Exploratory Honors Students: Academic Major and Career Decision Making

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In this qualitative study, we investigated the academic major and career decision-making processes of honors college students who were declared as "exploratory" students in their freshman year at a large, public, midwestern university. We used semistandardized interviews and document analysis as primary data collection methods to answer four research questions. Results indicated that the 17 participants used aspects of rational choice and alternate models in making decisions. They perceived both advantages and disadvantages of their multipotentiality and developed strategies, such as selecting broad or multiple majors, to offset the disadvantages. Students consulted college academic advisors less than expected when making decisions, and they expressed more concern about happiness than either job availability or earnings than did students in other studies.

KEY WORDS: career advising, choice models, educational planning, high ability/achieving students, major selection, undecided/undeclared students

Choosing an academic major and initial career path are among the most challenging decisions facing students in college. Career advising and counseling on the college campus typically reflect a trait-and-factor approach (Hartung & Blustein, 2002; Niles & Harris-Bowlsbey, 2005) or a person-environment fit model (Hartung & Blustein, 2002; Porter & Umbach, 2006) in which students are encouraged to select a major, and hence an occupation, compatible with their personality, preferences, skills, and abilities. The 2010 Standard Occupational Classification System (U.S. Department of Labor, Bureau of Labor Statistics, 2010) describes 840 occupations. Many universities offer in excess of 100 majors, which may be combined with equally abundant minors, certificate programs, and concentrations. In sum, students are presented with an overwhelming array of academic and career options, many of which may be unfamiliar to them (Steele & McDonald, 2000).

Academic advisors are charged with, among other duties, helping students sort through these options to make appropriate academic and career choices. The research on assisting undecided students is "voluminous" (Gordon, 1995, p. 3), dating back more than 80 years. Yet, the literature on the decision-making processes of honors college students who enter higher education as undecided, in particular, is remarkably sparse. In this study on exploratory honors students, we seek to stimulate interest in these understudied students and inspire further research on their academic major and career decision-making strategies. In so doing, we intend to gain a better understanding of their academic advising needs.

Administrators may define undecided college students as those who have not declared a major. However, this definition does not take into account frequent *major-changers* (Gordon & Steele, 1992; Steele & McDonald, 2000). It fails to include students who delay declaring their program even though they may have decided on a major as well as students who have declared their majors but who are still ambiguous about the decision. Degree of decidedness appears to be continuous rather than categorical (Gordon, 1995, 1998; Krieshok, 1998). For example, in an extensive review of the literature, Gordon (1998) identified seven levels of decidedness ranging from very decided to chronically indecisive. Career decidedness is developmental, increasing over time (Krieshok, 1998). Indeed, one of Gordon's (1998, p. 396) categories is the developmentally undecided college student who undergoes a "normal transition" during which the "competencies to perform the developmental tasks required to make a commitment to a choice" are being built.

Literature on Choosing

Undecidedness

Undecidedness about academic major is not always viewed as negative nor is decidedness desirable if the choice is made before the student has adequate information (Gordon, 1998). In fact, premature commitment to a major may have more adverse consequences for a student than being undecided for a time (Krieshok, 2001).

Furthermore, Gordon (1998) suggested that even very decided students will likely need to make additional career decisions in the future. Krieshok urged advisors to emphasize to students that the decision-making task is never finished. He is "less comfortable" with students who have declared a major but who have ceased to explore and with those who have selected a major solely on feelings than he is with undecided students who are actively testing the possibilities (2002/2003, p. 9).

Mitchell, Levin, and Krumboltz (1999, p. 117) took an even more dramatic approach, suggesting that indecision be reframed as "open-mindedness," whereby for an open-minded person, being undecided simply means "the data are not all in." Their conceptual model, *planned happenstance*, "intentionally united as an oxymoron," entails being open to chance, taking action to create and find opportunities through exploration, and being prepared for those opportunities by developing skills so that when they arise, the individual is ready to take advantage of them.

Although premature decisions can be detrimental, students who delay a choice of an academic major too long may face adverse consequences. Hagstrom, Skovholt, and Rivers (1997) found that advanced undecided students (i.e., those who had accumulated 60 or more college credit hours but remained undeclared) frequently reported experiencing frustration, anxiety, hopelessness, self-doubt, and low self-esteem. These students may fear making commitments and being judged by others, including by academic advisors, for not having chosen a major. Furthermore, delayed decisions can result in the costly accumulation of unnecessary course credits and may prevent students from graduating in a timely manner. Consequently, timely decisions on academic majors and careers comprise an important concern for academic advisors and their students.

Since the posthumous publication of Frank Parson's (1909) book, *Choosing a Vocation*, person-environment fit and trait-and-factor frameworks of career decision making, including models for working with students, have dominated the profession. Under Parson's framework, one assumes that each worker is best suited for a specific type of job based on personal characteristics, that occupational adaptation depends upon degree of fit between the workers' characteristics and the job demands, and that career development is primarily a cognitive process based on rational choices (Niles & Harris-Bowlsbey, 2005, p.15). Important characteristics noted by Parsons, as summarized by Niles and Harris-Bowlsbey, include aptitudes, abilities, interests, resources, and limitations. Work environment preferences and work values are often considered as well, as exemplified in Gordon's (2004) workbook for students and the O*Net® Work Importance Profiler (U.S. Employment Services, 2002).

Rational Choice Models

Within a rational framework (Bubany, Krieshok, Black, & McKay, 2008; Hartung & Blustein, 2002), the process of selecting a major or career typically involves (at least) four steps: exploration of self, exploration of majors (and occupations or world of work), making a decision, and then implementing it (see, e.g., Gordon, 2004). "Reality testing" or "reality checking" are also often mentioned as being part of the process (Dollarhide, 1999; McCalla-Wriggins, 2000) and, following that, "reevaluation," because the appropriateness of life choices may change as a person matures (Dollarhide, 1999). Lack of knowledge of self, the world of work, or the decision-making process (or a combination thereof) negatively impacts decidedness (Gati, Krausz, & Osipow, 1996; Kelly & Lee, 2002; Steele & McDonald, 2000).

Several studies provide evidence that students tend to consider both their own personal traits and characteristics of the field, major, or potential job when making career decisions (Aldosary & Assaf, 1996; Beggs, Bantham, & Taylor, 2008; Bubany et al., 2008; Lent, Brown, Talleyrand, McPartland, Davis, Chopra et al., 2002; Malgwi, Howe, & Burnaby, 2005; Morgan, Isaac, & Sansone, 2001; Nagle & Bohovich, 2000). In these studies, factors such as interests, work environments, financial considerations, and employment opportunities either surfaced frequently in interviews or were ranked highly by college students in Likert-type surveys. In some of these studies (e.g., Aldosary & Assaf, 1996; Lent et al., 2002), students' perceptions of their abilities at least partially influenced their choice of major as well. Moreover, some correlation appears likely between abilities as measured by standardized tests and students' choice of major. Using data from the 1988 National Educational Longitudinal Study, Staniec (2004) found that students who were good at math and science were significantly more likely to choose majors in science, engineering, and mathematics and less likely to choose a major in humanities and fine arts, while students with high reading ability were more likely to select a major in the humanities or fine arts.

Although rational choice models have domi-

nated studies of career decision making for over a century, and interventions have typically focused on promoting self-knowledge and familiarizing the client with vocational choices and the decision-making process, support is emerging for employing alternative models to complement rational-choice models (Bubany et al., 2008; Krieshok, 1998, 2001, 2002/2003). Alternative models can be used to consider the impact of such factors as emotion, intuition, support from others, and experiences (Hartung & Blustein, 2002), including chance experiences (Bright, Pryor, Wilkenfeld, & Earl, 2005; Mitchell et al., 1999), on career decision making. Bubany et al. (2008) stated that even Parsons (1909), whose work comprises the basis of rational-choice models, believed that experience plays an invaluable role in acquiring self-knowledge.

Alternative Approaches

Bubany et al. (2008) found that study participants' personal theories of appropriate career decisions were generally more alternative than rational. Participants frequently mentioned the themes of contacts, interests, intuition, experiences, and to a lesser extent, "heart" (p. 186) and skills. Moreover, 85% of these respondents perceived that others play an important part in their decision making. Immediate family, and somewhat less frequently, personal friends, extended family, and family friends figured in participants' career goal planning. Similarly, Beggs et al. (2008) found that others served as sources of information and social support for students facing decisions (see also Lent et al., 2002). Bright et al. (2005) found that father, mother, and university information were the most frequently cited significant influences on college students' career decision making while best friend, other friend, favorite university lecturer, favorite teacher, print media, the Internet, and career advisors influenced their decisions moderately.

The impact of prior experience on career decision making also surfaces in various studies. University students in Lent et al.'s (2002) investigation mentioned that both direct and vicarious exposure to work-relevant activities moderately influenced their career choices, and once a choice was made, direct experience with career-relevant tasks offered modest support for implementing the choice. One half of the participants in Bubany et al.'s (2008) study indicated that they believed work or academic experiences should be considered when making career decisions. Participants took a variety of classes, gathered work experience, and completed internships, among other activities, to inform their decision making. Bright et al. (2005), who analyzed the role of chance on students' career decision making, found that 61% of their respondents believed that previous work or social experiences influenced their career decision making significantly. Forty-four percent reported a significant impact for positive work experiences while 31% reported a significant impact of negative work experiences. However, in some instances, influences on a person's career choice were not salient. For example, slightly more than 12% of the respondents in the National Association of Colleges and Employers *Graduating Student and Alumni Survey* (as reported by Nagle & Bohovich, 2000) indicated that they "just sort of drifted into their major."

With respect to the career aspirations of gifted and honors students, research has tended to concentrate primarily on the relationship between multipotentiality and indecision. Per Rysiew, Shore, and Leeb (1999), multipotentiality has been variously defined has having multiple abilities, having multiple abilities and interests, being able to "select and develop any number of competencies to a high level" (Fredrickson & Rothney, 1972, p. vii as cited in Rysiew et al., 1999), and as a synonym for *gifted* and *talented*. Motivation and opportunity also figure in some definitions (Rysiew, Shore, & Carson, 1994; Sajjadi, Rejskind, & Shore, 2001).

Multipotentiality has been viewed as both detrimental and beneficial to career development. On the one hand, multipotentialed individuals may experience "overchoice syndrome" (Clements Blackburn & Erickson, 1986; Rysiew et al., 1994; Rysiew et al., 1999) or the inability to make a decision or commitment because so many compelling career choices seem available and viable. When four converging factors—interests, ability, motivation, and opportunity—abound, gifted students may resist, or avoid altogether, narrowing their choices, a process essential to vocational decision making. Self-imposed pressure to succeed and fear of not living up to others' expectations may lead some to hold firm to the role of student, where success is nearly guaranteed (Perrone et al., 1979; Sanborn, 1974, as cited in Rysiew et al., 1999). Gifted students often believe that they must find the perfect career, one that allows for a high degree of self-actualization and self-expression. Many jobs require specialization which, Rysiew et al. (1999) suggested, do not fit well with multipotentiality, as talented persons often seek occupations that will enable them to use many skills and talents simultaneously. Multipoten-

tialed individuals who fear making a commitment often delay career planning; they may agonize over decisions and often make frequent changes in their academic majors or occupations (Herr, 1976; Isaacs, 1973; Willings, 1986 as cited in Rysiew et al., 1999). On the other hand, the adaptability afforded by multipotentiality may prove advantageous in a rapidly changing world of work in which people frequently change jobs and even careers (Sajjadi et al., 2001). Sajjadi et al. (2001) found that while more highly multipotentialed individuals experienced lower levels of vocational identity and exhibited career indecision, they also were more positive about making career decisions and more confident that they would find a career that would make them happy than were participants with less multipotentiality.

The Research Questions

The needs of academically talented students seem to be largely neglected in higher education when compared to efforts made in K-12 settings (Kem & Navan, 2006), although, even in primary and secondary education, the myth that bright students will "get it on their own" may prevail (p. 21). To better understand the decision-making processes of talented students at the postsecondary education level, we examined the academic major and career decision-making processes of undecided (those whose declared first-semester major was exploratory) honors students. Based on our interactions with exploratory students at various stages of decidedness and the theories and findings from the literature on both undecided and multipotentialed students, we developed the following general research questions:

RQ1 What roles do abilities, interests, and work environment preferences, as proposed in rational choice models, play in the academic major and career decision-making process of exploratory honors students?

RQ2 What roles do factors identified in alternative models of career development, such as chance, emotions, and support from others, play in academic major and career decisions of exploratory honors students?

RQ3 How do multipotentiality and honors status affect the decision-making process for exploratory honors students?

RQ4 What information sources do exploratory honors students use in making academic major and career decisions?

Method

Participants

We identified students on the basis of their simultaneous exploratory and honors status in the fall semester of their first year of study at our institution, a large, midwestern, public university. The exploratory major is for students who a) do not have any idea about their choice of academic major; b) have narrowed their major choices to a finite number but who need additional information, course work, or experiences to make a decision; or c) do not have the required grade-point average (GPA) for admission into their first choice major and who need to develop a plan for selecting an alternative. However, students cannot graduate with an exploratory major and are expected to declare a degree-granting major by the time they have earned 45 credit hours. Students are admitted into the honors program at our institution with a minimum 26 ACT composite and 3.50 high school GPA. Honors students typically select the program because of the challenging course work, smaller class sizes, and classmates with similar ability. We invited three full cohorts (i.e., all students who started their studies as exploratory honors majors in three consecutive fall semesters) to participate in our study. Of these 37 students, 17 (46%) agreed to participate and complete interviews with us.

All participants, 12 females and 5 males, were of traditional college age and full-time college students. Only four participants were first-generation college students in the strictest sense (neither parent held a bachelor's degree). Sixty-five percent of the participants had siblings who had completed at least some college study. Parents' occupations exhibited a full range including labor, administrative, managerial, sales, and professional jobs. In most participants' families, both parents were employed. Students were questioned about family income, but the majority of them were unable to provide specific information regarding this factor.

At the point of data analysis in this study, all 17 participants had already changed their exploratory status to declared with at least one major. Three students declared within their first semester, seven declared during their second semester, and five declared within a year of starting their studies. Two students took more than a year to decide on a major. Discounting changes from a pre-major to major (e.g., pre-finance to finance), we found that only two participants switched to a new major once they had declared their initial choice. One of these students returned to her original choice, moving from pre-marking to pre–interior design back to

pre-marketing and finally to marketing. In addition, only three students declared a single major, with the other participants either declaring two majors ($n = 4$), a major combined with a minor ($n = 5$), or a major combined with two minors or a minor and certificate ($n = 5$).

Materials and Procedure

Because little is known about the academic major and career decision-making strategies of exploratory honors students and because the sample size was small, we opted to employ a qualitative methodology in this study. After securing approval from our institution's Human Subjects Review Board and obtaining participants' consent, we gathered data from student records and one-on-one semistandardized (see Berg, 1998, p. 61) qualitative interviews. In qualitative interviews, interviewers and participants interact through a "general plan of inquiry" related to a set of "topics to be discussed in depth" (Babbie, 2008, p. 335). In semistandardized interviewing, questions or topics generally are asked in a systematic order, but the "interviewers are permitted (in fact expected) to probe far beyond the answers to their prepared and standardized questions" (Berg, 1998, p. 61).

After discussing our own observations of exploratory honors students, reviewing the relevant literature, piloting our interview protocol with three fellow academic advisors and two students, and refining and reorganizing our questions to eliminate redundancy and to ensure a good conversational flow, we arrived at the following eight topics: a) family occupations, educational background, and job satisfaction; b) participants' role models; c) favorite and least favorite academic subjects in high school and college; d) hobbies; e) career fantasies; f) previous work experience; g) participants' decision-making processes and use of resources, including human resources, to assist in decision making; and h) the effect of honors status on decision making.

We used the topic of family occupations, educational background, and job satisfaction as a warm-up to gather demographic information not provided in academic transcripts and to explore one dimension of alternative models (RQ2) of career-decision making: influence of others on the process. Specifically, we wanted to know whether family occupations and job satisfaction influenced students' choices, even if in the form of "vicarious exposure" (Lent et al., 2002). Through the topic on role models, we intended, in similar manner, to explore the influence of others in participants' decision-making processes and to elicit information about respondents' values and aspirations.

We included the information on favorite and least favorite classes, hobbies, and career fantasies to investigate two key elements in rational choice models (RQ1): interests and skills. The discussion of career fantasies also yielded information about participants' preferred and less-preferred work environments (RQ1), that is, information related to another branch of rational-choice models: person-environment fit. Previous work experience, including internships and volunteer work, our sixth topic, addressed two factors common to alternative models (RQ2) of decision making: experience and happenstance.

We used the seventh topic, used to explore respondents' general decision-making processes and strategies, along with their means of arriving at a program of study, to examine whether exploratory honors students tended to view themselves as using rational-choice processes, alternative models, or a combination of both (RQ1, RQ2). We further probed to identify the sources of information (RQ4), including academic personnel, students consulted; the results present implications for advising and student support services. The effects of being an honors student were raised to explore the issue of multipotentiality (RQ3). We asked students how their honors status affected their own academic and career choices, and then we asked them whether they believed honors students' decision-making processes and experiences differ from those of other students.

Interviews with the 17 participants lasted approximately 30 to 60 minutes each and were transcribed verbatim. Once data were collected, we each independently culled the data for common themes among the participants' responses and identified information directly and indirectly related to the four principal research questions. After working individually and distributing written copies of our notes to each other, we met several times to discuss our notes and to review the transcripts as a group to check for consensus and ensure consistency. However, we conducted no statistical testing for measures of interrater reliability because we primarily wanted to describe and explore the experiences of this heretofore understudied population. Merriam (2002) noted that "because qualitative research draws from different assumptions about reality, generalizability needs to be thought of differently than quantitative research" (p. 29). Thus, the most common way to conceive of generalizability in qualitative research is as "reader or user gener-

alizability" in which users themselves determine how the study and findings can be applied to their individual settings. The thick descriptions provided in the following results section are intended to enhance the generalizability of this study.

Results

Rational Choice Models

Our first research question (RQ1) related to the applicability of rational choice models of academic major and career decision making to exploratory honors students. Interview responses showed that many students make use of rational choice processes, as exemplified in the comments of one student: "Personal issues are more emotional. My career and academic decisions have been based on what best interested me and what I would excel at." Many students appeared to acknowledge the fit between themselves and their programs of study and possible careers and, in fact, frequently used the term "fit." For instance, one student discussed using the strategy of talking to a lot of people about her interests so she would not miss out on a career with which she was unfamiliar that would "fit [her] perfectly." Another explained that it made "logical sense" for her to be in business because it "seemed to fit [her] more analytical side" while also enabling her to do the "management side" and work with people.

Participants often referred to their interests when discussing their favorite and least favorite academic subjects and how they chose or eliminated potential careers and areas of study based on their interests. For example, one student rejected his mother's suggestion that he consider engineering because he did not like engineering or math. This same student chose to major in history, instead, despite parental concerns about earnings potential because, in his words, "that was what I liked … that was my interest … there was nothing else dragging me in any direction." Another student majoring in anthropology with an archeology concentration, who later added geology after taking courses in that field as prerequisites for his first major, observed that the most interesting aspects of study had been history, human development, psychology, and "basically how the world around me works and how people work." He drew the interviewer's attention to the close connection between his program choices and interests. A third student, who indicated that she liked to communicate and organize events, opted to specialize in organizational and interpersonal communication rather than public communication because she had perceived that those who study the latter tend to go into politics, which did not interest her. In other words, she used her interests to identify a major and a combination of interests and lack of interest to identify areas of specialization within that major. In sum, most students gave high priority to their interests, paralleling findings of other studies (e.g., Aldosary & Assaf, 1996; Beggs et al., 2008; Malgwi et al., 2005). Moreover, 65% (11 of 17) of the respondents were enrolled in a major, minor, or concentration related to a reported favorite high-school subject.

With respect to ability, another element often important in rational-choice models of career decision making, 38% of students reportedly sought programs compatible with their abilities and 44% avoided programs to which they felt incompatible. For instance, one student arrived at the university intending to major in architecture but changed his mind during his first class when he realized that the field involved "less math and more creativity and … things that I really wasn't strong in." He opted instead to major in finance so "[I] put math at the forefront, which I knew was my strength" and then added minors in management and entrepreneurship to use his other strengths of organization, planning, and leadership.

Another student, when addressing the topic of career fantasies, described how she decided not to matriculate into the program that originally had attracted her to the university, aviation, because she judged her math skill as inadequate. Likewise, she eliminated journalism because she did not think of herself as a good writer and struggled with grammar. She rejected politics due to a lack of charisma. After rejecting fields due to her perceived skill deficiencies, this student arrived at her history and classical studies majors by "taking an inventory of her mental self and what she enjoyed." Thus, for her, skills helped eliminate choices, while interests helped her select appropriate programs. In fact, history was her reported favorite high-school subject.

Many rational approaches are characterized by attempts to match work tasks and work environment with personality and work preferences. All but two students addressed one or more of these aspects of work life and emphasized the need to like or enjoy their work. Seven students mentioned that they would like a job involving travel. For one, traveling was "huge." At the same time, a few participants expressed a tension between having a job that involved travel and one that would enable them to be available for the families they wanted to start.

Family was important for the majority of students. In fact, one of the two students who did not

directly mention her preferred type of environment said her career fantasy was to be a mom. Consequently, she had chosen a major, hospitality management, that would give her enough background to "start in and stop out because there will always be jobs at a restaurant or hotel because people are always needing to eat and stay places." Moreover, two students indicated that they had not gone with their first interests (one in architecture and one in international relations) precisely because they realized that these fields would not permit the type of family life that they desired. Another student, who was majoring in speech and audiology, reported that because she wanted to work with children she had also considered an education major; however, she expressed a career goal of opening her own practice because she felt that being able to set her own hours would be easier than working as a teacher when she started a family.

Various participants cited working with people as an additional important aspect of the work environment or work life. Several students expressed a desire to help others, to have an impact, or to make a difference. Two of these students wanted to integrate their religious faith into their work lives. Some students saw that their parents had stressful jobs and wanted their own careers to be neither stressful nor overly time consuming. Still others mentioned wanting to express their creativity in some way, to be challenged, to have a rewarding career, or to be able to use their many skills and interests (a theme related to multipotentiality).

In contrast to some researchers of other student populations (e.g., Aldosary & Assaf, 1996; Malgwi et al., 2005), we found that job availability and earnings potential did not concern the majority of our participants. Less than one third (5 students of 17) broached the topic of employability for persons majoring in their fields. Moreover, in 2 of these 5 cases, the participants' mothers had raised the issue. Only one student fully prioritized the ability to get a job over her own interests, majoring in marketing instead of in a field that would involve more writing and travel. However, she emphasized that the "major doesn't equal the job" and apparently had not given up completely on her dream of being a writer who traveled. Her true aspirations were merely a "long, long ways away." Another student decided to major in finance over his first choices of international relations and foreign languages because he felt the latter two were too general to offer good employment options in his home country. Nevertheless, he added an international business and French minor to his program, thereby not foreclosing on his interests completely. Another student who did not want to be a "starving artist" compromised by settling on art history after exploring various career paths in art. Overall, similar to the findings of Sajjadi et al. (2001) in their study of multipotentialed individuals, our results show that most of our participants appeared confident about finding employment that would make them happy. Although some made minor concessions in their employability and in efforts to balance work and family life, most students elected programs, if not majors then minors and concentrations, that would enable them to use their interests and skills in their careers one way or another.

Being happy in one's work consistently outweighed financial considerations. For example, the student with an early career fantasy of being an aviator because "aviators make a lot of money" later realized she should pursue a career she enjoyed rather than one in which the earnings were the paramount benefit. For many, using skills and finding self-fulfillment took precedence over money. As one student explained, "I wanna do something that'll bring happiness to me, something I'll enjoy doing because I know I have the skill and the personality and everything I've taken from life." Another student, in considering the difference between a job and a career, stated: "A job is something that you're just there to make money. A career is something that you're there to have some self-actualization and you know you can have goals that you achieve for yourself." Another who also addressed the difference between a job and a career observed that "a career is something you should love, like doing, enjoy, that you want to do for the rest of your life. The wage, as long as I have enough to play golf, travel, do what I want to do; I don't have to have a huge house, 10 cars, or a BMW."

Alternate Approaches

Although participants frequently made use of rational choice processes when selecting academic majors, they also frequently employed alternative strategies (RQ2) of academic and career decision making. As found in other studies (e.g., Beggs et al., 2008; Bright et al., 2005; Bubany et al., 2008; Lent et al., 2002), our results show that other people influenced students' choice of major. All but one student (94%) indicated that family played a direct or indirect role in academic major and career choices. Slightly less than one third were motivated to go to college by their parent's or another relative's dissatisfaction with their jobs. Students frequently saw their parents (and

sometimes grandparents, older siblings, aunts, and uncles) as role models with a strong work ethic, which they wanted to honor. For example, one student viewed his parents' commitment to their own professions as a reminder "to find a job he loves." Parental "push" was mentioned often. Nevertheless, although participants felt that their parents pushed them to do well in school and to go to college, in most cases, students felt that their choice of major was ultimately their own decision. At the same time, students sought support and longed for confirmation that they were making the "right" decision, as illustrated by one student's comments:

> I did talk to my parents a lot about the decision, and they had no idea what public relations was either. But they [said] if that's what you want to do, then go for it. With their support and with some of the research I had done, that's how I made the decision.

In our study, students also prevalently cited support from peers. They looked to friends, resident assistants, bosses, and fellow students for assistance with decisions relating to majors and careers. As one stated, "Well, I try to get input from everyone I know. It's nice just to know what they think." Sometimes high school teachers, college faculty members, and academic advisors also provided support and affirmation in addition to information. For instance, the student majoring in history and English had been informed by his high school social-studies teacher that he had earned the highest grade on a history proficiency test that the teacher had ever seen, but then found himself "waffling between history and English" because his high school English teacher said he "wrote well." Another English major in this study had been told by her English AP teacher that she was an "excellent writer" and that the teacher said to her, "I don't care what you do, but it needs to involve writing."

As for the impact of experience, another key feature of alternative models on career and academic major choices, responses indicated that most students' choice of major had been influenced by a combination of work experiences or internships, job shadowing, social or religious activities, and engagement with academic content. These experiences helped students learn of potential careers and provided them with a venue for testing out their choices. Every participant in this study had held at least one job, and 37.5% had completed an internship. One reported participating in job shadowing, and as a result, selected education over speech pathology.

Prior work experiences served to reaffirm or crystallize choices in some cases and to eliminate choices in others. For example, one student attributed her choice of major in organizational communication to her experiences as a student ambassador and member of a campus Christian organization through which she participated in the planning of three "big conferences." The student articulated multiple ways in which these experiences helped her build leadership, communication, and interpersonal skills needed in her field and also allowed her to network with faculty members, staff, students, and others with similar interests. Another student, who worked with her aunt at a children services center for a summer, added a certificate in nonprofit student-services management to her major because the experience had affected her so strongly and increased her self-confidence. The experience showed her that she was stronger than she had thought and not "too soft to be a social worker" as she felt everyone had always told her. After seeing how case workers handled situations, this student felt she could do the same.

In some cases, prior experiences led students to eliminate options, as happened to a former geology major who discovered that she "hated rocks" during a class field trip because she could not identify them correctly. Another student, who wanted to be a veterinarian when she first started college observed surgeries at a veterinary clinic and concluded that the job would be too stressful for her. A third student completed a pre-professional medical academy while she was in high school and "hated it" and so realized that an early career fantasy of being a doctor was not right for her.

In a few cases, chance or happenstance (Mitchell et al., 1999) played a role in students' choice of program. For example, when relating her career fantasies a participant reported, "I got a job serving and I absolutely loved it. … Immediately I knew I wanted to do something in that field." Soon after, she declared a major in hospitality management. A second student discovered an interest in geology, ironically not in a geology class, but while doing a research paper in honors English class: "I never really dreamed of being a geologist, I gotta say."

In alternative models of career decision making, emotion plays a role in career choices. Students talked about "really liking," "really enjoying," and "really loving" as well as being "fascinated by" and "passionate about" their major. Several described their major choice as being "perfect for them" and "just feeling right." They described majors and courses that did not interest them as "dull" or "bor-

ing." Students expressed "hating" several classes. In summary, participants in this study frequently used components of alternative frameworks, such as the influence of others, experiences, chance, and emotions to assist them in making academic major and career choices, along with rational choices.

Effect of Multipotentiality

Our third research question concerned multipotentiality, which was considered both an advantage and disadvantage by our participants. Although multipotentiality gave participants confidence that they could do whatever they liked, many also expressed regret about committing to just a few interest areas or to use only some of their skills. For instance, one student who initially remarked, "I considered myself to be a bright individual and I could probably do whatever I wanted," added that it "breaks [her] heart to have to pick one thing." Other participants echoed this hesitancy to commit (Rysiew et al., 1999) as explained in the following two excerpts: "… I want the best of all worlds, every world, is what I want. I don't want to have to settle on something" and "I was like, why do I have to pick one?" Some students did not necessarily express fear of commitment, but showed signs of suffering from overchoice syndrome: "Everything interests me. I wanna know as much as I can. I wanna learn as much as I can, like I wanna try, do everything that I can and I'll overload myself sometimes" and "I had no idea what I was going to do because I had so many options."

Rysiew et al. (1999, p. 427) suggested that multipotentialed individuals should consider vocations that are "sufficiently open-ended to allow for extensive growth." This strategy of committing to a major that provides flexible career options was employed by at least six students in our study. For example, one student considered journalism, public relations (PR), and communications before ultimately opting for communications because it "was a lot more broad," and with three different tracks, she could pursue all kinds of careers: "It really left it open for me as far as majoring in communications versus PR where it was very specific towards what you would be doing." Similarly, a student vacillating between visual communication design (VCD) and advertising, decided on the latter because she felt that VCD was a form of "restricted advertising" whereas if she went into advertising she could "go into the business side of it…and still be a part of the creative business where you do the actual design work." Finally, a student who decided to major in business did so because, "business is so broad. Being an exploratory student, not knowing what I wanted to do, it made sense to go into it because I could do a lot of different things with a management degree."

Students chose multiple academic programs as an additional strategy to increase opportunities to use all their skills and interests. As noted earlier, all but three participants either had double majors or a major with various minors or concentrations. Students often expressed a desire to use the skills acquired in their secondary programs in their careers. For instance, the communications major who was also pursuing a minor in Spanish hoped that once she was bilingual she would be able to use that skill in her job, and the student who did not want to be a starving artist elected to study both art history and business so that she could "be more involved in the art world" by combining business and art in some way. A student majoring in sociology and English, completing a minor in writing and a certificate in nonprofit human services management, informed the interviewer that she likes "a very large variety of things" and was "trying to find a good way to connect it all."

Although several students deemphasized their honors status when it came to academic decisions, saying that the process of making decisions and the strategies they used were likely common to many individuals, at some point in the interviews, slightly more than one half (9 participants) intimated or acknowledged explicitly that having multiple interests and skills made selecting a major or deciding on a career path particularly difficult. The majority appeared to work around this difficulty with the two noted strategies: selecting broad majors and enrolling in multiple programs. They also found outlets to express interests and skills with their hobbies, volunteer work, and extracurricular activities.

Nevertheless, a small minority of students, although declared in a program, showed some signs of distress, perhaps even falling into a category Gordon (1998, p.386) called "chronically indecisive." For instance, the student who did not want to "have to settle on something" said that she was "really bad at making decisions," that she had made "many bad decisions in her life," that she complains a lot about whether things are going to work out, and that she worries a lot. Throughout the interview, she appeared stressed by the lack of assistance from her high school counselor and university academic advisors, all of whom "didn't know her." This same student also felt that the career course she took at the university was too short. A second student whose transcript showed

evidence of considerable indecision switched from marketing to design and back to marketing in her junior year saying that the decision to give up design was "really hard" and a "nervous breakdown change" because she had invested so much time and money in the program. She added that an "emergency advisor" would have been helpful. Her comments segue into our final research question concerning how students in this study used academic major, career resources, and information sources to make decisions.

Resources for Informing Decisions

To find out about the resources participants used, we asked them directly about assistance from high school guidance counselors and teachers as well as university academic advisors and professors. We received additional information from interview questions about participants' decision-making processes for choosing their programs of study.

Only two students spoke positively about their experiences with high school career counselors while other students sometimes used strong negative adjectives to describe their experiences. Five students indicated that high school counseling was more focused on getting into college than it was with career exploration. However, one indicated the opposite was true and, in fact, complained that her high school placed too much emphasis on career decisions, which caused unnecessary pressure. Four students reported taking career inventories in high school. All were dissatisfied with the results, stating that the assessments were a "burden," and given too soon, which created stress and inaccurate results. One student expressed her annoyance that she invested a lot of time on the assessments only to be told that her ideal profession would be a train conductor. The student whose results suggested she be an athletic trainer was equally displeased. Although overall students reported receiving little career guidance from their high school counselors, one student said that her "high school counselor for the first two years was great" while another expressed strong gratitude for his counselor's assistance in getting him into the university.

Only six students commented about career advice received from high school teachers. Four of these students specified one or more teachers by discipline who had been influential in their decision. Of the remaining two, one said that her high school counselors and teachers "had been vague" and the other said that because his high school did not offer marketing, no teacher could have provided career advice to him. In summary, the majority of students in this study seemed to receive little useful help from high school guidance counselors and teachers with regard to academic major and career decision making.

As for career guidance at the university, our institution uses a decentralized model of academic advising and has a separate Career Services Center (CSC). Each college or school (e.g., arts & sciences, education) uses a unique system for providing advising services. In some colleges, professional staff provide all formal advising. In others, faculty members conduct advising, and in others both faculty members and professional staff undertake advising. The College of Undergraduate Studies, responsible for advising exploratory students, and the Honors College, responsible for advising honors students, each house a staff of advisors. Honors advisors continue to advise their students through the duration of their program. However, once an exploratory student declares a major, the student must obtain advising from the college in which he or she is declared. Student-advisor ratios vary dramatically from college to college. As a consequence of this decentralized model, student experiences with academic advising at our university, in general, are quite diverse. Nevertheless, all exploratory honors students in our study were assigned, at minimum, one advisor from Undergraduate Studies and another in the Honors College and may or may not have had official advisors in their college or academic department once a major had been declared.

Roughly one third (six) of the participants reported receiving assistance from their honors advisors. Two of these same students indicated that their exploratory advisor also provided them with major and career information. Four other students said that their exploratory advisor had helped them with their decision about a major. Still another two students reported receiving information from an advisor but did not specify the type of advisor from whom they had received assistance. While all students who mentioned their honors advisor spoke highly of this advisor, their experiences were more mixed with respect to their exploratory advisors. For instance, one student mentioned that his exploratory advisor introduced him to the area of finance accounting so that he could combine math and international business together, a possibility of which he had previously been unaware. By contrast, a student interested in writing said she only saw her exploratory advisor once because the advisor had simply "printed off a whole a bunch of

sheets … but didn't really know how to help [her]."

Four students said that they received a lot of advising in their freshmen year, but then felt "on their own" once they had declared a major. Another student indicated that he felt on his own since the beginning of his studies and said that he did not receive any career help or advice in selecting a major from any advisors. Only 6 students indicated that they had received career advice from their professors directly, most often from a faculty advisor for their honors thesis. Two of the 6 students who reported receiving career advice from a professor along with a 3rd student, who did not indicate receiving career advice directly, said they had been required to research careers in their field of study as part of a course requirement. Only one student mentioned the CSC, which she said was "no help at all … horrible." In sum, 11 of 17 (65%) students in this study had received career advice from university personnel typically expected to provide assistance with academic major and career advice (i.e., professional advisors and staff). The remaining students in the sample either did not mention receiving advising or directly stated that they had not received any career advice or information about academic majors from university personnel.

Many students found additional ways to conduct career research. Three consulted university and departmental web sites, and another four conducted web searches to research careers. One student explained her strategy by saying that she "found it easier to start with jobs and then think about majors." Two students took a career exploration course while at the university; however, one felt that the course was too short and the other said she did not need the information offered in the course as much as she needed the impetus to conduct career research, which she would not have done of her own volition. Finally, one student joined the alumni association to talk to other graduates about their majors and careers, which is how she discovered her PR major.

Discussion

Models for Choosing

The exploratory honors students in our study made use of both rational-choice and alternative methods for selecting an academic major and possible career path. The four basic steps in most rational-choice models are exploration of self, exploration of occupations (and majors in the case of students), making a decision, and then implementing it. Participants in our study were certain and articulate about their interests and abilities and could easily identify disciplines that did not interest them as well. Although participants recognized that they had a greater aptitude for and were more interested in some disciplines than others, with the exception of only a few students, most appeared confident that with effort they could pursue any major they wished.

Consequently, the majority indicated frustration and impatience with the efforts of high school counselors and university advisors to address the first stage in a rational-choice framework, exploration of self. No student spoke favorably of vocational assessments taken in high school and those who mentioned completing these types of assessments in their university orientation or career exploration class indicated that the results affirmed information they already knew about their interests rather than serving as a source of new insights.

With respect to the second phase of typical rational-choice models, exploration of the world of work and majors, participants were less knowledgeable, as Steele and McDonald (2000) have suggested is often the case with undecided students. Various students offered unsolicited complaints about the limited course options offered by their high schools and this resulted in their arriving at the university without a clear sense of their options. Yet, a high number of students (65%) selected programs of study related to favorite high-school classes. The data do not indicate whether these decisions are due primarily to the strength and stability of the participants' academic interests or whether most chose an academic area with which they were already familiar and for which they had already confirmed they possessed the necessary skills.

Participants used a variety of strategies to explore majors and the world of work, including drawing on their own and others' experiences (consistent with alternative models of career exploration). Respondents spoke to a range of people—parents and relatives, family friends, alumni (in one instance), and faculty members—about their respective work lives and consulted with upper classmen and residential advisors about their majors. Some students discovered potential careers through their own jobs and internships. Still others used a strategy that students in the Bubany et al. (2008) study commonly used: taking a variety of classes. In addition to experiential approaches and being open to happenstance, participants also researched potential majors on the Internet, through the university's websites, by reviewing program requirement sheets, by taking career exploration

classes, and less than expected, by consulting with academic advisors.

The final two principal steps in rational choice models are making a decision and then implementing it, which all but two students did within a year of starting their programs. A declared major, however, does not necessarily mean that a student is truly decided because some declare simply because they feel pressure to do so, and many students change majors after declaring. Only two major changers in our sample and only two other students showed signs of anxiety about their decisions. In fact, when probed, most students said that they felt quite comfortable with their decisions. Various students indicated that they had, in fact, been decided when they arrived at the university, but withheld declaring in the first semester to allow time to explore their options or confirm their choice. Again, consistent with alternative models of career-decision making, students sought reassurance from others, most often parents or peers, that they were making a good choice. At the same time, most students felt that the decision was ultimately their own.

Multipotentiality

Multipotentiality presented advantages and disadvantages. On the one hand, students felt unconstrained. On the other hand, having multiple interests and skills made difficult the selection among the many possible alternatives. Nearly every student, however, found ways to accommodate their multipotentiality either by choosing broad fields, enrolling in multiple disciplines, leaving time to pursue their hobbies, participating in diverse extracurricular activities, and studying abroad.

Implications for Advisors

The results suggest a number of practical implications for academic advising and career counseling in academic settings along with a number of topics for further research. First, students in this study employed strategies common in both trait-and-factor and alternative models for academic major and career selection. Interests, abilities, work environment, parents and others, direct and vicarious experiences, chance, and emotion all played a role in the decision-making processes employed by our group of exploratory honors students. Hartung and Blustein (2002) made a plea for integrating rational and alternative models of career counseling and advising. Because every student in our study used both methods extensively, Hartung and Blustein might be correct that an approach including both the individual and the context in which decisions are made is the optimal solution.

High school and university personnel involved in helping students select academic majors and careers should continue to employ traditional career decision-making techniques for exploring the fit between major and career, interests, skills, and preferred work environment when assisting undecided and exploratory honors students. However, counselors and advisors who advise honors and gifted students should not rely too heavily on assessments designed to promote self-exploration, particularly if students already appear to be self-aware. The students in our study did not have trouble identifying their own skills and interests, but instead struggled with figuring out how to limit their choices or find majors that would enable them to use multiple skills. Multipotentialed university students may need academic advisors and career counselors to spend less time helping them explore self and more time in the second phase, exploring majors and the world of work. Multipotentialed students need to be informed about the types of occupations that are intellectually stimulating, that typically offer a lot of variety in the workplace, and that require professional growth and the use of multiple skills. Advisors should be familiar with broad, general academic programs for recommendation to honors students who do not want to commit to a narrowly focused discipline. At the same time, advisors and counselors should be attuned to a more problematic lack of commitment and to intervene early with students who present with symptoms of overchoice syndrome, including anxiety and emotional distress at having to make a decision, unwillingness or inability to narrow down choices, fear of failure or of disappointing others, and the belief that the "perfect" major or career must be selected.

Traditionally, the literature on undecided students has concentrated on the declaration of a major. The majority of participants in our study were either double majoring or had added minors and concentrations to their main program of study. Advisors and career counselors should be prepared to help honors students explore minors and secondary specializations early in their studies so that they have time to explore their options and complete requirements for secondary programs. They should also be cognizant that this increased academic richness and commitment to learning may be more a strategy to accommodate multipotentiality than a means to more job opportunities or greater earnings.

While the sense of abandonment or being "on their own" after the first year may be symptomatic of the institution's decentralized advising model, enough participants expressed this feeling that it raises concerns. We urge advisors to avoid assuming that once a student has declared a major, issues of decidedness have been resolved. As Gordon (1998) illustrated, students exhibit many levels of decidedness, and career decidedness takes place over time (Krieshok, 1998). Some students may declare prematurely when they are not truly decided. Although this was the case with only a few of the students in our study, the participants wanted continued support and affirmation not only from family members and peers but from university staff. Even with a designated honors advisor for their entire program, only slightly more than one third of the students in this study (6 of 17) reported receiving assistance with academic major and career decisions from this advisor and far fewer reported connecting with an advisor or faculty member in their college or department. Although honors students have the skills to succeed, many gifted students do not necessarily feel comfortable being left to their own devices (Kem & Navan, 2006). As with other undecided students, exploratory honors students should have follow-up appointments with academic advisors even after declaring a major.

Because alternative approaches play an important part in students' decision-making processes, advisors and career counselors should incorporate these strategies into their own advising methodology. Advisors should encourage exploratory honors students to seek out experiences that will enhance self-exploration and teach them about academic options and the world of work. They should encourage students to take a variety of classes, gain work experience, pursue hobbies and extra-curricular activities, and talk with others about their decisions. Students should also be reassured about considering emotions when making their choices.

Limitations and Suggestions for Future Research

A notable limitation of this study was the small number of participants. Moreover, we used our institution's administrative definition of *undecided*, which refers to those students who have not yet declared a major, who by default, are classified as in the exploratory major. As some of the participants confessed, exploratory students may not be truly undecided, and many students who are administratively decided (i.e., declared an academic major other than exploratory) may be, in fact, undecided and need to be identified for possible interventions.

Further insights into issues of multipotentiality and decidedness could be gained by comparing exploratory honors students with honors students who did not begin their university studies as exploratory or undecided. Honors students are not the only undecided multipotentialed students who populate college campuses. A larger population of multipotentialed students could be studied as well. For example, undecided honors students could be compared with nonhonors, undecided students with high SAT scores or elevated high school or college GPAs or with students who show high interest or ability in multiple areas on career exploration assessments such as the Self-Directed Search (www.self-directed-search.com), the O*Net Interest Profiler (www.onetcenter.org/IP.html), or other similar tools. Finally, statistical comparisons might be done between groups while controlling for demographic variables such as age, gender, ethnic background, parental educational level, and so forth.

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