needs as a process of trying to determine what career paths and opportunities existed for their majors, that they could see themselves doing. Both participants seemed to already have an idea of what interested

them – for Carl, it was working at a political strategy or consulting firm, and for Laura it was working as a counselor for girls. Carl and Laura initially framed their research needs within the idea that whatever career information they were seeking needed to line up with their interests and be available to students with their majors. Laura spoke of her information need as “what can I do with my major with my interests. How can I find something that would fit my interests and what I want to do?”

Several more students spoke of needing to align their humanities major with available job opportunities. Carl, a junior majoring in philosophy and political science, spoke of his need to determine the opportunities afforded to him by his majors:

[I’ve been] researching information [to find my] niche in a job or a career, especially with a degree that’s not specialized... like, say, chemistry or computer science. The options are pretty open, and they’re at the same time blocked from the specialized sciences. That’s kind of like what can make it tricky – there’s potential for a lot of possibilities, which I guess is important to be aware of.

Other students found their humanities degrees to be more frustrating, rather than serving as a gateway to many possibilities. Mary, a senior studying Spanish and sociology, spoke of wanting to work in the social services but feeling discouraged because some of those jobs require a particular degree, such as an Associate’s degree in a specialized field of study. She spoke of her frustration with earning a Bachelor’s degree, which requires more schooling than an Associate’s, but not being able to apply it concretely because it is of a more general nature. Ingrid, a senior, talked about asking the Career Services Office for resources and feeling that she was shown jobs that were not appropriate for her majors, linguistics and romance languages: “It was really business-y stuff like accounting or a huge company, and I’m a linguistics major, so I’m like, okay.” Audrey and Patty, both music majors, Rebecca, an English major, and Thomas, a

philosophy major, did not speak of any difficulties in aligning their majors with their future careers.

When asked why they needed the career information, students spoke of several reasons, often related to planning for the future, aligning their interests with careers, and simply trying to find a post-graduation job. For example, Patty and Danielle, both juniors, spoke of needing career information so that they could better plan for their future financial and housing situations. Danielle was trying to determine if she should graduate early, so she needed career information in order to determine if it was feasible for her to find employment if she graduated this December. Patty, who was planning to go to France after graduation to study music, was trying to plan for the financial costs of such a trip and sought information about what grants were available and what job opportunities existed in case the trip fell through. Carl, also a junior, spoke of his information needs, not in terms of future planning, but in terms of needing to discover all of the types of jobs and careers that exist for him.

Ingrid and Rebecca, both seniors, and Thomas, a junior, spoke of needing career information simply to find a job. Other seniors, however, spoke of more complex reasons behind seeking career information. Jason, for example, spoke of needing to find job postings so that he could read the job descriptions in order to keep learning about his career choice, because social media careers were still relatively new to him. Mary, also a senior, wanted to locate job postings in order to read the descriptions so that she could determine what jobs not to apply to: “I don’t want to apply to something that I wouldn’t want to do, and I don’t want it to be a waste of time to apply for something that I don’t

even have the degree to apply for,” she said. She seemed to be using a process of elimination to find viable job listings.

The variety of information needs that the students described are in line with what the University X career counselor talked about students needing and how she helps them:

It really spans the gamut, from, “I love English, now my parents want to know what I’m going to do with it,” to graduate school counseling... Some need help with the self-assessment piece, some need help exploring their options, some need help trying to make a decision.”

The career counselor’s statements indicated that students have a wide variety of career counseling needs. The humanities department advisor discussed how some students come to him asking for help translating their humanities major to a career. He said he usually gives them a little speech about the different skills they are learning as humanities majors, and how “they learn lots of things that they can then explain to an employer how those skills and how that knowledge they’ve acquired as an [X] major is applicable to any number of careers.” He said that he tries to “build their confidence” that they can successfully enter the work world as a humanities major. The students’ responses, combined with the career counselor’s and advisor’s responses, indicate that, while the undergraduates’ career information needs do vary by person, they fit into a set of needs, including open job postings, determining what careers interest them and what they are qualified for, determining how their humanities majors translate into a career, and general planning for the future.

In summary, University X students spoke of generally similar career information needs; however, needs varied according to where students were in their career (or post-graduation) planning process. For students who already had a career field or fields identified (usually seniors), the most urgent information need they expressed were entry-

level jobs or jobs that were appropriate for their experience levels. Other students who were not as close to identifying their post-graduation career field expressed a need for information about what career options were available to them – although some seniors needed this information, too, along with entry-level job openings. A couple of students' information needs were closely tied to determining what career fields were available to them given their humanities major(s), and most of these expressed frustration with aligning their degrees with a field.

Information Seeking Behaviors

During the discussion about a specific career information need, students described what steps they took to obtain the information they needed and what resources they used for that particular information need. They also talked about what they did after locating the initial information that they needed. In general, students' information seeking behaviors could be described as diverse. They employed a variety of methods to search for career information, and similarly, utilized an array of sources.

Participants' discussions of their methods and steps they used to locate the information they needed revealed a somewhat scattered approach. Eight of the ten students went to the Career Services Office in person or visited their website as a first or second step in their information seeking process. The ninth student had plans to visit the office in person, and the tenth student had visited the office previously and had not found it helpful. Of the eight students who did make use of the Career Services Office, half of them utilized both the website and an in person visit while the other half utilized one or the other. Five of these eight students discussed the Career Services Office as being

helpful to their career information search, and the remaining three found the office to not be helpful. The three found the office to not be helpful for different reasons: Ingrid, a senior, said they showed her jobs she was not interested in; Danielle, a junior, said they showed her resources that were unhelpful (specifically, the phone book); and Thomas, a junior, said they showed him how to find job openings but did not show him any specific people or connections to help him get the jobs.

Visiting the Career Services Office in person was not the only human source mentioned as part of students' specific searches for information, and students utilized these human sources at various points in their information seeking. Six students discussed utilizing human sources besides the Career Services Office advisors. Audrey talked about discussing her information needs with her parents, Danielle spoke with her parents as well as other adults in her hometown, Laura spoke with her friends, alumni, and people in her church, Patty spoke with the study abroad office and two of her music professors, Carl networked with two alumni, and Jason went to two local conferences about social media. The students spoke with their human sources at various points in their information seeking processes. Danielle and Laura began by speaking with their human sources, while Audrey, Carl, and Jason spoke with their sources towards the end of their information seeking for their specific need. All but Danielle found their human sources to be helpful. Laura, Patty, and Carl said that their human sources were extremely helpful to their specific search. Audrey and Jason said theirs were pretty helpful. Danielle found her sources to not be helpful, because she is from a small town and the mill, which was a large place of employment, had recently shut down, so no one in her community was able to help her by suggesting possible local jobs.

All ten students discussed utilizing a small set of websites at various points in their career information seeking process. Some students talked about starting with the Career Services Office website and then branching out to include other websites in their search. Many students went to, or had already started with, aggregated job listing sites such as SimplyHired, CareerBuilder, and Monster. Four students also used industry-specific or employer-specific websites as ways to satisfy their research need. Rebecca used bookjobs.com, which lists jobs in the publishing industry, Mary used a county website to find social services jobs, Ingrid used a website about lateral entry teaching requirements and a website listing federal government jobs, and Jason started following certain companies on LinkedIn. In general, students mentioned no more than two to four websites – and occasionally only one website – as part of their resource selection for finding specific career information.

The actual search processes that students utilized seemed to follow no specific format, and students did not separate their information seeking process into certain steps. That is, students did not articulate their information seeking process as being a series of distinct steps that led to other steps; rather, their processes were more of an amalgamation of checking human and information sources. The Career Services Office, both in person and the website, was a logical place for many students to start their search. But after that, students checked and utilized a variety of information and human sources nearly simultaneously and in no specific order.

The clearest delineation of steps in the information seeking process was when five students described referrals from human sources to information sources. For example, Rebecca started using bookjobs.com because it was recommended to her by a contact in

the publishing industry. Similarly, Jason started using CareerBuilder because his roommate had been offered a job that he had found through CareerBuilder. Mary started checking county websites for social work jobs based on a recommendation from a Career Services Office counselor, and Thomas also checked some websites recommended to him by a Career Services counselor. Laura found out about her possible graduate program through friends who had attended the program.

What students did next after they consulted their initial set of resources for their information needs varied widely. Several students, all seniors, said that they simply applied to whatever jobs or graduate programs they found that fit their requirements for interests, experience required, and location. Carl, a junior, began working on his resume and cover letter with the intent to apply to certain summer internships he had found. Jason, a senior, described his next steps not as applying to specific jobs but as expanding his universe of resources to include different websites than the Career Services Office website, UCareers¹, which had previously been his chief source of career information, and attending the social media conferences. Two students, Audrey and Patty, both discussed how their next step was to make a list. Audrey made a list of the types of jobs and opportunities that interested her and that she was qualified for. She then used her list to research the pros and cons of each job. Patty made a list of options for her post-graduation life. She then used her list to compile financial information related to each option: whether it would cost her money, such as an overseas situation, or whether she would be earning money in a job.

¹ UCareers is a pseudonym for the password-protected part of the Career Services Office website containing job postings and detailed career information, which is available only to University X students and alumni.

Two students, Danielle and Mary, said that after their search for career information, they essentially gave up. Danielle said that, after a disappointing appointment with the Career Services Office, she “was just really frustrated and kind of vented about it.” Then, after researching current, posted job opportunities and being disappointed with her findings, she decided that she would not graduate early so she had more time. Since she is a junior she felt she could wait to do more searching, so she stopped. Mary, a senior, also stopped searching after an unsatisfactory experience with finding career information. She said:

I just kinda gave up. I mean, that whole thing about not really finding anything that’s out there, so I kinda just stopped. The Career Services Office lady told me that more jobs are posted in March, I don’t know why, but she said to look later. So I’ve just kinda given up on that. It’s just kind of annoying.

While some students were able to take action from their searches by applying for various jobs or internships, or making lists to help with decision-making, some students felt unsatisfied and/or disappointed, and ceased searching altogether.

The University X departmental advisor said that in terms of showing students how to actually seek career information, he usually refers them to the Career Services Office. Since the primary information seeking seemed to be taught by that office, the career counselor was asked to describe the steps that she takes with students in advising appointments. She aims to give them an organized, structured approach. If the student has an idea of what she wants to do, the counselor starts by showing her the available resources, primarily through UCareers. She shows them how to use it and the various resources available: job postings, employer leads, and additional links. Within UCareers, she shows students how to search, and she recommends searching UCareers by category rather than by keywords. She also recommends to students that they keep their job search

organized in an Excel spreadsheet. Students who visited the Career Services Office spoke about their visits not in terms of what steps they were advised to take, but rather how helpful the visit as a whole was to them.

These findings are similar to what Julien (1999) found in her study, in that even when the undergraduates possessed an awareness of most sources of help, the information overall was scattered. This led the students to a process of information seeking that did not have a clear order or steps, so their process consisted of checking various sources at various times and compiling information as they went along. While students in this study were not asked specifically how they organized their career information, two students did discuss making lists, but no other students talked about keeping track of their information seeking or job hunting, such as in an Excel spreadsheet. Service providers might be able to better serve students by giving them an outline or a continuum of possible information seeking steps to take, along with a suggested outline of ways to organize the information.

The students' information seeking behaviors displayed quite a bit of scatter and followed no clear pattern or order. A majority of students (eight out of ten) visited the Career Services Office in person or visited the UCareers website as a first or second step, but students' satisfaction with these sources varied. All of the students discussed using a combination of human and information sources, and rather than going source-by-source, they wove back and forth between these sources. Sometimes a human source would lead to an information source, such as a website referral from a Career Services Office advisor. Behaviors following students' initial information seeking also varied, and ranged from applying to jobs or graduate programs to making lists of job options. A structured

approach to learning about careers and searching and applying for jobs, similar to what the University X career counselor suggests to students, may help them keep track of their information resources and information seeking steps.

Preferred Sources of Career Information

During the exercise with index cards, students ranked their preferred sources of career information and discussed why they preferred certain sources and disliked others. While some of these sources overlap with sources students discussed using for their specific information needs, the source rankings and accompanying discussions illuminated a vast range of uses of and opinions about career information sources.

Table 2 illustrates every information source that students mentioned and which students mentioned each one. The first letter of each student's pseudonym represents the columns, and the sources represent the rows. The number of students using each source is indicated in the "Total" column. See Appendix A for definitions of each information source, as used by the students.

Table 2: Mentions of Sources for Career Information - by Participant

Source	A	C	D	I	J	L	M	P	R	T	Total
Career Services Office advisor	x		x	x		x	x	x		x	7
Career Services Office website (UCareers)	x	x	x		x		x		x		6
Google		x		x	x	x	x	x			6
Friends			x	x	x	x				x	5
Parents	x		x	x			x		x		5
Aggregated job listing websites (e.g., SimplyHired, Monster)			x		a		a		x		4
Employers' websites	x	x		b			b				4
Networking contacts or events	x	x				x			x		4
Graduate school websites				x		x		x			3
Other websites				x	x			a			3
Emails from listservs				x		x					2
Industry-specific job listing websites (e.g., bookjobs.com)					x				x		2
Local information sources (e.g., student newspaper)									x	a	2
Professors and classes						x		x			2
Church						x					1
Internship bosses							x				1
Professional organizations									x		1
School groups and advisors					x						1
Twitter					x						1
University study abroad office								x			1
Walking into places										x	1
Wikipedia		x									1

a = participant used two of these sources

b = participant used three of these sources

This chart shows that there is a core set of resources utilized by at least 50% of the students: Career Services Office advisors, UCareers, Google, friends, and parents. The flip side of that finding is that there is a “long tail” effect: there is an array of sources for which only three, two, or even one student discussed using them.

In order to further illuminate which sources the students prefer to use for career information, Table 3 shows the aggregated rankings of each source the students mentioned. The rows are the sources mentioned, the columns represent the rankings, and the numbers within the chart show how many students ranked each source that way.

Table 3: Frequency of Each Rank of Each Source for Career Information

Source	Aggregated Source Rank											
	1	2	3	4	5	6	7	8	9	10	11	
Career Services Office advisor	1		2		1	1	1				1	
Career Services Office website (UCareers)	2	1	1	1					1			
Google		2	1	1	2							
Friends	2	1		1		1						
Parents		2		1			1					1
Aggregated job listing websites (e.g., SimplyHired, Monster)	1	1	1		1		1				1	
Employers' websites	1	1	2		1		1	2				
Networking contacts or events	1			2		1						
Graduate school websites		1	1			1						
Other websites			1			1	1	1				
Emails from listservs						1	1					
Industry-specific job listing websites (e.g., bookjobs.com)	1									1		
Local information sources (e.g., student newspaper)				1	2							
Professors and classes	1							1				
Church				1								
Internship bosses					1							
Professional organizations				1								
School groups and advisors					1							
Twitter			1									
University study abroad office				1								
Walking into places		1										
Wikipedia					1							

The above aggregated rankings of the information sources reveal an even wider spread of preferred information sources. Within the many sources that students mentioned, not all

sources are equally regarded. Some sources that received a lot of mentions, especially Career Services Office advisors, parents, and aggregated job listing websites, vary widely in how students ranked them. And sources that only a few students mentioned, such as industry-specific job listing websites and professors and classes, got some of the students' number-one rankings. The charts reveal the highly individualized nature of how students search for career information.

Some themes emerged with how students described their preferences for various sources. Google, in particular, was described in an almost completely uniform way. The six students who listed Google as a source almost all described typing keywords into Google that had to do with whatever career or job they had just thought of, and how Google would lead them to sources that helped them better understand what they were curious about. Several of the students said that they typed "random things" into Google. Carl described how he uses Google as a tool to discover new things:

Google is a pretty easy basic search, normally... it leads you to information that's about a general job or about certain firms, or maybe ads or classifieds that are looking for something like that. Once you type in a search, you can also come up with results that you just don't expect and lead you to other things, and maybe you'll learn about... you'll stray off in places you didn't expect.

Jason said simply, "Google search has always just been easier for me to narrow down, like, keywords and what I'm interested in." Google is being used as a tool to expand students' universe of possible careers, and then to sometimes narrow those down.

Unlike Google, the Career Services Office advisors received highly mixed reviews. Audrey, who ranked the advisors first, spoke of a specific advisor with whom she had been working for three years: "She knows me and she knows my personality and she knows how to network, and she does that really well for the arts disciplines

specifically.” Audrey had established a relationship with this advisor and clearly trusted her as an information source. Mary ranked the Career Services Office advisors towards the end of her list, sixth, but said that her advisor gave her “new avenues” and was “probably the most helpful of anybody.” Mary did not have an established relationship with this advisor. For those who ranked the Career Services Office advisors lower on the list, they had been once or multiple times and all had different reasons for not ranking them highly. Ingrid said they showed her jobs for which she was not qualified and that it seemed like a “useless trip”; however, she said, “Maybe when I went I didn’t know what I wanted to do, and I thought I did, but I really didn’t.” She thought that the advisors would be more helpful once she had sorted out her own career plans. Thomas commented that the advisor he saw gave him “mostly websites” and he would have preferred more direct connections to employers. Patty, who ranked the advisors lower on her list, had not yet been to see one, and although she trusted that they would be helpful she simply had not seen them yet, so she could not be sure.

The Career Services Office website, UCareers, was described similarly by those who did prefer it, and similarly by those who did not prefer it. Those who did like using UCareers described it as “easy to use” and mentioned that they liked being able to submit their resume and cover letter all at once to employers. Furthermore, several students spoke of what UCareers meant to them in terms of being targeted directly at their university’s students. Audrey said she felt “privileged” and like she was “getting special treatment” to be able to use UCareers. Carl said that UCareers is “pretty accessible because it has things open only to [University X] students and alumni.” Rebecca said that in UCareers, “I know all of the listings are looking specifically for [University X]

graduates, which I think gives me a leg up.” These students appreciated being able to access jobs and employers who, by using the system, indicated their desire to hire students from their university. Two of the six students who mentioned UCareers, however, did not prefer to use it, mostly due to difficulty of use. Danielle described her troubles with using the website:

I find [UCareers] extremely difficult to use, and I have a lot of difficulty navigating it, so I wonder if there might be more in it than I’m seeing, but I’m not able to get the other information because I’m not able to work that website properly. It’s just really hard to use.

Danielle seemed to know that more information was likely available to her, but she was frustrated because she felt like she could not access it.

Friends received overall positive reviews in terms of how students ranked them, while parents received mixed reviews. Laura, who ranked her friends second, said she did so because “I think that the people who knew me well knew my passions and desires and goals and what I’d want to do. So they were really helpful in being, like, I think this would be a good fit for you, because they knew me so well.” Thomas similarly ranked his friends first and depended on them to tell him about available job opportunities. Students had overall positive comments about their friends as career information sources, though they did not receive an overwhelming number of high rankings. Parents, on the other hand, had more mixed reviews. Audrey and Mary both spoke positively of receiving encouragement and advice from their parents, and ranked them second and fourth, respectively. On the other hand, Ingrid, who is planning on working abroad in Asia, ranked her mother last because her mother emails her “any job that’s in the country. Her motives for me are selfish, which is fine because she’s my mother, but I don’t want to look at anything she sends.” How the students ranked their parents as information sources

was highly individual and seemed to be related to the context of the students' job search (e.g., Ingrid's search for international jobs).

For the more standalone sources that only one or two people ranked highly, there were very individual reasons for doing so. Patty, a double-major in music and Spanish, ranked her music professors number one and described why she did:

Spanish is also my major, but I'm leaning more towards music. As far as my professors, I think it might be a little harder to go to [the Career Services Office] and for them to try to shape you and get you a job, because it's not as much what you know... it's strictly talent. You have to practice. My professors have been able to get me in contact with teachers or notice my weaknesses that would make me a better musician. I think their guidance is more focused, because they're also musicians so I kind of trust what they say more.

Patty's unique major, that she plays two instruments at the collegiate performance level, and that she hoped to study music in France after graduation dictated that her best information source was her music professors. Rebecca also rated an information source highly that no one else did: industry-specific job listing websites, specifically, bookjobs.com. Rebecca, an English major, had completed an internship in publishing the previous summer and had decided that it was her ideal post-graduation industry. She hoped to be some sort of editor or writer. She had received the referral to bookjobs.com from a contact in the publishing industry, and spoke of visiting the website frequently.

Two of the students utilized information sources in such a way that they acted as social sources. Ingrid spoke of utilizing her information sources in a social way. She explained that she and her roommate created a Google Doc in order to share what career information they had been researching. The Google Doc contained primarily industry-specific websites. Ingrid read through what her roommate had researched, although not much of it appealed to her – only culinary school. Jason spoke of how he is “really

involved” on Twitter and uses it to follow job search links. By utilizing Google Docs in order to share information and by sharing and receiving information on Twitter, these two students were utilizing social search methods to gather career information.

Overall, students utilized a relatively small universe of sources. The index card exercise was open for students to name as many sources as they wished. The average number of sources named was 7.1, with a standard deviation of 1.97. Four out of the ten students listed five sources, and only one student listed more than ten sources. While there is no “correct” number of information sources to use in a career search, it is interesting to note that students seem to be using a compact set of resources. Furthermore, they are using these resources frequently, especially the websites. Students were not asked how many times they use a given resource, but many of the seniors spoke of checking certain websites, mostly containing job listings, frequently.

The students’ preferred sources of information did not line up exactly with how the career counselor described them:

We know from research that the number one place students go when making a decision about their career is their parents, and number two is their professors. I would say that those are two likely places that students are going for their information, plus their peers.

While at least some students did mention these sources, only the peers received overall positive reviews as information sources – parents received mixed reviews and only two students talked about their professors and classes. It could be that making a career decision is different from seeking career information. But this study indicates that students are at least getting their information – which then helps lead them to a decision – from a wide variety of sources that may deviate from the previous research cited by the career counselor.

Head and Eisenberg's (2009, 2010) research helps give some context as to how students are using certain resources for career information seeking. In their research, they found that undergraduates use Google early on in their research; in particular, 99% of respondents used Google for big picture context for everyday life research. Similarly, the University X students spoke of typing "random stuff" into Google to see what came up. The students were likely using Google to gain big picture context, the first context that Head and Eisenberg define. That is, students were using Google to gain background on different careers. They were likely also using Google to determine language context, in order to figure out what words and terms were associated with those careers. This study helps bolster Webber and Zhu's (2007) and Brown's (2007) statements that career information available on the Internet has grown rapidly; the only print source that students mentioned was the student newspaper.

The students' experiences with the Career Services Office are similar to some themes that Julien discovered in her 1997 and 1999 articles. Julien reported some students feeling "blocked" by sources of authority, such as guidance counselors. While no participants in this study used that word per se, a couple of students did feel frustrated after visiting Career Services and did not feel that their search for career information had been advanced. Julien, in 1997, found that guidance counselors were perceived as most helpful when their relationship was similar to that of a parent or friend. Audrey, who ranked Career Services number one, did not describe her advisor in exactly this way but clearly stated that they had a good relationship. If a student sees an advisor early on and continues to see that advisor, the resulting relationship might increase how much help students feel they are receiving.

This study is in line with Head and Eisenberg's findings that students rarely turn to libraries or librarians for help with everyday life research. No student in this study mentioned going to the library or asking librarians for help. Of course, University X's Career Services Office is the largest and most comprehensive resource for students on this campus to learn about careers. An opportunity may exist, however, for librarians at colleges or universities with smaller Career Services Offices to provide web-based subject guides, on the library website or even on individual department websites. If the subject guides are divided by major, this could help students determine which career information sources will help them specifically.

Results showed the most variation in this sub-category of how undergraduates seek career information. In comparison to the students' information needs, which varied according to individual but still fell into one of a few categories, students' rankings of career information sources and how they felt about each varied greatly. Overall students utilized a relatively compact set of sources. Several sources were named across participants, including the Career Services Office advisors, UCareers, parents, friends, Google, aggregated job listing websites, and employers' websites. The remaining sources followed a "long tail" distribution and varied widely from person to person. Importantly, students were not satisfied with all of the sources they ranked – the majority of the students reported being very satisfied with only a couple of sources they discussed using, and sometimes none at all. This variation in source preference could potentially make it harder for service providers such as career counselors and librarians to ensure that they are helping each student to the fullest. These findings are similar to the data (Julien (1997), Sharf (1975), Millar & Shevlin (2003)) that suggest there is a wide variation

amongst people in terms of the amount of information people seek and the types of information they want.

Nature of the Career Information Seeking Process

Analyzing the students' interviews reveals that the nature of the career information seeking process is highly unique. The possible outcome of the search for career information – a job or career – is a key component of people's lives. Thus the process of finding the right information consumes a lot of mental activity, in that it is top-of-mind for seniors and that it is an iterative process, which students said they will surely have to repeat.

Students were asked how much time they spend thinking about what they will do after graduation in order to attempt to quantify the importance of this type of everyday life information. All six of the seniors said that they think about it at least once a day, with several participants saying they spend several hours per day thinking about their post-graduation plans. Some seniors were sarcastic with their responses in order to indicate that they spend substantial amounts of time thinking about it. Rebecca and Laura said that they get asked what they will do after graduation frequently, adding to how often they think about it. Jason said that some of his friends already have post-graduation jobs, so when he spends time with them he thinks about his own situation even more. Audrey said that she tends to daydream about all of her possibilities. The four juniors responded a bit differently and used qualifiers like “recently” or “lately” to describe how often they think about their post-graduation plans. Patty and Carl reported thinking about it on a daily basis, Danielle two to three times per week, and Thomas said that he recently

just started thinking about it. The outcomes of searching for this type of information weighed heavily on nearly all of the students' minds.

Many students reported not being satisfied with the outcomes of their specific search for career information. Thomas and Audrey reported being satisfied because they secured part-time employment for while they are still in school. Patty said she was satisfied with her search, but went to on to qualify her answer: "I was satisfied, but I feel like even when you're satisfied, you're never at ease. I know that nobody can give me a job, or say to me, this is what you can do, so ... nothing is certain." Carl similarly reported being satisfied with his search but dissatisfied with the outcomes – his dissatisfaction stemmed from knowing that he would be applying to highly competitive internships and not knowing if he would be invited to interviews. The remaining six students reported being dissatisfied. Two students' responses were "No, not yet," after which they explained that they had not heard back from any of the jobs they applied for. Mary said that she was dissatisfied with her search, and described it as, "I know in my head what I want to do, but I don't know how to translate that into finding it, like in a job." Overall, eight out of the ten students were not content with the outcomes of their search for career information.

The nature of the students' searches for career information is also highly unique in that students almost uniformly said that they will have to repeat it. Nine out of ten students answered that they would have to look for this type of information again. The tenth student, Laura, said that she "hopefully" would not have to look for it again, pending acceptance from her graduate program, although she did say that she would

probably have to search for it again after graduate school. Five students all answered “Yes, definitely” when asked if they would need to search again.

When asked how much searching for career information they felt they had left to do, three out of the four juniors said they had a lot of searching left to do. All of the seniors said that it was highly dependent upon what happened with their job or graduate school applications, but nearly all said that they knew they would have to continue searching at some point or another. Rebecca said that she would continue searching for career information if she got a less-desirable job: “It really just depends on who contacts me back and what I find out, but probably a lot more. Even when I’m in the interview process or even if I’ve been offered a job, I’ll probably continue looking just to see if anything opens up [at my target employer]...” Mary said she had “weeks” left of searching and groaned at all of the steps required in the process: “It’s not like you find one and then you apply and then you get it. You’ve gotta apply to like a million of them to see what happens.” While the students were not asked to quantify precisely how much searching they have left to do, all of the students’ responses indicated that they knew that they would need to spend more time searching for career information, either in the near or distant future.

The nature of the career information seeking process has similarities to the difficulties students had with everyday life research in Head and Eisenberg’s study. While less than 50% of the students in Head and Eisenberg’s study cited difficulties with this type of research, the most commonly cited difficulties could be seen at all levels of this study: filtering irrelevant results, knowing the answer is somewhere online, determining credibility, evaluating sources, deciding when finished, and integrating

different sources into the search. University X students spoke of having trouble filtering out job postings that were not relevant to them, and two students had trouble determining the credibility of job postings on SimplyHired and Monster. One student spoke of knowing that information was in UCareers but being frustrated with not being able to find it. Nine out of the ten students said they had more searching to do and were not yet finished. The final difficulty, integrating different sources into the search, such as websites, offices, and people, is likely another reason why students might have difficulties finding the career information they need.

The combination of students' career plans weighing heavily on their minds and their descriptions of their searches for career information being a repetitive process with no clear end contributes to the unsatisfying nature of students' searches for career information. Head and Eisenberg, in a preliminary February 2009 progress report of their main study, found that for students in the digital age, "everyday life research was often an open-ended search for information. Students reported that searches for everyday life information could last for days, and were driven by curiosity, as students clicked on Google results or Wikipedia citations and unfolded layers of information" (p. 3). Similarly, University X students searched for career information by checking various sources and discovering more information as they went along. Consequently, their searching for career information lasted not only for days but for unforeseeable, large amounts of time in their futures. Some students reported that their search for career information could be stopped once they obtained employment or entered graduate school, but at the time of the interviews they felt little control over these outcomes. The nature of seeking career information highlights how this type of searching is different from other

everyday life information seeking situations: students think about the outcomes often, are frequently dissatisfied with the outcomes, believe they will have to repeat their searching, and do not know exactly when they will stop searching.

Preference for Extraversion

The students' personality tests, based on the short form Eysenck Personality Inventory, yielded a score for extraversion preference. The score, which was out of 24, was correlated with the weighted average rank of participants' Human sources. Both scores are shown in Table 4.

Table 4: Relationship between Rankings of Human Sources and Extraversion Preference

Participant's Pseudonym	Weighted Average Rank of Human Sources	Score for Extraversion Preference (out of 24)
Ingrid	1.0	18.0
Rebecca	1.5	15.0
Carl	2.0	15.0
Jason	3.5	20.0
Audrey	3.7	18.0
Danielle	4.0	10.0
Thomas	4.0	16.0
Laura	4.6	17.0
Patty	4.7	12.0
Mary	6.0	4.0

The correlation (Pearson's r) of this data is -0.5699 ($p = .0854$). This means that the participants' extraversion preferences were actually inversely correlated with their preference for Human sources. This result is surprising because it would be expected that a higher extraversion preference would correspond to a higher preference for Human (as opposed to Information) sources. The small sample size limits the applicability of the test, as it is not possible to test if the variables are normally distributed. Furthermore, the

fact that eight out of the ten participants scored at the midway point or above on the extraversion scale means that this correlation does not take into account enough of those who are less extraverted. This further dampens the applicability of this correlation test. It seems that, while this aspect of personality, extraversion preference, is associated with higher amounts of career information seeking (as Miller, 1982 and Reed, et al., 2004 found), it is not necessarily correlated with utilizing more human sources within that information seeking.

Study Limitations

A key limitation of this study is that field research “can pose problems of reliability” (Babbie, 2010, p. 328). This is in part because the study participants, if questioned again, might give different answers depending on their situation, mood, or general feelings. Sharf’s (1975) findings corroborate this and make it specific to career information seeking; because students’ reports of their career information seeking behavior and their actual behavior differed for Sharf, it could mean that the information obtained from students is not a reliable description of their actual behaviors.

Another limitation is that the low number of study participants limits how well the study can be generalized to the undergraduate population of humanities majors as a whole. Within the study participants, there may be a weakness regarding who participated. Not only was it 70% female, but this study might have attracted a certain type of student, such as those who are particularly anxious or particularly confident about careers, or those seeking career advice. In terms of extraversion preference, this study did

attract those who scored higher on the extraversion preference scale, which limits the wider applicability of the extraversion findings.

Conclusion

This study attempts to build on previous research about career information seeking and to serve as an exploratory study into how undergraduate juniors and seniors in the humanities look for this type of information. The study illustrates that career information seeking for these students is a complex process in which a variety of sources and information seeking steps are integrated. Students utilize a core group of sources, especially Career Services Office advisors, UCareers, parents, friends, Google, aggregated job listing websites, and employers' websites, but they do not rank all of those core sources equally. The remaining sources follow a "long tail" distribution and vary widely from person to person. The students' heavy use of Internet sources and total lack of print source usage shows that students in the digital age are heavily utilizing Web-based sources for career information.

The career information seeking process is not always satisfying, as many students reported difficulties regarding evaluating source credibility (especially aggregated job listing websites) and finding job postings that they felt were appropriate to their experience level. Students also have difficulty with the general nature of the career information seeking process in terms of knowing when to stop, being uncertain of and/or dissatisfied with the outcomes of their search, and believing that they will have to repeat their search. Career information is a type of everyday life information which students think about often and sometimes report feeling pressure about, in the form of people

asking them what they will do after graduation. This may increase students' general anxiety about finding career information.

This study can assist service providers of career information by illustrating what sources – both human and information – are most important to upper-level humanities majors, what steps they tend to take, what difficulties they have, and how the nature of the search feels to them. While service providers are likely aware of the individual nature of career information seeking, this study shows just how individually each source is utilized and regarded. This study also illustrates the variety of information needs that students have: finding open job postings, aligning interests and careers, and determining how specific majors fit into careers.

No student discussed using libraries or librarians in their search for career information. This could be attributed to the strong presence of University X's Career Services Office and the reliance on websites and personal contacts. Since previous related studies had similar findings, it could also be that students inherently do not associate libraries and librarians with career information. Libraries at the university level are likely to continue focusing on academic information rather than everyday life information, but public and community college libraries should be aware of the nature of student career information seeking, as many are providing more career and job information services than before the recession.

Based on this exploratory study, further research into the area of career information seeking could be based on a number of methods and aims. One could utilize methods similar to those used by Head and Eisenberg (2009, 2010) and collect data from a much wider range of undergraduates, such as a large sample of juniors and seniors

across American universities. One could take a human-computer interaction approach and use a sample careers website to gain a deeper understanding of how students utilize Web-based career information, how they integrate Web-based findings, and/or how they evaluate career information websites. Further interviews or testing could focus more on how personality fits in with career information sources. There are also other populations to be studied in this area, such as unemployed adults. Researchers could utilize a number of avenues in order to gain a deeper understanding of how the latest classes of university undergraduates – or others – seek career information.

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Appendix A: Definitions of Career Information Sources

Source	Definition, as used by the participants
Career Services Office advisor	The University X office that provides career services and resources to students and alumni
Career Services Office website (UCareers)	The password-protected part of the Career Services Office website containing job postings and other career information
Google	Search engine
Friends	Students' friends, including roommates and housemates
Parents	Students' parents
Aggregated job listing websites	Websites that aggregate job listings posted on various Internet websites. Examples include SimplyHired, Monster, and Indeed
Employers' websites	Organization-specific websites, such as the Peace Corps
Networking contacts or events	Contacts are professionals in related fields known through various channels. Events are those sponsored by the Career Services Office
Graduate school websites	Official websites of various graduate programs
Other websites	For example, Patty discussed websites for various U.S. Embassies around the world
Emails from listservs	Listservs mentioned include the Career Services Office listserv and major-specific listservs
Industry-specific job listing websites	Ingrid discussed a website for state-specific lateral entry teaching, and Rebecca discussed bookjobs.com
Local information sources	The university's student newspaper and Craigslist
Professors and classes	Includes both individual professors and students' classes
Church	Laura discussed her church, which she had been attending for four years
Internship bosses	Mary discussed her boss from an internship that she had completed
Professional organizations	Rebecca discussed the American Association of University Presses
School groups and advisors	For example, the General Alumni Association
Twitter	Social networking and microblogging service
University study abroad office	The University X office that assists students with studying abroad
Walking into places	Thomas discussed walking into various places and asking if they had any job openings
Wikipedia	Online, collaborative encyclopedia

Appendix B: Student Interview Guides

Preliminary conversation:

Hi, my name is Michele Hadburg. It's nice to meet you. I would like to ask you a few questions about looking for career information. You're the expert, and I hope to learn from your experiences and perceptions. The interview should take about 30 minutes.

Before we begin, I would like to show you the study consent form and go over it with you. You may keep a copy of it.

Please read it, and sign and date it if you agree to participate in the study.

- *If not signed, end participant's involvement in the study.*
- *If signed, proceed.*

Is it okay with you if I record our conversation for later analysis?

Do you have any questions for me at this point? Feel free to ask questions as we go along.

1. Can you tell me about your plans for after graduation from [University X]? What do you expect to be doing?
2. About how much time do you spend thinking about what you will do after graduation?
3. Could you think about a time when you recently needed information about careers or jobs after graduation?
 - a. What information or type of information did you need?
 - b. Why?
 - c. What resources did you use or who did you go to for help to find the information you needed?
 - d. What did you do next?
 - e. Were you satisfied with the outcomes?
 - f. Do you feel that you will need to search for this type of information again?
4. How much searching for career information do you feel you have left to do before you graduate?
5. I am going to ask you now about what sources you use for finding career information. These sources can be anything that you use, whether electronic, a person, or an office. Please tell me which resources you use, in no particular order, and I will write each one down on an index card. I will then ask you to move the index cards around in order to rank the sources that you use. So, please tell me now what sources you use for finding career information.

6. Now please sort the index cards, in any matter you choose such as top to bottom or left to right, to rank their importance to you for obtaining career information.
 - a. Probes to find out why the top sources are more important than the next.
7. Finally, please complete this short test about introversion and extraversion.

Appendix C: Test for Extraversion Preference

*Based on Eysenck Personality Inventory (Eysenck, Eysenck, & Barrett, 1985)
Short form: <http://www.scribd.com/doc/21799155/Eysenck-Personality-Inventory-Interpretation-of-Scores> (Sato, 2005)*

Try to decide whether YES or NO represents your usual way of acting or feeling. Then put a tick in the box under the column headed YES or NO. Work quickly, and don't spend too much time over any question. I want your first reaction, not a long drawn-out thought process. The whole questionnaire shouldn't take more than a few minutes.

Start now, work quickly and remember to answer every question. There is no right or wrong answer, and this isn't a test of intelligence or ability, but simply a measure of the way you behave.

The following questions all had yes/no columns associated with them.

1. Do you often long for excitement?
2. Do you often need understanding friends to cheer you up?
3. Are you usually carefree?
4. Do you find it very hard to take no for an answer?
5. Do you stop and think things over before doing anything?
6. If you say you will do something do you always keep your promise, no matter how inconvenient it might be to do so?
7. Do your moods go up and down?
8. Do you generally do and say things quickly without stopping to think?
9. Do you ever feel 'just miserable' for no good reason?
10. Would you do almost anything for a dare?
11. Do you suddenly feel shy when you want to talk to an attractive stranger?
12. Once in a while do you lose your temper and get angry?
13. Do you often do things on the spur of the moment?
14. Do you often worry about things you should have done or said?
15. Generally do you prefer reading to meeting people?
16. Are your feelings rather easily hurt?
17. Do you like going out a lot?
18. Do you occasionally have thoughts and ideas that you would not like other people to know about?
19. Are you sometimes bubbling over with energy and sometimes very sluggish?
20. Do you prefer to have few but special friends?
21. Do you daydream a lot?
22. When people shout at you do you shout back?
23. Are you often troubled about feelings of guilt?
24. Are all your habits good and desirable ones?
25. Can you usually let yourself go and enjoy yourself a lot at a lively party?
26. Would you call yourself tense or 'highly strung'?
27. Do other people think of you as being very lively?
28. After you have done something important, do you come away feeling you could have done better?

29. Are you mostly quiet when you are with other people?
30. Do you sometimes gossip?
31. Do ideas run through your head so that you cannot sleep?
32. If there is something you want to know about, would you rather look it up in a book than talk to someone about it?
33. Do you get palpitations or thumping in your ear?
34. Do you like the kind of work that you need to pay close attention to?
35. Do you get attacks of shaking or trembling?
36. Would you always declare everything at customs, even if you knew you could never be found out?
37. Do you hate being with a crowd who play jokes on one another?
38. Are you an irritable person?
39. Do you like doing things in which you have to act quickly?
40. Do you worry about awful things that might happen?
41. Are you slow and unhurried in the way you move?
42. Have you ever been late for an appointment or work?
43. Do you have many nightmares?
44. Do you like talking to people so much that you never miss a chance of talking to a stranger?
45. Are you troubled by aches and pains?
46. Would you be very unhappy if you could not see lots of people most of the time?
47. Would you call yourself a nervous person?
48. Of all the people you know, are there some whom you definitely do not like?
49. Would you say that you were fairly self-confident?
50. Are you easily hurt when people find fault with you or your work?
51. Do you find it hard to really enjoy yourself at a lively party?
52. Are you troubled by feelings of inferiority?
53. Can you easily get some life into a dull party?
54. Do you sometimes talk about things you know nothing about?
55. Do you worry about your health?
56. Do you like playing pranks on others?
57. Do you suffer from sleeplessness?

Appendix D: Recruitment Materials

The following mass email solicitation was sent to juniors and seniors in University X's College of Arts & Sciences.

SUBJECT: Starting Your Job Search

Want to participate in a study that might help you think about your job search? My name is Michele Hadburg, and I am a master's student in the UNC School of Information and Library Science.

I am conducting a study on how undergraduate students look for career information. By participating in the study, you'll have an opportunity to reflect on your own job search and the information you are using during that search.

I will be interviewing a number of humanities juniors and seniors about how they look for information about their future career.

Interviews will take place on campus and will last approximately 30 minutes. You will be compensated with \$10 cash and, if you would like, I will review your resume and provide helpful feedback.

If you would like to help, or know of someone who would, please contact me at hadburg@email.unc.edu or [phone number]. Your participation is greatly appreciated!

Choosing or declining to participate in this study will not affect your class standing or grades at [University X]. Participation is purely voluntary. This study has been approved by the UNC Behavioral IRB (IRB Study No. 11-0199)

Thinking about Your Job Search?

My name is Michele Hadburg, and I am a Master's student in the UNC School of Information and Library Science. I am conducting a study on how undergraduate students **look for career information**. If you are:

- **A [University X] junior or senior**
- **Majoring in the humanities**

I would like to speak with you! You'll have an opportunity to reflect on your job search and the information you are using during that search.

For the **30-minute**, on-campus interview, you will be compensated with:

- **\$10 cash**
- **A resume review by the interviewer**
(Please bring a copy of your resume if you would like me to review it)

If you would like to participate, please email me at:

hadburg@email.unc.edu

Participation is voluntary. Your participation is greatly appreciated!

*Career information
research study
\$10 cash*

To participate,
contact Michele
Hadburg at
hadburg@email.unc.
Edu

*Career information
research study
\$10 cash*

To participate,
contact Michele
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edu

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