

Academic Advising In Higher Education: Distance Learners And Levels Of Satisfaction Using Web Camera Technology

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ACADEMIC ADVISING IN HIGHER EDUCATION:
DISTANCE LEARNERS AND LEVELS OF SATISFACTION
USING WEB CAMERA TECHNOLOGY

by

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A dissertation submitted in partial fulfillment of the requirements
for the degree of Doctor of Education
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Major Professor: Levester Tubbs

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ABSTRACT

The purpose of this study was to determine the efficacy of in-seat face-to-face advising in contrast to web camera advising of College of Arts and Sciences psychology majors in the 2005-2006 academic year. Satisfaction levels were determined and analyzed based on random assignment to either the control group (in-seat face-to face) or the experimental group (web camera) advising.

The data collected for this study consisted of participants' responses to the Academic Advising Inventory (AAI) administered to undergraduate psychology majors (N = 102). Overall, students were satisfied with advising services regardless of the advising group to which they were randomly assigned. Although there was not a statistically significant difference between students who were advised in-seat face-to-face and those advised via web camera advising, the data reflected a slight preference for advisement via web camera.

To Rafael, you have been my greatest teacher for twenty years.

Elise and Alex, may you find the journey of learning
a pathway to your brightest future; thanks for lighting my way.

Mom, I know how proud you are of me.

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CHAPTER 1 THE PROBLEM AND ITS CLARIFYING COMPONENTS

Introduction

During the last half of the 20th century, public higher education delivery system models in the United States have developed into multicampus systems. Approximately 80% of the students enrolled in two- and four-year public colleges and universities in the late 1990s attended institutions that were part of a multicampus system (Gaither, 1999). Due to continuous funding concerns, administrators have been pressured to re-examine organizational structures, and be aware of the increasing role that technology could play in addressing issues. Among these issues has been the need to provide student support services (Johnstone & Krauth, 1996).

Traditional support services for students have included admissions, registration, counseling and advising among other learning sources. Student support services have assisted students in their adjustment to college, assisted in their personal and intellectual growth, and contributed to their successes academically (MacBrayne & Russo, 1995). While each of these service areas is critical, the focus of this study was on student satisfaction with academic advising delivery systems (specifically, web cameras) at a multicampus university.

Computers have become essential in all aspects of education. Because of their accessibility and the comfort and skill level students have with them, computers have become the primary resource to which students turn when seeking information. For these reasons, counselors have been able to use computers to effectively and efficiently provide

information to students. Computers have been integrated into higher education in several ways including online instruction (Johnson, Aragon, Shaik, & Palma-Rivas, 2000) and assistive computer instruction (Mitra & Hullett, 1997; Ouellette, 1999). In addition, counseling services (Sampson, Kolodinsky, & Greeno, 1997; Zalaquett & Sullivan, 1998) and health education programs (Carr, 2001) were also being delivered via computers at the time of the present study. Because of ethical and confidentiality concerns, the provision of counseling services via the Internet has been pursued with great caution and care (Sampson, Kolodinsky, & Greeno, 1997).

Similarly, there has been a need to pursue with caution the continued development and use of computers, the Internet and technology in educational settings. Any plans to transform educational settings must address these issues along with concerns of delivering services that meet the needs of students. Specifically delivery of services, the advising approach, and accessibility to credible advisors must be considered.

The review of the literature conducted for this study included an overview of the historical development of academic advising in American institutions of higher learning, a discussion of the purpose of academic advising along with an indication of student preferences and the problems associated with providing these services at multicampus locations. The issues including delivery of services, the advising approach, and accessibility to credible advisors were presented, and questions exploring student support services and a research hypothesis were posed. The words “college” and “university” have been used interchangeably throughout the study. Academic advising was the primary focus when referencing student support services.

Background of the Study

Overview of Academic Advising

Prior to the 19th century, academic programs were very structured, choices in curriculum were limited, and the number of students attending colleges was small (Rudolph, 1990). With advancements in technology, the needs of society changed and the demand for educated people grew. In response, colleges developed more diverse curricula and utilized faculty as academic counselors. The once simple approach to advising grew complex, and the student personnel movement was born (Lloyd-Jones, 1934). Two professional associations were developed for educators whose primary concerns included academic counseling: the Association of Academic Affairs Administrators (ACAFAD) and the National Academic Advising Association (NACADA) (Goetz, 1986). These associations provided standards and identified the purpose of academic advising. At the time of the present study, the objective of academic advising and other support services was centered on meeting student needs inside and outside of the classroom, continuing a long-term emphasis in this direction (Kingan & Alged, 1993). Student support services have long been viewed as an essential component of the educational process (Beal and Noel, 1980).

The Issue

Low (2000) conducted a national analysis assessing student perception of campus experiences. Data were collected from over 400,000 students at 745 different 2-year and

4-year public and private colleges and universities. Student perceptions of campus experiences were assessed using the Student Satisfaction Inventory. All students, regardless of institutional type, identified the quality of academic advising offered as a primary concern. Quality of advising involves models of advising including prescriptive and developmental advising, and who delivers the advising. Appleby (2001) defined the purpose of prescriptive advising as delivering information to students in the most efficient way possible and the purpose of developmental advising as developing student relationships that empower them to develop the skills necessary to develop independently in the future. According to Smith and Allen (2006), the best advising incorporates both developmental and prescriptive advising; good advisors know when to use developmental techniques and when to be prescriptive in advising students.

Studies have supported mixed ideas in regard to who delivers better advising. Belcheir (1999) compared student satisfaction with various academic advising arrangements. Students who were advised in advising centers reported the highest degree of satisfaction with faculty advising reported as somewhat less satisfying. Students preferred advising centers because of their more “proactive approach” (p. 10). This was consistent with developmental advising. Sayrs (2000) studied students who received an experimental intrusive academic advising service, using a variety of technological delivery systems. These students reported significant increases in overall satisfaction with advising regardless of the individual delivering the advising.

According to NACADA (2004), a student’s ability to be academically successful can be influenced by the quality of academic advising received. Understandably, the

primary goal in advising is to ensure that faculty as advisors and/or professional advisors provide:

1. appropriate real-time or delayed interaction between faculty, advisors and students, and among students.
2. support and assistance to students in making informed choices about career and academic goals; self-assessment; decision making; and evaluation of academic career options.
3. support to orient students to the distance-learning environment.
4. an environment in which faculty as advisors, as well as professional advisors, can work toward achieving competencies needed to be an advisor of distance learners.
5. advice on the level that the student needs and wants. Multiple systems and/or policies may be required (NACADA).

Studies have shown that one of the greatest concerns among many college students is the availability of good academic advising (Cabrera, Nora, & Castaneda, 1993; Creamer, 1980; Friedman, 2001; Watson, 1994). One of the tasks of academic advising is for the student to decide, from a list of alternatives, the most appropriate direction to take in planning a program of study (Gordon, 1995). The quality of advising depends on the level of interaction between the academic advisor and student (Shields, 1994). Students have a right to expect accessible advisors (Winston, 1996). Accessibility then, becomes a primary issue.

Chickering and Ehrmann (2004) addressed the issue of communication and information technologies of higher education. They referred to technology as a “lever” (p. 1) that should be used in the implementation of good educational practices. They contended that institutional policies regarding technology must be given high priority, and that all educational personnel must invest in professional development and continued

training of technological delivery services if programs are to remain an effective part of student development and support services.

Because access to student support services has proven to be a critical factor in a successful student experience, administrators should address the availability of support services and advising at all campus locations. Students need to access services, such as advising, in the same way they access instruction--at the location where they attend classes. If the cost of providing and staffing such facilities proves to be an obstacle, multicampus college administrators must address this issue (Gaither, 1999).

One approach may be through electronic formats. Although electronic advising formats such as videoconferences and online computer conferences are not common, the use of these activities is presumed to grow as technology becomes increasingly sophisticated. Educational accrediting agencies such as the Southern Association of Colleges and Schools (SACS) have regarded information technology resources and systems as essential components of education. The method of interaction or system of delivery utilized in providing student support services may be seen as an indication of an institution's commitment to providing appropriate use of technology to meet all students' needs (Western Cooperative, 1997).

Resources and systems have included computer hardware and software, databases, and communications networks. One resource, the Internet and its World Wide Web, has had a significant impact on the delivery of educational services (Willis, 1992). The Web is a delivery technology that allows information to be distributed worldwide (Hackbarth, 1997). The Web's ability to combine print, audio, and video-based resources

could provide a solution in meeting multicampus academic advising and other student support service needs.

Statement of the Problem

Chickering and Ehrmann (2004) have referred to the use of technology in academic advising as “good practice” (p. 3). However, satisfaction with technology and the overall effectiveness of academic advising strategies using technology has remained unclear. The National Academic Advising Association (NACADA) has identified and addressed the need for guidelines on how institutions can more effectively deliver advising services for distance learners. Shaw & Shaw (2006) have supported the idea that online counseling, defined as Internet or email, has limitations when compared to face-to-face counseling. There appears to be a widespread belief that online counseling is not equal to counseling when delivered in person. A primary concern has been the possibility for misunderstandings because of the lack of nonverbal cues, including posture, facial expressions, eye contact, and tone of voice. The debate over the effectiveness of online counseling cannot be resolved until outcome data as to effectiveness have been obtained.

Much of counseling, including academic advising takes its cues from psychology and mental health models. Since the beginning of psychology, a positive client-therapist relationship has been viewed as an important aspect of the therapeutic process. Freud (1953) wrote about the value of maintaining a friendly atmosphere to facilitate successful change. This notion was developed further by other theorists from a variety of orientations who examined the qualities of client-therapist relationships and found that

they were positively correlated. Rogers (1951) described the strongest qualities of therapeutic relationships as consisting of congruence, openness, respect and empathic understanding. Greenburg and Pinsof (1986) indicated that the ability to observe facial expressions and body language was imperative to accurately interpreting a client's understanding of the information being conveyed and discussed in the psychotherapeutic process. They also noted that advisors seeking to enhance advising using technology should recognize their limitations in connecting with students if they could not visually experience a student's responses. The use of web cameras in advising could eliminate that concern.

There are many unanswered questions surrounding the future impact of technology, including web-based academic services, on advising students in distant sites. There was a need to further investigate the extent to which web-camera academic advising can provide access to qualified advisors while at the same time maintaining levels of student satisfaction with these support services. Therefore, it was hypothesized that there was no difference in levels of satisfaction reported between students who received academic advising in an in-seat face-to-face session and those who received academic advising via a face-to-face web camera session.

Limitations

The results from this study were based on data collected from students attending a large, four-year university; therefore, findings may not be generalizable to community college students or smaller institutions of higher education. Further, though nationally

normed, the Academic Advising Inventory's measurement of satisfaction (Part III) was limited to five questions. Further,

Significance of the Study

Due to the number of students, and limited time for advising, faculty have not been able to easily advise all students. If students are to be academically successful, administrators must address the delivery of services, the advising approach, and accessibility to credible advisors through creative means. This study was intended to provide additional data regarding the potential of technology in the delivery of advising services.

Research Questions

The questions that guided this study were:

1. What are the satisfaction scores for the academic advising inventory for undergraduate psychology majors in the College of Arts and Sciences regarding general satisfaction with the academic advising received based on participation in the experimental or control group?
2. What are the satisfaction scores for the academic advising inventory for undergraduate psychology majors in the College of Arts and Sciences regarding receipt of accurate information about courses, programs, and requirements through academic advising based on participation in the experimental or control group?

3. What are the satisfaction scores for the academic advising inventory for undergraduate psychology majors in the College of Arts and Sciences regarding sufficient prior notice provided about deadlines related to college policies and procedures based on participation in the experimental or control group?
4. What are the satisfaction scores for the academic advising inventory for undergraduate psychology majors in the College of Arts and Sciences regarding availability of advising when needed based on participation in the experimental or control group?
5. What are the satisfaction scores for the academic advising inventory for undergraduate psychology majors in the College of Arts and Sciences regarding sufficient time available during advising sessions based on participation in the experimental or control group?

Methodology

Measures

A number of studies have employed the Academic Advising Inventory (AAI) which was designed to measure the developmental and prescriptive ends of an advising continuum (Winston & Sandor, 1984a). The AAI was designed primarily for conducting formative and summative evaluations of academic advising programs. The AAI has four parts: Part I assesses the nature of advising relationships along a developmental-

prescriptive continuum; Part II looks at the frequency of advising activities; Part III assesses student satisfaction with advising; and Part IV gathers demographic information. Data collected from students' responses to Part III of the instrument measured their satisfaction with advising services during the 2005-06 academic year. In Part III, students responded to five items and reported on ,“(1) overall satisfaction, (2) accuracy of information provided, (3) adequacy of notice about important deadlines, (4) availability of advising when desired, and (5) amount of time available during advising sessions” (Winston & Sandor, 1984a, p.14).

Participants

The participants were undergraduate students who were attending the University of Central Florida (UCF). UCF is a metropolitan multicampus system. Some students had begun their college careers at the university; others had transferred to the university upon completion of an AA degree. Participants were recruited from the approximate 2,500 current psychology majors. The participants received an invitation to participate in a normal advisement session via the psychology department's advising newsletter listserv.

Procedures for Data Collection and Analysis

For this study, it was hypothesized that there was no difference in levels of satisfaction reported between students who received academic advising in an in-seat face-to-face session and those who received academic advising via a face-to-face web camera session. As a result of the invitation to participate in an advising session, students seeking

advising in the Psychology Department's Advising Center, were randomly assigned to either an in-seat face-to-face advising session (control group) or a face-to-face advising session via web camera (experimental group). The advising provided was part of the normal advisement that all students received under normal circumstances. The only difference was the addition of the administration of Parts III and Parts IV of the Academic Advising Inventory following the advising session (Appendix A). The data were coded and entered into SPSS. The Independent t-test was used in the analysis of interval and normally distributed data to determine differences in level of satisfaction between two independent groups.

CHAPTER 2 REVIEW OF LITERATURE AND RELATED RESEARCH

Introduction

Within the foundation of American higher education lies the long and fascinating history of academic advising. From the early colonial colleges to the diverse array of universities and colleges of the 21st century, academic advising has evolved to affect change in higher education. Successful practices have evolved over the years to foster the development of academic advising. Based on several decades of theoretical development, influence from developmental theories such as cognitive, adult, student, and career development have directly impacted the applied concepts in use in academic advising models at the time of the present study.

Philosophical and Historical Foundations for Academic Advising

The colonists who settled America deeply believed that a learned clergy and an educated citizenry were essential aspects of a society they wanted to establish. Therefore, the Puritans founded Harvard College in 1620 just a brief 16 years after they landed at Plymouth Rock. In 1693, 57 years later, The College of William and Mary was opened in the state of Virginia, followed by the opening of Yale in 1701. Demonstrating their belief that colleges existed to instill civic responsibility, establish social order and educate privileged young men, the colonists established 13 colleges by 1776 (Bush, 1969).

Borrowing from the German and English universities, the colleges taught a classical curriculum that emphasized ideas of the mind. In the early American schools,

both the teaching method and curriculum were standard. Recitation by students was the teaching method used by the faculty. Students were given little or no choice in courses (Herbst, 1982). After the Revolution, the colleges continued to advance the republican ideas to young privileged men, and new colleges opened on the western frontier to educate a broader population. For the most part, colleges were designed to promote religious freedom. These colleges also expanded the curriculum to ensure the development of information and skills that helped settlers survive (Potts, 1971). In time, reflecting the Jacksonian views of materialism, individualism, and optimism, colleges prepared their students to serve their individual aims rather than to serve the state. Students demanded a curriculum to advance their personal goals, and the religious influence on education diminished. By 1840, pastimes and extracurricular activities were more important than formal programs to many students.

All aspects of American life, including higher education, were modernized during the Civil War era. During this period, colleges changed their curricula, and new colleges were founded to offer real choice in curricula. The Morrill Act, passed in 1862, authorized land grant colleges to teach practical subjects to students. In 1890, the second Morrill Act provided states with funds to extend higher education to students of all races (Veysey, 1965). Between 1790 and 1850, another important development occurred when institutions began to educate women (Solomon, 1985). By 1930, women represented 44% of students attending colleges (Solomon, 1985). The inclusion of all races and genders had an impact on both the scholarship and curricula (Russell, 1937). The mission of American colleges evolved, individualistic ideas formed, and rapid change occurred by

the early 20th century. Most notable was the concept of the elective principle which “moved the individual to the center of the educational universe and boldly asserted that all educated men need not know the same things” (Veysey, 1965, p. 305).

During this time, an unfortunate rift occurred. According to Cowley (1938), American professors studied in German, earned the Doctor of Philosophy degree, and established an elite professorship. They approached the teaching of students as a means to an end rather than a means to educating college students. Professors abandoned holistic concepts historically associated with the approach of educating American college students and announced themselves as intellectualists. During this time, undergraduate students did not want to be part of the new tendency to specialize. Most students attended college to receive general instruction and to participate in the activities they considered important: dramatics, student publications, athletics, or being with their friends. Before long, students came to consider it inappropriate to approach faculty, and faculty considered it improper to speak with students outside of the classroom. At best, the ideals that the teacher guided the learned became obscured (Bush, 1969). Also during this period, institutions continued to grow in size and complexity, and the distance between students and faculty also grew. In 1909, the president of Harvard took measures to lessen the distance when he announced the restoration of personal relationships between students and faculty through the use of a tutorial system. In brief, he sought to restore the ideal of holism. He believed that college students could not be seen as separate beings but as whole people, and that it was bad psychology to treat students as disembodied intellects. Further, he believed it was bad education to see the role of education as

intellectual training alone (Cowley, 1938). As noted by Bush (1969), Lowell's approach was to build onto the philosophy of Harvard's previous president, Charles Normton. The former president wrote that the faculty of Harvard should give assistance and advise both inside and outside of the classroom. He stated, "Every student on his entrance to college is referred to a member of the Faculty, who will act as his advisor in regard to all matters in which he may stand in need of counsel" (Bush, 1969, p. 607).

In 1889, Johns Hopkins made an attempt to connect faculty and students more closely in the form of an academic advising system, and soon other institutions began the practice of having their faculty advise students about their specific courses of study (Grites, 1979). In fact, the advisor system for course selection was soon adopted by other institutions such as Columbia. By the 1930s, most institutions had some type of formalized advising program (Raskin, 1979).

By 1938, Wesleyan University had established a committee consisting of faculty and other personnel to encourage student exploration. The goal was for students to explore their individual interests and begin the process of exploring possible career interests. They were encouraged to explore beyond their college courses. The approach was developmental and was aimed at preparing students to make decisions regarding their future. Nearly 10 years later, a similar approach was taken by Alfred University. In 1947, Alfred's president formed a committee consisting of faculty and others to develop a plan to form a progressive and in-depth approach to advising the university's freshmen and sophomores. (With the Technicians, 1952). The recommendation of the committee was for Alfred to establish a personnel office tasked with (a) orienting freshmen

regarding the traditions and history of the university, (b) to assist with the development of study methods, and (c) set an expectation for general conduct expected of students. In addition, the office was to promote the “faith and philosophy underlying general faculty advising” (p. 41). Faith was to be focused more as humanist, than as related to a specialty, in counseling psychology. The system established at Alfred was seen as supplemental to the faculty advising process. Higher education reports were published citing this initiative as the beginning of student personnel work (Lloyd-Jones, 1934).

In 1950, the National Science Foundations was established to fund technological and scientific research in the United States. This massive funding, along with the GI Bill established after World War II, produced unmatched research activities and record enrollment in higher education during the years following the war. Decade after decade, the number of universities and colleges in the United States continued to increase the number of students served. Enrollments exceeded 16 million, and federal support for research reached more than \$20 billion (U.S. Department of Education, 2003).

While most institutions had set their own direction during the first half of the 20th century, the public began to shape the tasks that colleges and universities were compelled to perform by the 1960s. During this time, society became involved and interested in finding solutions to community problems. There was more interest in ensuring equal access to higher education than in the creation of new knowledge and observance of traditional methods of learning and disciplines. During this time, student populations also changed as they became less homogeneous and increasingly diverse. The increase in diversity and rise in student populations, along with faculty who shifted their focus to the

demands of research, led campuses to continue to formalize academic advising. By the 1970s, academic advising began to resemble an organized profession. The National Academic Advising Association (NACADA) was formed, and by the end of its first year had over 500 members. To increase interest in improved practice, NACADA supported the creation of an annual conference, an outlet for professional development, support for advising-related research, a refereed journal and other publications. The efforts of NACADA did little, however, to gain the needed attention on the issue of advising effectiveness. The National Institute of Education published a report identifying advising as one of the weakest aspects of undergraduate education. In contrast, Astin, Korn, and Green (1987), found that students at both two- and four-year institutions expressed satisfaction with the advising services they received at their colleges.

In an effort to encourage improved practice and reflection, the American College Testing Service (ACT) decided to begin a series of surveys of advising practices. During the period between 1979 and 1987, the ACT conducted comprehensive research on advising. The surveys yielded extensive data. According to the early findings in 1979, the primary goal of advising programs was the delivery of general information to students. By 1987, the only goal that approached satisfactory achievement was the provision of information (Carstensen & Silberhor, 1979; Crockett & Levitz, 1983; Habley & Crockett, 1988). Because advising was largely unevaluated during that time, researchers did not understand the effect of support services on students (Frost, 1991). By the early 1990s, attitudes toward advising were conflicted at the national level. Reports of actual campus practices indicated that a change was needed both at the program level and also among

higher education leaders. Additionally, new ideas about theoretical foundations for advising, as well as the specific ways in which students benefit from college, began to come forward. Beginning in 1975, researchers suggested that students who were engaged in college tended to be more successful than disengaged students (Astin, 1984, 1985; Boyer, 1987; Tinto, 1975, 1987). Astin (1984) described engagement as an investment of energy that could be measured along a continuum of qualitative attributes such as commitment and quantitative attributes such as time. He suggested that learning was directly proportional to both the quantity and the quality of engagement of students which were advanced by successful practices and policies.

Theories in Academic Advising

By the early 1970s, new concepts of academic advising were promoted. Crookston (1972) and O'Banion (1972) each linked student development to advising. Their findings were used to explain advising and can be viewed as a form of teaching. Crookston's concepts were organized around two principles: (a) Higher education provides opportunities for individuals who are developing plans aimed to achieve self-fulfilling lives, and (b) teaching includes experiences that contribute to an individual's growth and can be evaluated. Crookston offered a new definition for academic advising. First, he defined prescriptive, or traditional, advising as a relationship that was built on the limitations of the student and the authority of the advisor. In prescriptive advising settings students bring problems to advisors for solutions. Advisors in this setting tend to

answer questions about specific topics and rarely discuss more comprehensive concerns (Fielstein, 1994).

Second, Crookston (1972) linked his concept to the belief that advisors and students shared responsibility for both the quality of the advising experience and the nature of their advising relationship. Crookston referred to his idea as developmental and deemed it to be a rational process. As such, it employs interpersonal and environmental interactions, problem solving and decision-making, behavioral awareness and evaluation skills. Crookston viewed the advising relationship as vital and considered determining and achieving immediate and long-term goals to be in its domain. Crookston believed that the relationship could best be accomplished through application of his advising concepts rather than through training advisors in specific advising practices.

Like Crookston (1972), O'Banion (1972) and others offered similar ideas. For the most part, these researchers drew support from Chickering's (1969) psychosocial theory. Chickering organized his theory around seven concepts that he called vectors.

Developmental advising was related directly to three of the vectors: developing purpose, developing competence, and developing autonomy (Gordon, 1988). The vectors support the characteristics of developmental advising and make the concept unique.

Developmental advising is seen as a process, not an endorsement of routine course taking; it is concerned with several aspects of growth, especially personal objectives and goals, and is dependent upon ongoing interaction (Ender, Winston, and Miller, 1982; Frost, 1991). Given these specifications, the new concept offered practitioners clues about characteristics that would bring about substantive changes in advising.

In 1994, the NACADA Journal offered a reflection on both theory and the practice of developmental advising. In the fall issue, both theorists and practitioners wrote about the ideas presented by Crookston (1972) and O'Banion (1972). They addressed primarily their influence on thought and action. O'Banion (1994) updated his views. He observed that not enough had changed in practice. Those who implemented developmental advising seemed to know more about the concepts than how to accomplish the aims of those concepts. The lag in action left a gap that needed to be filled.

Practices in Academic Advising

O'Banion (1972) and Crookston (1972) suggested that the process of advising was critical and should not be defined as simply a clerical function that involved the prescriptive selection and scheduling of courses. In the late 1970s, many colleges were faced with declining numbers of matriculating students, and they were forced to seriously consider ways they could better satisfy, serve, and retain the students who enrolled. Between 1979 and 1997, the trend that most characterized advising practices was the increase in the development of advising offices throughout the systems of higher education. While advising offices increased in usage, advising administrators and faculty continued to provide direct daily services to students and student-oriented offices at most educational institutions. Among the critical elements in practice for successful advising programs has been the utilization of tools and techniques of ethical principles to resolve dilemmas and achieve quality in the programs and practices of academic advising (Frank,

2000). As noted by Habley (2000), another critical element that should be considered was the need for a coordinated effort among the many service delivery units. Habley (2000) commented that academic advisors have been trusted to work with students who need guidance across a variety of areas and services. It was his view that there must be a collaborative effort to understand the institution's rules and requirements, navigate through a variety of academic programs, choose courses, explore careers and learn about opportunities for individual studies with faculty and study abroad programs. He also supported collaboration in helping students explore the variety of other services that have been designed to help students achieve success in college. Making good decisions, evaluating academic and personal goals, and finding a personal way to engage and establish a nurturing connection with an otherwise seemingly impersonal institution were areas that could benefit from collaborative efforts. Miller (1999) stressed the need for advisors to relate well to undergraduate students, be well trained for their work, and to understand a student's legal rights. Advisors who have this legal knowledge and recognize the limits of their authority will be able to assist in improving working relationships and improved advising of students.

Legal Issues in Academic Advising

Academic staff must adhere to the laws that govern activities in educational settings. Among the laws are the data privacy laws, local ordinances, state human rights laws, and case law establishing the precedent for common law claims, including negligence or intentional torts. The Family Educational Rights and Privacy Act (FERPA)

of 1974, also known as the Buckley Amendment, mandated procedures for managing students' educational records. FERPA has been applied to any private or public institution which receives federal funds. Most records come under the purview of FERPA. FERPA defined educational records as, "any record maintained by the institution about a student" (U.S. Department of Education).

All student records, including those maintained electronically, fall within the definition of state and federal privacy as well as freedom of information laws with the accompanying legal implications (U.S. Department of Education). Student record information, including email advising transmission that has been stored electronically has also been covered. This correspondence has been deemed part of a student's educational record and has been required to be preserved, and confidentially maintained. Although encryption technologies have been available, there can be problems with insecure transmissions via the internet. Web-based interventions have presented a number of professional and ethical issues; privacy has been among the most significant concerns (Hsiung, 2001). The Internet has provided an environment where student information can easily be accessed and disseminated. Electronic records have been required to be maintained following the federal privacy guidelines and programs can be password protected. Institutions have been required to inform students, however, that confidentiality of records cannot be guaranteed. Therefore, student permission has been needed to be obtained and documented when private information is sent through email. Electronic advising, while useful and efficient, has required institutional policies regarding documentation retention and records management. While many students are at

ease with a variety of technological communication methods, the usual safeguards taken when dealing with hard-copy student information must be replicated.

Changing Demographics of College Students

Most individuals in higher education have acknowledged that students have changed over time; however, the magnitude of those changes have become more apparent when comparing college students in 2007 to those of the 1950s and 1960s. Racial diversity is only one indicator of the change in student demographics. Nationality, residence, enrollment status, and age have also diversified. Along with these changes, the introduction of technology on campuses has shifted communication methods of and with students. Students have become comfortable with new technologies including voice mail, menu choice automated messages, integrated data bases, records accessible by computer, electronic mail, web site services, and telecommunicating (Komives, 2002). Students in K-20 schools have grown up with technology. They have come of age with the Internet. Information has been universally available and free to them. Present and future higher education students have increasingly searched for independence and control, and the Internet has met their expectations. At the time of the current study, it was expected that current and future students would demand that higher education and related services be provided using methods with which they are comfortable. Exploring the use of technology to better meet the needs of students in academic advising has been viewed as a logical avenue to consider.

Models for Academic Advising

With the demographic shifts, new models for academic advising were sought in response to demands that higher education be more efficient and effective in the provision of support services for all students. According to Habley (1983), while the organizational structure of advising has differed from institution to institution, organizational patterns exist and certain structures are more likely to be found at institutions of similar types. In early American College Testing (ACT) National Surveys of Academic Advising, Habley (1988) identified changes in advising on college campuses.

Creamer and Creamer (1994) found, in a 1990 ACT survey of NACADA members, that one third of respondents had orchestrated recent changes in advising in either organization or administration. Models for delivery of centralized advising services have been viewed as one of the following organizational structures: centralized, decentralized, or shared. In general, centralized structures have been described as professional, and faculty advisors being housed in one administrative or academic unit. Faculty or professional advisors who are located in a variety of academic departments are in decentralized structures. In shared structures, advisors may meet with students in a centralized administrative unit, such as an advising center, while others may advise students in academic department of their major discipline. The Sixth National Survey on Academic Advising of 2003 conducted by ACT reflected that more institutions were using a shared model (55%) for delivering advising services than used centralized (32%)

or decentralized (14%) structures (Habley, 2004). This distribution was similar to the findings of the Fifth National Survey conducted in 1997.

According to Pardee (2004), one basis for categorization and comparison lies in the degree to which the organization is centralized. A decentralized organizational structure routinely provides advising services by staff or faculty in their academic departments. Although coordination of the overall advising may be centralized, accountability lies with advisors and their departments. A centralized organizational structure commonly includes an administrative unit comprised of an advising center, an advising staff and a director housed in one location. Often, advising related services are shared among staff or faculty in academic departments and a central administrative unit. The organizational structure of advising includes the coordination of the program and may be decentralized or centralized. Therefore, within an institution the delivery of advising services may be decentralized and the coordination of advising services centralized. Conducted in 2000, the NACADA Academic Advising Survey compared levels of satisfaction and program enhancement recommendations between advisor respondents of decentralized offices and those from central offices (Lynch, 2002). There were no significant differences in satisfaction ratings between advisors in decentralized and central offices. Each group, however, identified areas for improvement of the programs unrelated to the structure of the organization.

Habley and Morales (1998) sought to determine what advisors perceived in regard to the effectiveness of different structures. They analyzed data collected from the ACT Fifth National Academic Advising Survey including advisors' ratings for 11 program

variables and 7 organizational models. With respect to the variables and all of the organizational models, they concluded that any organizational model could be effective. They found that the factor that most determined the success of any model was dependent upon the goodness of fit between the institution, students, and the faculty. The best organizational structure for advising, in their opinion, should be based on the integration of the model with the institution's character. Ultimately, effectiveness depends on how well defined the model is so that students and advisors know how to operate within the system.

Delivery of Advising Services

The quality of institutional advising programs has been dependent on the foundations of service delivery and the organization. Students have come to expect a degree of planning support in the attainment of their education. External constituencies such as legislative bodies, accrediting agencies, and public interest groups have also demanded that higher education be both efficient and effective. In 1995, Chancellor Robert M. Berdahl, of the University of California at Berkeley was quoted as saying, "It is necessary for the academic structure to be flexible. The pool of advisors ought to have varied expertise and experience to accommodate transitions in student needs" (Berdahl, p. 210). The call for mixture of skill types and flexibility has become more pronounced as systems of advising have responded to changes in the institution and evolving expectations of the students.

Advisors have occasionally been offended and often surprised by what can be viewed as a consumer approach to higher education. The expectations of current students can be traced to the social environment, economic environment and the reasons undergraduates have decided to pursue higher education. Various cohorts, such as athletes, honors, pre-professional, international and disabled students, may find a particular type of advisor to be an easy match. For some students their family may be very involved in decisions that surround academic issues. At some institutions, family members actively participate with students in a variety of programs such as orientations and majors fairs. In these instances, academic advisors must recognize and adapt to the complex circumstances. At the time of the present study, students and their families were regularly making comparisons between institutions based on the information found on the Internet. While there has been increased usage of information found on websites, the importance of the advising relationship has not been diminished. In fact, valuable time has been allotted so that advisors may provide additional information beyond factual curriculum. Based on advisor types, individual advisors may be more resourceful at utilizing these additional opportunities.

Academic Advisor Types

In 1991, Frost recommended that academic advising be a shared responsibility among all of the members of an academic community. Information obtained from the American College Testing's (ACT) Fifth National Survey of Academic Advising (Habley & Morales, 1998a) revealed that different types of institutions (including private,

research, public, two-year and four-year) utilized a variety of models to deliver academic advising services. These models, evaluated and described based on their program effectiveness, provide choices for administrators who maintain or must develop an advising infrastructure at their institutions (Habley & Morales, 1998b). Habley & Morales (1998b) stated, “The key factor in the success, or lack thereof, of an advising model resides in the degree to which there is a fit between the model and institutional culture” (p. 39). Further data reported in the ACT’s Fifth National Survey indicated a movement toward the organization of advising services. This was indicative of a shared responsibility among staff advisors, faculty advisors, and counselors (Habley & Morales, 1998a). Awareness of current institutional trends and student needs has provided an important context for decisions about the delivery of advising services and how resources should be designed and applied in order to deliver optimal advising services.

King (1994) suggested a template for comparing the limitations and strengths of all advisor types. Several parameters explain these comparisons, including: (a) availability and accessibility to students, (b) the priority placed on advising, (c) the knowledge of the field and curriculum, (d) expertise and knowledge in student counseling roles, (e) the credibility of staff and faculty, (f) the cost to the institution, and (g) training requirements. Because no single type of advisor can deliver advising to the diverse population of students, all types of elements have needed to be considered. King argued that the most effective delivery models have drawn together the strength of multiple types of advisors.

Many institutions have been dependent on faculty to provide advising services. During the late 20th century, however, there has been a decline from 35% to 28% in the faculty-only models used across institutions (Habley & Morales, 1998a). Campuses that have relied primarily on this model have been two-year and four-year private institutions (Habley & Morales, 1998a). In mentoring relationships, faculty have often developed rapport with their students both inside and outside the classroom. These relationships have made a significant contribution to their experience of undergraduate students (Lagowski and Vick, 1995).

Administrators might argue that the advantage of having faculty advise students is that it involves indirect costs only because the salaries of the faculty are already being paid by the institution. There have been, however, some costs associated with this design because faculty must allot time like any other resource. In addition, student expectations for continuing and frequent interaction with faculty may be a principle consideration in justifying the costs associated with the faculty advisor model.

Over the years, higher education has seen a dramatic increase in the number of full-time advisors. It is no surprise that many institutions and administrators have recognized the important role that full-time advisors play because of the value they can add in the effective delivery of academic advising. In comparing the ACT's Fifth National Survey of Academic Advising with earlier surveys, a consistent upward trend in the number of institutions reporting the existence of academic advising offices was noted (Habley Morales, 1998a). By 1997, the percentage of institutions reporting the establishment of advising centers had tripled to 73% (Habley & Morales, 1998a, 1998b).

In evaluating and describing the organizational models, Habley and Morales (1998a, 1998b) stated that models other than faculty-only were dependent to some extent on offices or units having specific responsibility for academic advising.

The cost to institutions for utilizing professional advisors has varied with advisor credentials and campus locations. The credibility of advisors among non-instructional staff and advisors has depended on campus culture (Gaither, 1999). The weakness of staff advisors has most often been related to the advisors' lack of involvement in the discipline and lack of experience in teaching. Staff advisors who do not have time to visit classes or interact with faculty may find that their information can become dated and disconnected (Miller, 1999). Advising administrators need to be sensitive to these factors and address the issue that advisors must pursue continuous professional development opportunities. It is essential for administrators to ask for input from and involve advisors directly in curriculum committees and academic decisions (Habley, 2000)

Because of technological change and rapid social change, administrators and advisors must view advising as a holistic service for students. Outstanding advising should never be limited to the role of impersonal signing of course requests (Appleby, 2001). The institutional officers responsible for the allocation of resources must understand and emphasize effective advising. The diversity of institutions and students must drive the continuing evolution of effective advising delivery systems (Komives, 2002).

Academic Advising Sessions

At its very best, academic advising has occurred through interactive and supportive relationships between advisors and students. Frost (1991) stated that the advising relationship was important for three reasons: “(1) advising, unlike most out-of-class activities, is a service provided to most students; (2) advising provides a natural setting for out-of-class contacts with faculty to occur; and (3) advising involves intellectual matters, the most important area of concern for students” (p. 10). Often, this one-to-one relationship between advisor and student has had a profound effect on a student’s academic career and their satisfaction with the institution. It has been the only opportunity students have had to build a personal link to the institution. Chickering and Gamson (1987) stated that frequent contact between advisors and students was one of the most important factors in student involvement and motivation and could provide a student with needed support to get through difficult times and achieve academic success. The importance of the one-to-one advising relationship to a student’s success cannot be underestimated.

The one-to-one advising relationship has often not developed because of advisors’ lack of clarity about the competencies and skills that are fundamental to the effectiveness of academic advising. Advisors must have clear knowledge of curriculum and academic program requirements at their institutions (Frost, 1991). The ability to give correct and accurate academic guidance has been one of students’ most stated expectations from an academic advisor. However, effective communication has also been central to the one-to-one advising relationship (Habley, 2000).

Communication skills have been among the most relevant set of skills advisors need in order to build relationships with their advisees. Advisors need to understand that listening effectively to what their advisee is saying and what the advisee is not saying is an important communication skill in the creation of an environment of trust in the relationship. According to Nutt (2000), advisors should demonstrate the following communication skills:

6. Establish and maintain eye contact with students. Students must feel they have undivided attention from their advisors if communication between them is to be open and honest. In addition, eye contact with students must be maintained in order to pick up on nonverbal clues that a student may give that contradicts their words.
7. Avoid the inclination to interrupt a student with solutions before the student can fully explain their problem or idea. Instead of providing a student the opportunity to fully express themselves, advisors often fall into the savior mode which results in communication being only one-way.
8. Be aware of body language. A student can tell immediately whether the advisor is listening or not by the advisor's body language. An advisor who shuffles papers, allows for distractions from a telephone call, and who would face away from a student are all examples of nonverbal clues that convey that an advisor is not completely interested in the advising session. Also, advisors should be aware of their students'. Students can convey many feelings through body language that they may never express openly. Folded arms, physically turning away, slouched posture, or nervous gestures are all examples of body language that can indicate feelings of frustration, anger, or depression.
9. Focus on the content of a student's words. Advisors must listen to words and phrases students use in conversation. They must be sure they have a clear understanding of the facts, issues or problems being discussed. It is important that an advisor asks leading or probing questions as necessary to ensure that they have understood the content of the conversation.
10. Focus on the tone of a student's words. Listening is paying attention to what is said and what is not said. Often the tone of student's words or facial expressions are more critical than what they are saying. Advisors should listen to a student's voice level in order to pick up issues of concern. In addition, the student's tone of voice can indicate a student's state of mind.
11. Acknowledge what students may say through verbal and nonverbal feedback. This may include nodding one's head or responding with "I see" or "yes".

12. Reflect on or paraphrase what students say. After a student finish talking, the advisor must demonstrate that they have listened by repeating back in their own words what the student has said. This provides a student the opportunity to clarify what they said and to correct misunderstandings.(p. 3)

Along with communication skills, academic advisors have been required to possess technology skills in order to draw on and provide accurate and comprehensive information. With the continued emergence of technology and the growth of institutions, multicampus structures have provided information through the continued development of technological delivery services.

The management of changes in information technology has led to further transformation in advising services. For advisors, the transformation began with the expanded utilization of personal computers in the 1970s. Since 1982, the power and capacity of the personal computer increased nearly 25%, while the cost of software and hardware decreased by 4%. During the same period of time, human resource costs increased by 75% (Kramer & McCauley, 1995). The continued use of information technology, both hardware and software, has enabled advisors to provide more service for less cost.

Technological Support Resources for Advising

Literature and discussion focused on online counseling has grown in recent years (Laszlo, Esterman & Zabko, 1999). What was once termed an alternative to traditional therapy has now become commonplace (Laszlo, Esterman & Zabko, 1999). This type of counseling has been referred to as ecounseling, cybertherapy, etherapy, and telecounseling. Online counseling, for the purpose of this study, refers to counseling

which occurs in an office setting with the student and advisor not being located in the same room or office but across some distance.

Computer technology has continued to advance rapidly and has supported continued innovations (Barak, 1999). While many in the counseling field have embraced technology as a valuable tool (Giffords, 1998), many have been slow to incorporate technologies in their practice. Grohol (1998) noted that it was likely the latter group would be left behind in this increasingly competitive field. (Grohol, 1998). Opinions have differed in regard to barriers to effective online counseling. The most important barrier to be overcome has been technological savvy. With present day advances and easy approaches, counselors have been able to develop the necessary skills to overcome this barrier with minimal effort (Gale & McKee, 2002). Barriers such as navigational ease can be overcome by counselors designing websites that are easy to understand (Torres, Maddux, & Phan, 1999). According to Fenichel, Suler, & Barak (2002), the barriers presented have not served as major obstacles. As more and more users have demanded online services, it has been incumbent upon counselors and servicing agencies to keep pace (Guterman & Kirk, 1999). Online counseling services have proven to be viable options for many users (Cook & Doyle, 2002) and have sometimes allowed users a stronger and different voice (Shuler, 2002). Further, users may also have better access to multicultural counselors and be provided more choices (Guanipa, Nolte & Lizarraga, 2002).

Summary

The purpose of this chapter was to provide a review of the literature and related research that would serve as a foundation for the study. The chapter was organized to present the philosophical and historical foundations of academic advisement. Theories and concepts, practices, legal issues were discussed. The changing population of students as well as types of advisors and models of advisement were presented. The chapter was concluded with a discussion of technological support resources for advising.

CHAPTER 3 METHODOLOGY

Introduction

This chapter describes the design of the study and the procedures used in collecting and analyzing the data. Major sections in the chapter include a statement of the problem, description of the population and sample, instrumentation, data collection, and data analysis.

Statement of the Problem

This study sought to assess the differences in levels of satisfaction regarding advising services conducted by face-to-face in-seat sessions and face-to-face sessions using web camera technology offered by the Department of Psychology. By responding to Part III of the Academic Advising Inventory (AAI) (Appendix A), students expressed their satisfaction levels with the academic advising session. Responses were used to determine if there were differences based on the satisfaction levels established for this scale. The scale was analyzed controlling for variables of sex, ethnicity, age, marital status, academic class standing, type of prior academic advisor, length of time spent in prior advising session, number of advising sessions this year, and campus primarily attended.

Population and Sample

The participants of this study were drawn from those enrolled students majoring in psychology at the University of Central Florida (UCF) during spring of 2006. The survey was administered by Psychology Department advising staff after gaining approval from UCF's Institutional Review Board (Appendix B) to conduct the research. Participants were recruited from the approximate 2,500 current psychology majors. The participants received an invitation to participate in a normal advisement session via the psychology department's advising newsletter listserv (Appendix C). Those students agreeing to participate were provided with explanatory information regarding informed consent and a consent form which all participants were required to sign (Appendix D). The sample consisted of 102 psychology student respondents with 51 (50%) assigned to the control group and 51 (50%) assigned to the experimental group. A total of 102 surveys were distributed in randomly selected sessions and completed for a return rate of 100%.

Instrumentation

Data for the study were collected using the Academic Advising Inventory (AAI). This instrument was selected because it is a theoretically grounded measure. The Inventory provides a means for the evaluation of advising programs. It serves as a mechanism to gather data and provides a tool to investigate alternative strategies for advising and relating those findings to theoretical constructs in academic advising. The authors' development of the AAI was a way to support further investigation of advising

as an important function in higher education which could positively affect pragmatic improvement of programs and the lives of students through systematic and more thorough summative evaluation of services provided.

The development of the AAI began in 1983. The AAI was designed to measure three aspects of academic advising: (a) the nature of advising relationships, seen along a developmental-prescriptive continuum (Part I); (b) the frequency of activities taking place during advising sessions (Part II); and (c) satisfaction with advising (Part III). Part IV of the Inventory was designed to gather demographic-type information about the student and his or her advising situation.

For the purpose of this study, Parts III and IV were selected to be administered. Satisfaction with Advising (Part III) of the AAI was comprised of five items (items 45-49) that related to various aspects of a student's satisfaction with advising received during the current academic year, namely (a) overall satisfaction, (b) accuracy of information provided, (c) adequacy of notice about important deadlines, (d) availability of advising when desired, and (e) amount of time available during advising sessions.

Table 1 presents the intercorrelations resulting from a factor analysis performed on the five satisfaction items contained in Part III. This analysis was performed using data collected from undergraduates from five widely different and geographically diverse college and universities.

Participants responded to a Likert-type scale where responses of A, B, C, and D were assigned the respective values of 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. Participant response time ranged between 10 and 20

minutes. Once each item was coded, frequencies and means for each item were computed. Lower mean scores (1 or 2) suggested dissatisfaction with the overall advising experience and/or specific aspects of advising. Higher mean scores (3 or 4) indicated satisfaction with advising.

Part IV elicited demographic information about students and frequency and type of advising received. Students provide information about: (a) gender, (b) cultural/racial background, (c) age, and (d) academic class standing. Data requested about the advising setting include: (a) type of advising, (b) amount of time typically spend in advising, (c) number of sessions in current advising situation, and (d) total number of advising sessions in which the student participated during the current academic year.

Table 1
Academic Advising Inventory: Intercorrelations Among Satisfaction Items

Satisfaction (Item)	Item 46	Item 47	Item 48	Item 49
Academic advising in general (45)	.67	.47	.55	.54
Information about courses, programs and requirements (46)		.57	.45	.49
Prior notice of deadlines related to college policies (47)			.37	.33
Availability of advisement (48)				.59
Sufficient time available during advisement sessions (49)				

Data Collection

As a result of the invitation to participate in an advising session, students seeking advising in the Psychology Department's Advising Center, were selected randomly and assigned to either an advising face-to-face session (control group) or an advising session via web camera (experimental group). The advising provided was part of the normal advisement that all students would receive under normal circumstances and was conducted using the Privacy of Student Information Protocol which included an Advising Session Script (Appendix E). The only difference was the addition of the 10 to 20 minute administration of Parts III and IV of the Academic Advising Inventory (AAI) immediately following the advising session. At the conclusion of each advising session, participants were debriefed using an Advising Study Debriefing Form (Appendix F). Steps taken to control confounding variables included (a) the same advisor conducting the advising sessions; (b) the same office being utilized to conduct the advising sessions; and (c) a scripted advising session being used to control advising session content.

The equipment used to conduct the sessions consisted of the Polycom ViaVideo II a personal video conferencing system. The ViaVideo II camera system delivers a full-screen, video with full-motion monitor support. It has advanced camera sensors to ensure more vivid colors to capture true-to-life images. It makes sharper adjustments to changes with motion and lighting to provide clearer video. It offers improved imaging in poor lighting scenarios such as low light/backlight to produce more robust usage. The camera uses enhanced video and audio quality by providing 512Kbps and includes up to 30fps for natural motion. The G.722.1 audio wideband audio has lower bandwidth

consumption which allows for higher quality of the video quality. The IP quality includes error concealment to ensure that the delivery is smooth and conceals possible deteriorating effects. The full screen video promotes increased viewing images which eliminates application border. In addition, full duplex audio provides the ability to speak and listen simultaneously. Further, it is enhanced with noise suppression and echo cancellation to ensure the audio clarity is enhanced. Also, the user interface is Windows-based providing easy navigation. Finally, content is received and sent direct from the users' computer while simultaneously allowing video sharing along with extended sharing of data and integrated real-time presence detection software and other personal computer applications.

Data Analysis

The data were coded and entered into Statistical Package for the Social Sciences (SPSS) Version 11.5 for Windows. The statistic used for the interval data, looking at difference in level of satisfaction between two independent groups, was the Independent T-test; probability for rejection was 0.05.

Procedures for Analysis

The data collected from the sample using the AAI were analyzed to determine the levels of satisfaction of students regarding the academic advising services from the psychology advising office in the Department of Psychology in the College of Arts and Sciences. The data were analyzed to determine the extent to which there were any

differences between the satisfaction levels of students based on their random assignment in the experimental or control group. The five items previously cited that were subjected to statistical analysis were items contained in Part III of the Academic Advising Inventory. Originally numbered 45-49 in the complete instrument, items were renumbered 1-5 (Appendix A).

The data collected were analyzed to determine student satisfaction regarding academic advising services. Analyses were conducted to determine differences, if any, in the satisfaction ratings based on sex, ethnicity, age, marital status, academic class standing, type of prior academic advisor, length of time spent in prior advising session, number of advising sessions this year, and campus primarily attended. Upon the return of each survey, the participant's answers were coded for entry into SPSS

Data Analysis for Research Question 1

What are the satisfaction scores for the academic advising inventory for undergraduate psychology majors in the College of Arts and Sciences regarding general satisfaction with the academic advising received based on participation in the experimental or control group?

Analysis of the first research question's data required the calculation of the mean of satisfaction for the Likert scale using the independent t-test to determine the presence of statistical significance in the mean differences between the two independent groups (experimental and control). The basis of the analysis were the mean scores which were determined using student responses to each question posed on the survey. The scores were determined separately for the experimental and control groups, presented in tabular form and discussed.

Each item in the selected academic advising inventory scale was stated as a positive expectation a student may or may not hold regarding academic advising services, e. g., I am satisfied in general with the academic advising received. For each item, students were to consider the academic advising session they just completed. After reading each statement, they were to indicate their response by circling their level of agreement. Participants used a 5-point Likert-type scale where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. These categories indicated students' level of satisfaction with regard to the advising services associated with the selected scale. The mean scores for both groups, experimental or controlled, were presented and discussed.

In order to conduct further analysis for this study, the research questions regarding the AAI demographic items of sex, ethnicity, age, academic class standing, type of prior academic advisor, length of time spent in prior advising session, number of advising sessions this year were used. In addition, marital status and campus primarily attended were added. The variables were coded with values for statistical analysis as follows: sex/gender was assigned a value of either 1 or 2 to distinguish between males and females respectively; ethnicities are assigned values as follows: 1 = African American/Black, 2 = Hispanic American/Latino, 3 = Asian American or Pacific Islander, 4 = Native American, 5 = White/Caucasian, 6 = Biracial/Multiracial, 7 = Other; age was coded as stated numeric age; academic class standing was assigned a value from 1 to 5 to distinguish between freshman, sophomore, junior, senior, and irregular/transient respectively. Type of prior academic advisor was assigned the values 1 for assigned

advisor at advising center, 2 for advised individually by faculty, 3 for advised with group of students, and 4 for no advising received. Length of time spent in prior advising session was assigned 1 for less than 15 minutes, 2 for 15-30 minutes, 3 for 31-45 minutes, 4 for 46-60 minutes, and 5 for more than 1 hour. Number of advising sessions this year were coded 1 to 5 for none, 1, 2, 3, 4 and 5 respectively. The added variable of marital status were coded as 1 for unmarried, 2 for married, 3 for divorced/separated, 4 for widowed, and 5 for living with a partner. The other added variable of campus primarily attended utilized 1-15 and represented each of the 15 campuses that were reported by the participants.

Data Analysis for Research Question 2

What are the satisfaction scores for the academic advising inventory for undergraduate psychology majors in the College of Arts and Sciences regarding receipt of accurate information about courses, programs, and requirements through academic advising based on participation in the experimental or control group?

Analysis of the second research question's data required the calculation of the mean of satisfaction for the Likert-type scale using the independent t-test to determine the presence of statistical significance in the mean differences between the two independent groups (experimental and control). The basis of the analysis was the mean scores which were found from the student responses to each question posed on the survey. The scores were determined separately for the experimental and control groups and discussed.

Each item in the selected academic advising inventory scale was stated as a positive expectation a student may or may not hold regarding academic advising services,

e.g., I am satisfied in general with the academic advising received. For each item students were to consider the academic advising session they just completed. After reading each statement, they were to indicate their response by circling their level of agreement. Participants used a 5-point Likert-type scale ranging from 1 to 5 where 1 = strongly disagree and 5 = strongly agree. These categories indicated students' level of satisfaction with regard to the advising services associated with the selected scale. The mean scores for both groups, experimental or controlled, were presented and discussed.

Data Analysis for Research Question 3

What are the satisfaction scores for the academic advising inventory for undergraduate psychology majors in the College of Arts and Sciences regarding sufficient prior notice provided about deadlines related to college policies and procedures based on participation in the experimental or control group?

Analysis of the third research question's data required the calculation of the mean of satisfaction for the Likert-type scale using the independent t-test to determine the presence of statistical significance in the mean differences between the two independent groups (experimental and control). The basis of the analysis was the mean scores which were found from the student responses to each question posed on the survey. The scores were determined separately for the experimental and control groups and discussed.

Each item in the selected academic advising inventory scale was stated as a positive expectation a student may or may not hold regarding academic advising services, e.g., I am satisfied in general with the academic advising received). For each item students were to consider the academic advising session they just completed. After reading each statement they were to indicate their response by circling their level of

agreement. Participants used a 5-point Likert-type scale ranging from 1 to 5 where 1 = strongly disagree and 5 = strongly agree. These categories indicated students' level of satisfaction with regard to the advising services associated with the selected scale. The mean scores for both groups, experimental or controlled, were presented and discussed.

Data Analysis for Research Question 4

What are the satisfaction scores for the academic advising inventory for undergraduate psychology majors in the College of Arts and Sciences regarding availability of advising when needed based on participation in the experimental or control group?

Analysis of the fourth research question's data required the calculation of the mean of satisfaction for the Likert-type scale using the independent t-test to determine the presence of statistical significance in the mean differences between the two independent groups (experimental and control). The basis of the analysis was the mean scores which were found from the student responses to each question posed on the survey. The scores were determined separately for the experimental and control groups and discussed.

Each item in the selected academic advising inventory scale was stated as a positive expectation a student may or may not hold regarding academic advising services. e.g., I am satisfied in general with the academic advising received). For each item students were to consider the academic advising session they just completed. After reading each statement they were to indicate their response by circling their level of agreement. Participants used a 5-point Likert type scale ranging from 1 to 5 where 1 = strongly disagree and 5 = strongly agree. These categories indicated students' level of

satisfaction with regard to the advising services associated with the selected scale. The mean scores for both groups, experimental or controlled, were presented and discussed.

Data Analysis for Research Question 5

What are the satisfaction scores for the academic advising inventory for undergraduate psychology majors in the College of Arts and Sciences regarding sufficient time available during advising sessions based on participation in the experimental or control group?

Analysis of the fifth research question's data required the calculation of the mean of satisfaction for the Likert-type scale using the independent t-test to determine the presence of statistical significance in the mean differences between the two independent groups (experimental and control). The basis of the analysis was the mean scores which were found from the student responses to each question posed on the survey. The scores were determined separately for the experimental and control groups and discussed.

Each item in the selected academic advising inventory scale was stated as a positive expectation a student may or may not hold regarding academic advising services (e.g. I am satisfied in general with the academic advising received). For each item students were to consider the academic advising session they just completed. After reading each statement they were to indicate their response by circling their level of agreement. Participants used a 5-point Likert type scale ranging from 1 = strongly disagree to 5 = strongly agree. These categories indicated students' level of satisfaction with regard to the advising services associated with the selected scale. The mean scores for both groups, experimental or controlled, were presented and discussed.

CHAPTER 4 ANALYSIS OF DATA

Introduction

This study sought to assess the differences in satisfaction levels of Psychology students regarding academic advising services offered by the department's advising office. Data collected from the Academic Advising Inventory were analyzed controlling for the mode of advising: in-seat face-to-face (controlled) or web camera (experimental). Included is personal and academic advising background information for participants and participant groups. The chapter has been organized to present the findings of the analysis for each research question. Tables, figures and supportive narratives have been used to clarify the presentation of the results.

Demographic Description of Participants and Participant Groups

Table 2 provides a demographic description of participants in the study. A high majority of the participants were female (84 or 82.4%). Participants' reported ethnicity indicated that the number of Caucasian respondents (65 or 63.7%) exceeded African American (12 or 11.8%), Asian American (11 or 10.8%), Hispanic American (8 or 7.8%), Other (3 or 2.9%), Biracial (2 or 2.0%), and Native American participants (1 or 1.0%). Further, age at last birthday was reported as 21 years of age (30 or 29.4%), 22 years of age (27 or 26.5%), 20 years of age (20 or 19.6%), 23 years of age (8 or 7.8%), 24 years of age (7 or 6.9%), 19 years of age (6 or 5.9%), followed by the remainder of the participants ranging between the ages of 25 and 36 (13 or 12.7%) at their last birthday.

Table 2
Demographic Description of Academic Advising Inventory Participants

Descriptors	Frequency	Percent
Gender		
Male	18	17.6
Female	84	82.4
Ethnicity		
African American/Black	12	11.8
Hispanic American/Latino	8	7.8
Asian American or Pacific Islander	11	10.8
Native American	1	1.0
White/Caucasian	65	63.7
Biracial/Multiracial	2	2.0
Other	3	2.9
Age at last birthday		
19	6	5.9
20	20	19.6
21	30	29.4
22	27	26.5
23	8	7.8
24	7	6.9
25	4	3.9
26 and older	9	9.0
Marital status		
Unmarried	82	80.4
Married	7	6.9
Other	13	12.7
Academic class standing		
Freshman	0	0
Sophomore	4	3.9
Junior	37	36.3
Senior	60	58.8
Irregular or Transient Student	1	1.0

Note. Not all participants completed every survey item.

Also, in regard to marital status of participants, the most frequent status was reported as unmarried (82 or 80.4%), with married reported as 7 or 6.9%, and other reported as 13 or 12.7%. Academic class standing was reported as Senior (60 or 58.8%), Junior (37 or 36.3%), Sophomore (4 or 3.9%), Irregular or Transient Student (1 or 1.0%) and Freshman (0 or 0.0%).

Table 3 presents demographics related to advising for participants completing the Academic Advising Inventory (AAI). In response to the request for information describing academic advising received in prior sessions, participants indicated they were most frequently advised individually by an advisor at an advising center (56 or 54.9%) followed by advised individually by a faculty advisor (27 or 26.5%). A total of 16 (15.7%) participants indicated they had received no advising or had been advised within a group of students. Participants also reported how much time was spent in each prior advising session. A majority (59 or 57.8%) indicated they spent 15-30 minutes. A total of 27 (26.5%) indicated less than 15 minutes, and 13 respondents (12.8%) indicated they spent more than 30 minutes in advisement session.

Responding to how many academic advising sessions they had this year, 36 (35.3%) participants indicated having attended two sessions, while 32 (31.4%) attended one session. Three sessions were attended by 18 (17.6%), and four or more sessions were attended by 10 (9.9%) of participants. A total of 93 (91.2%) of participants reported the campus of primary attendance was the main campus.

Table 3
 Advising Demographics for Academic Advising Inventory Participants

Descriptor	Frequency	Percent
Prior academic advising		
Individual advisor at advising center	56	54.9
Individual faculty advisor	27	26.5
Other	16	15.7
Missing data	3	2.9
Time in prior academic advising sessions		
Less than 15 minutes	27	26.5
15-30 minutes	59	57.8
31+ minutes	13	12.8
Missing data	3	2.9
Number of academic advising sessions this year		
None	6	5.9
One	32	31.4
Two	36	35.3
Three	18	17.6
Four or more	10	9.9
Campus of primary attendance		
UCF at Daytona Beach	1	1.0
UCF at Sanford/Lake Mary	3	2.9
UCF Downtown	1	1.0
UCF at Cocoa	1	1.0
Rosen School	1	1.0
Main Campus	93	91.2
Web	2	2.0

Note. Not all participants completed every survey item.

Table 4 displays demographic data for the control and experimental participant groups. As reflected in Table 4, females participating in both the control and experimental groups far exceeded the number of males participating in both groups with more than 80% females in both groups. The ethnic breakdown of participants was reflective of the general student population at the University of Central Florida with a

majority of participants, regardless of group, being White/Caucasian (University of Central Florida Factbook, 2006). There was minor variation between the groups with slightly fewer white/Caucasian participants in the control group. Further, the data reflected the age at last birthday of the participants ranged, for the most part, between 20 and 22 years of age for both groups. This was also reflective of the student population as a whole at the University of Central Florida. The average ages were 22.4 and 22.3 years of age for the control group and experimental group respectively. Also, unmarried students (78.9%) comprised the majority of undergraduate students attending the University of Central Florida. This was consistent with the sample size (80.4% unmarried).

It was noted that the sample did not reflect any freshmen; however, based on the design of advising services at UCF, freshman seek advising from the First Year Advising Office. As far as sophomore students, a very small percentage (3.9%) was found in the sample. The majority of participants were juniors (36.3%) and seniors (58.8%). The overall ratio of seniors to juniors in the sample (1.62) was greater than the comparable ratios in the UCF student body (1.41) and the population of Psychology majors (1.18) (University of Central Florida Factbooks, 2006). This was not determined to pose a problem in the study, since it was realistic to expect there to be a greater number of senior students seeking advising, and the sample remained effective. In conclusion, while minor variations existed between the groups based on these factors, variations were attributable to the random nature of the study and did not appear likely to affect the results.

Table 4
Demographic Description of Participant Groups

Descriptors	Control		Experimental	
	In-Seat (N = 51)		Web Camera (N=51)	
Gender				
Male	10	19.6	8	15.7
Female	41	80.4	43	84.3
Ethnicity				
African American/Black	7	13.7	5	9.8
Hispanic American/Latino	4	7.8	4	7.8
Asian American or Pacific Islander	7	13.7	4	7.8
Native American	0	0.0	1	2.0
White/Caucasian	30	58.8	35	68.6
Biracial/Multiracial	1	2.0	1	2.0
Other	2	3.9	1	2.0
Age at last birthday				
19	3	5.9	3	5.9
20	5	9.8	6	11.8
21	12	23.5	18	35.3
22	15	29.4	12	23.5
23	4	7.8	4	7.8
24	5	9.8	2	3.9
25	3	5.9	1	2.0
26 and older	4	7.8	5	9.8
Marital status				
Unmarried	42	82.4	40	78.4
Married	2	3.9	5	9.8
Other	5	9.8	6	11.7
Academic class standing				
Freshman	0	0.0	0	0.0
Sophomore	2	3.9	2	3.9
Junior	21	41.2	16	31.4
Senior	27	52.9	33	64.7
Irregular or Transient Student	1	2.0	0	0.0

Note. Not all participants completed every survey item.

Table 5 presents information for in-seat face-to-face (control) and web camera (experimental) groups related to variables associated with prior academic advising. A majority of participants had previously been advised by individual advisors at an advising center (26 or 51% of the control group and 30 or 58.8% of the experimental group). A majority of students in both groups had spent 15-30 minutes in advisement sessions (31 or 60.8% of the control group and 28 or 54.9% of the experimental group). A majority of students in both groups had gained advisement through either one or two advisement sessions during the year. Over 90% of all participants indicated they had received their advisement on the main campus.

Table 5
 Advising Demographics for Participant Groups

Descriptors	Control		Experimental	
	In-Seat (N = 51)		Web Camera (N=51)	
Prior academic advising				
Individual advisor at advising center	26	51.0	30	58.8
Individual faculty advisor	14	27.5	13	25.5
Other	10	19.6	6	11.7
Missing data	1	2.0	2	3.9
Time in prior academic advising sessions				
Less than 15 minutes	12	23.5	15	29.4
15-30 minutes	31	60.8	28	54.9
31+ minutes	7	13.7	6	11.7
Missing data	1	2.0	2	3.9
Number of academic advising sessions this year				
None	1	2.0	5	9.8
One	13	25.5	19	37.3
Two	20	39.2	16	31.4
Three	10	19.6	8	15.7
Four or more	7	13.7	3	5.9
Campus of primary attendance				
UCF at Daytona Beach	0	0.0	1	2.0
UCF at Sanford/Lake Mary	2	3.9	1	2.0
UCF Downtown	1	2.0	0	0.0
UCF at Cocoa	0	0.0	1	0.0
Rosen School	0	0.0	1	2.0
Main Campus	47	92.2	46	90.2
Web	1	2.0	1	2.0

Note. Not all participants completed every survey item.

Research Question 1

What are the satisfaction scores for the academic advising inventory for undergraduate psychology majors in the College of Arts and Sciences regarding general satisfaction with the academic advising received based on participation in the experimental or control group?

Participants' responses to Item 1 on the Academic Advising Inventory, "I am satisfied in general with the academic advising I have received," were analyzed in order to answer Research Question 1. The results of the analysis are presented in Table 6 and graphically displayed in Figure 1. Levels of satisfaction in the in-seat face-to-face (control) group (4.5294) were found to be less than the web camera (experimental) group (4.6471) based on the mean. These levels (both approaching 5 = strongly agree) reflected the generally positive feelings of students with regard to the advising received regardless of group. Table 6 indicates that the mean difference of .11765 was found not to be statistically significant because the p-value of .431 makes for a high likelihood of no actual difference. Thus, there was no statistically significant difference between the mean levels of satisfaction between the in-seat face-to-face (control) group and web camera (experimental) group advising based on Research Question 1.

Table 6
Group Statistics: Research Question 1

Item 1	Sig.	t-test for Equality of Means			Mean Difference
		t	df	Sig. (2-tailed)	
Satisfaction in general with advising received	.226*	.791	100	.431	.11765

*Equal variances assumed for t-test as a result of the observed significance level found by the Levene's Test for Equality of Variances.

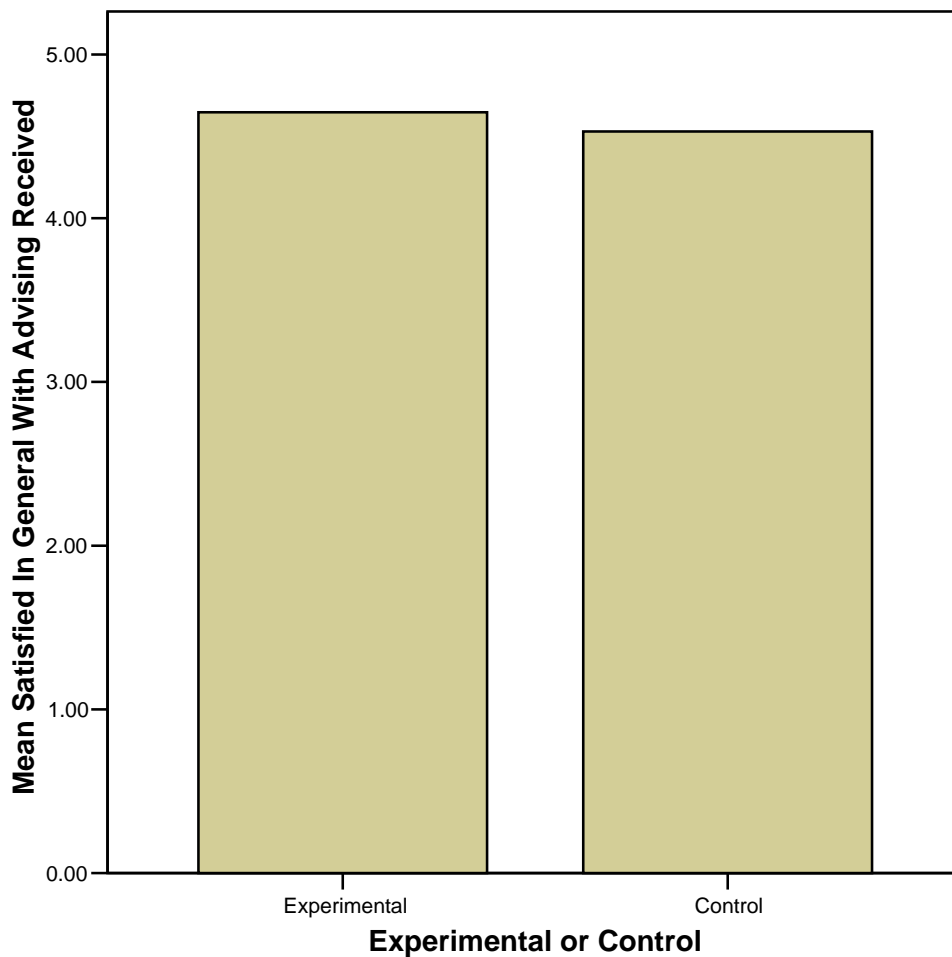


Figure 1. Satisfaction In General With Advising Received With Web Camera (Experimental) and In-Seat (Control)

Research Question 2

What are the satisfaction scores for the academic advising inventory for undergraduate psychology majors in the College of Arts and Sciences regarding receipt of accurate information about courses, programs, and requirements through academic advising based on participation in the experimental or control group?

Participants' responses to Item 2 on the Academic Advising Inventory, "I have received accurate information about courses, programs, and requirements through academic advising," were analyzed in order to answer Research Question 2. The results of the analysis are presented in Table 7 and graphically displayed in Figure 2. Based on the mean, levels of satisfaction in the in-seat face-to-face (control) group (4.5686) were found to be less than the web camera (experimental) group (4.6667). It was clear from such the high levels (both approaching 5 = strongly agree) that students generally felt well advised with regard to the receipt of accurate information regardless of group.

Table 7 reflects that the mean difference of .09804 was found not to be statistically significant because the p-value of .493 was very high, indicating a good chance of no actual difference. This means that there was no statistically significant difference between the mean levels of satisfaction with the receipt of accurate information between the in-seat face-to-face (control) group advised and web camera (experimental) advised students.

Table 7
Group Statistics: Research Question 2

Item 2	t-test for Equality of Means				Mean Difference
	Sig.	t	df	Sig. (2-tailed)	
Receipt of accurate information for courses, programs and requirements	.300*	.688	100	.493	.09804

*Equal variances assumed for t-test as a result of the observed significance level found by the Levene's Test for Equality of Variances.

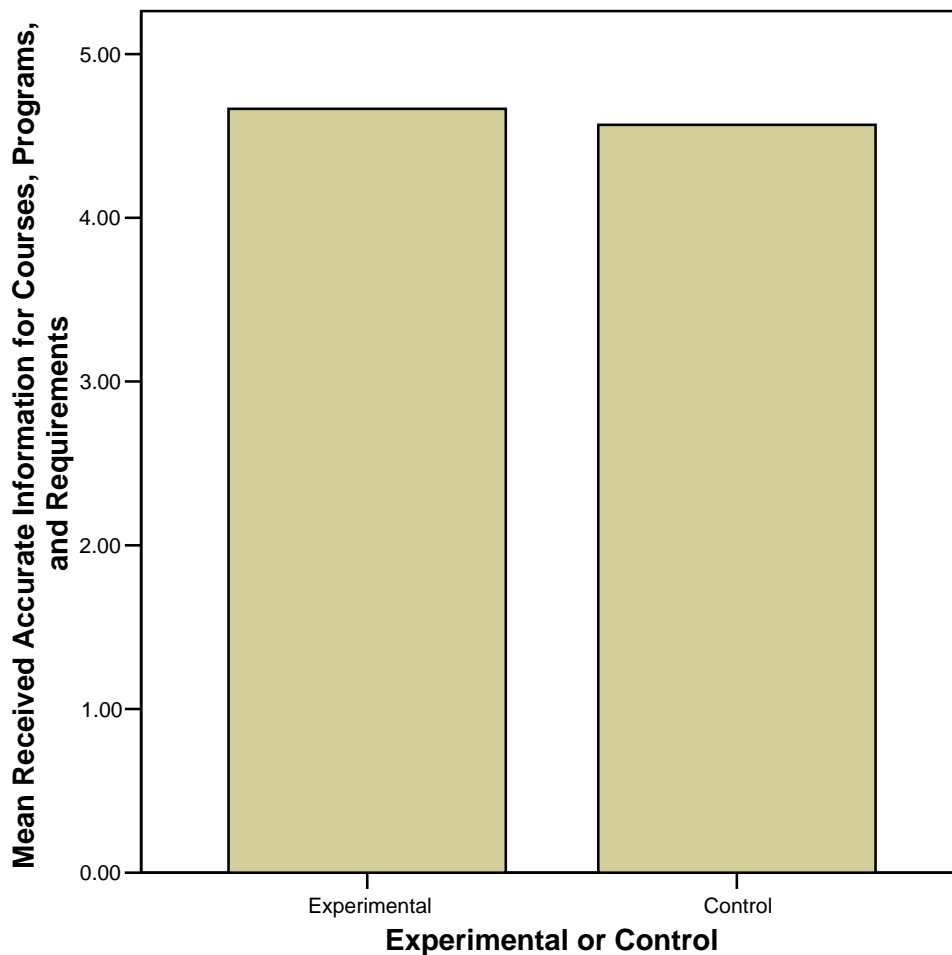


Figure 2. Receipt of Accurate Information for Courses, Programs and Requirements With Web Camera (Experimental) and In-Seat (Control)

Research Question 3

What are the satisfaction scores for the academic advising inventory for undergraduate psychology majors in the College of Arts and Sciences regarding sufficient prior notice provided about deadlines related to college policies and procedures based on participation in the experimental or control group?

Participants' responses to Item 3 on the Academic Advising Inventory,

“Sufficient prior notice has been provided about deadlines related to college policies and procedures,” were analyzed in order to answer Research Question 3. The results of the analysis are presented in Table 8 and graphically displayed in Figure 3. For the in-seat face-to-face (control) group the level of satisfaction (4.2941) was found to be less than the in-seat face-to-face (experimental) group (4.3922) based on the mean. These levels (greater than 4 = agree) reflect that sufficient prior notice given regarding deadlines was found to be satisfactory among the students regardless of group. It is noted that of all dimensions being reported, the mean levels of satisfaction were the lowest for this question.

Table 8 indicates that the mean difference of .09804 was found not to be statistically significant because the p-value of .557 was much too high to give any indication that there was a difference in the mean values. Therefore, there was no statistically significant difference in the mean level of satisfaction related to sufficient notice regarding deadlines between the in-seat face-to-face (control) and web camera (experimental) advised students.

Table 8
Group Statistics: Research Question 3

Item 3	t-test for Equality of Means				Mean Difference
	Sig.	t	df	Sig. (2-tailed)	
Sufficient prior notice of deadlines related to college policies and procedures	.086*	.589	100	.557	.09804

*Equal variances assumed for t-test as a result of the observed significance level found by the Levene's Test for Equality of Variances.

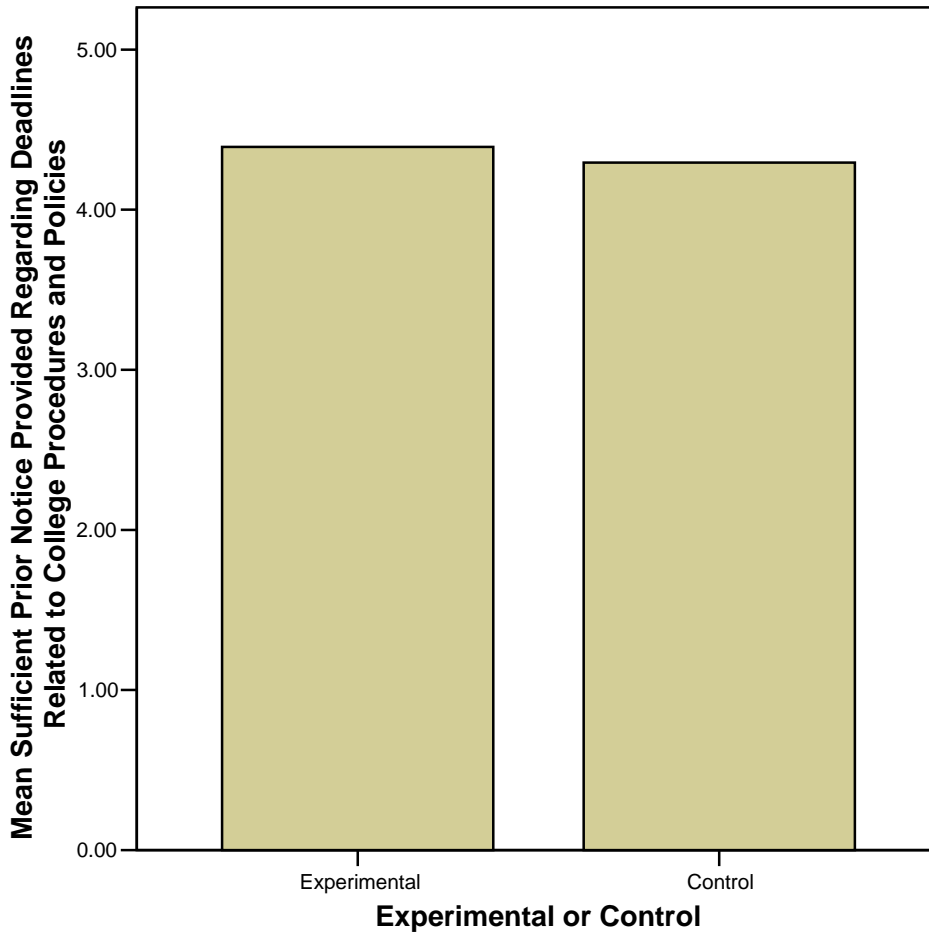


Figure 3. Sufficient Prior Notice of Deadlines With Web Camera (Experimental) and In-Seat (Control)

Research Question 4

What are the satisfaction scores for the academic advising inventory for undergraduate psychology majors in the College of Arts and Sciences regarding availability of advising when needed based on participation in the experimental or control group?

Participants' responses to Item 4 on the Academic Advising Inventory, "Advising has been available when I needed it," were analyzed in order to answer Research Question 4. The results of the analysis are presented in Table 9 and graphically displayed in Figure 4. The mean level of satisfaction in the web camera (experimental) group (4.6078) was found to be greater than that of the in-seat face-to-face(control) group (4.4902). Both of these levels, being in between 4 = agree and 5 = strongly agree reflected that students had, for the most part, positive feelings regarding the availability of advising regardless of group.

Table 9 reveals that the mean difference of .11765 was found not to be statistically significant due to the large p-value of .407 indicating the good chance of no actual difference in means. It was clear that there was no statistically significant difference between the level of satisfaction with the availability of advising between the experimental and control groups.

Table 9
Group Statistics: Research Question 4

Item 4	t-test for Equality of Means				Mean Difference
	Sig.	t	df	Sig. (2-tailed)	
Availability of advisement when I needed it	.463*	.833	100	.407	.11765

*Equal variances assumed for t-test as a result of the observed significance level found by the Levene's Test for Equality of Variances.

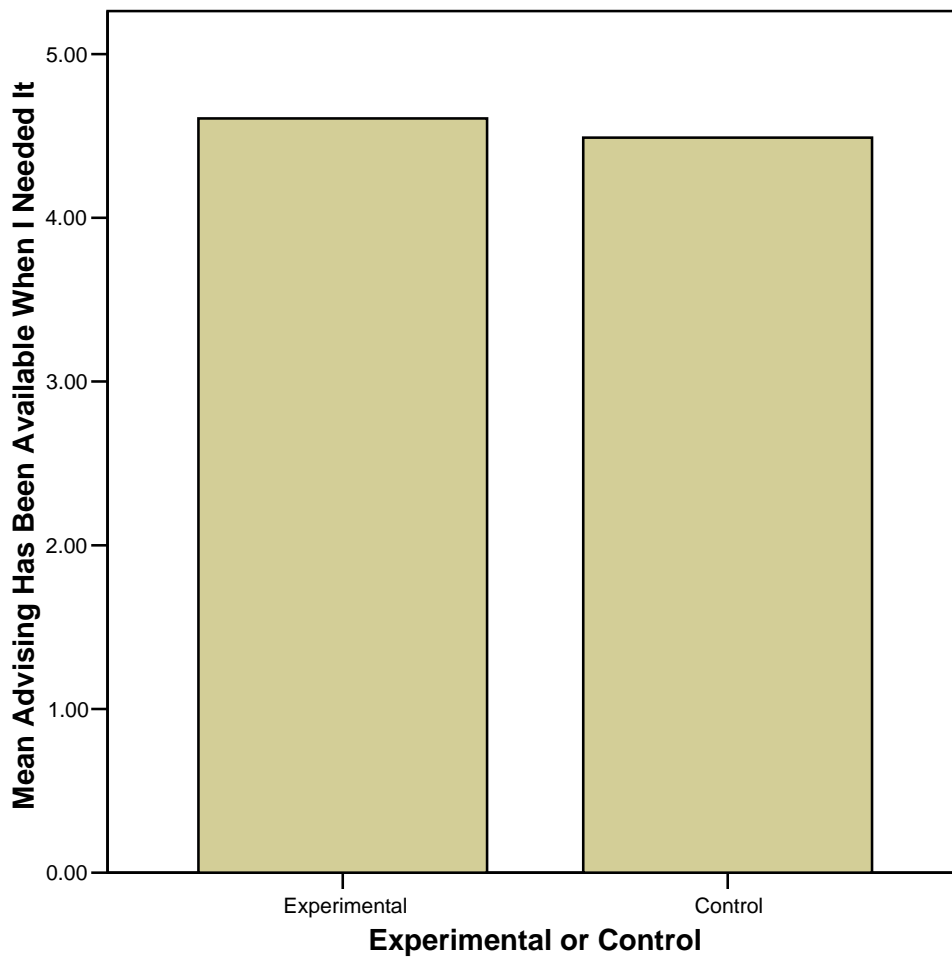


Figure 4. Availability of Advisement With Web Camera (Experimental) and In-Seat (Control)

Research Question 5

What are the satisfaction scores for the academic advising inventory for undergraduate psychology majors in the College of Arts and Sciences regarding sufficient time available during advising sessions based on participation in the experimental or control group?

Participants' responses to Item 5, "Sufficient time has been available during advising sessions" on the Academic Advising Inventory, were analyzed in order to answer Research Question 5. The results of the analysis are presented in Table 10 and graphically displayed in Figure 5. Levels of satisfaction in the in-seat face-to-face (control) group (4.5686) were found to be lower than the web camera (experimental) group (4.7451) based on the mean. Being near 5 = strongly agree, these satisfaction levels reflected the approving feelings students conveyed regarding the sufficiency of time available during the advising session regardless of group.

Table 10 reflects that the mean difference of .17647 was found not to be statistically significant, in general, because the p-value was .183; thus, there was a decent chance of no actual difference in means existing. The difference, indicating only a very mild level of significance, could have resulted from something other than random chance because there was only an 18% chance of finding a difference as great as the one found. This means that perceptions regarding sufficient advising time differed between the groups. Though this experiment yielded no real evidence, it was somewhat likely that the perceptions of sufficient advising time were different between the students advised in-seat face-to-face (control) and those advised via web camera (experimental). The real

utility of recognizing the very mild statistical significance is related to the possibility of further study.

Table 10
Group Statistics: Research Question 5

Item 5	t-test for Equality of Means				Mean Difference
	Sig.	t	df	Sig. (2-tailed)	
Availability of sufficient time during advisement sessions	.025*	1.340	87.344	.183	.17647

*Equal variances assumed for t-test as a result of the observed significance level found by the Levene's Test for Equality of Variances.

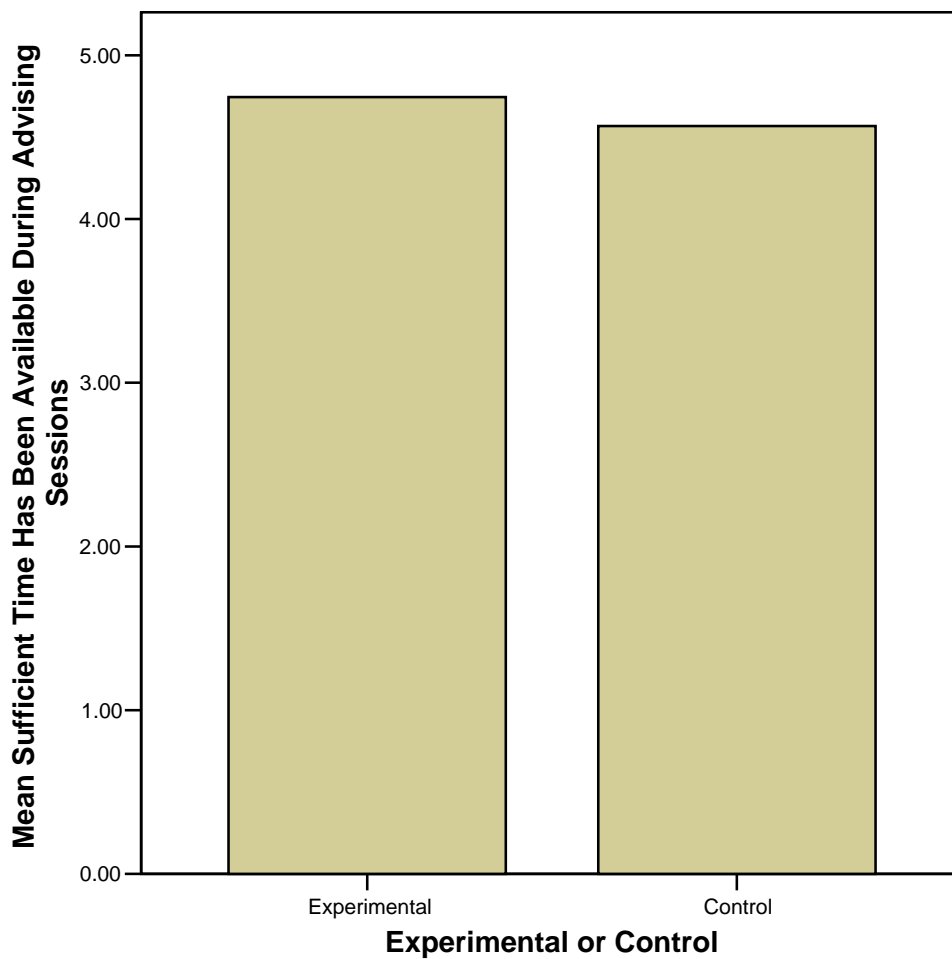


Figure 5. Availability of Sufficient Time During Advisement Sessions With Web Camera (Experimental) and In-Seat (Control)

Overall Levels of Satisfaction With Advising Received

While the five variables designed for the AAI were reflective of satisfaction, statistical strength of overall satisfaction was measured by the combination of the scores provided for each question. Therefore, a statistical analysis was performed by comparing the overall means among the five questions between the two groups. The results of this analysis are presented in Table 11. The in-seat face-to-face (control) group had lower mean levels of satisfaction (4.4902) than were found in the web camera (experimental) group (4.6118). Both of these levels, being at the higher end of the response scale, provided evidence of a high level of satisfaction regarding the advising received in both groups.

Table 11 indicates that the mean difference of .12157 was found not to be statistically significant because the p-value of .306 indicated a high likelihood of there being no actual difference. Thus, there was no statistically significant difference in the overall level of satisfaction, as measured by the mean difference of all responses collectively, between in-seat face-to-face (control) and web camera (experimental) advised students.

Table 11
Group Statistics: Comparison of Overall Levels of Satisfaction

Items 1-5	t-test for Equality of Means				Mean Difference
	Sig.	t	df	Sig. (2-tailed)	
Overall satisfaction with advising received	.226*	.791	100	.431	.11765

*Equal variances assumed for t-test as a result of the observed significance level found by the Levene's Test for Equality of Variances.

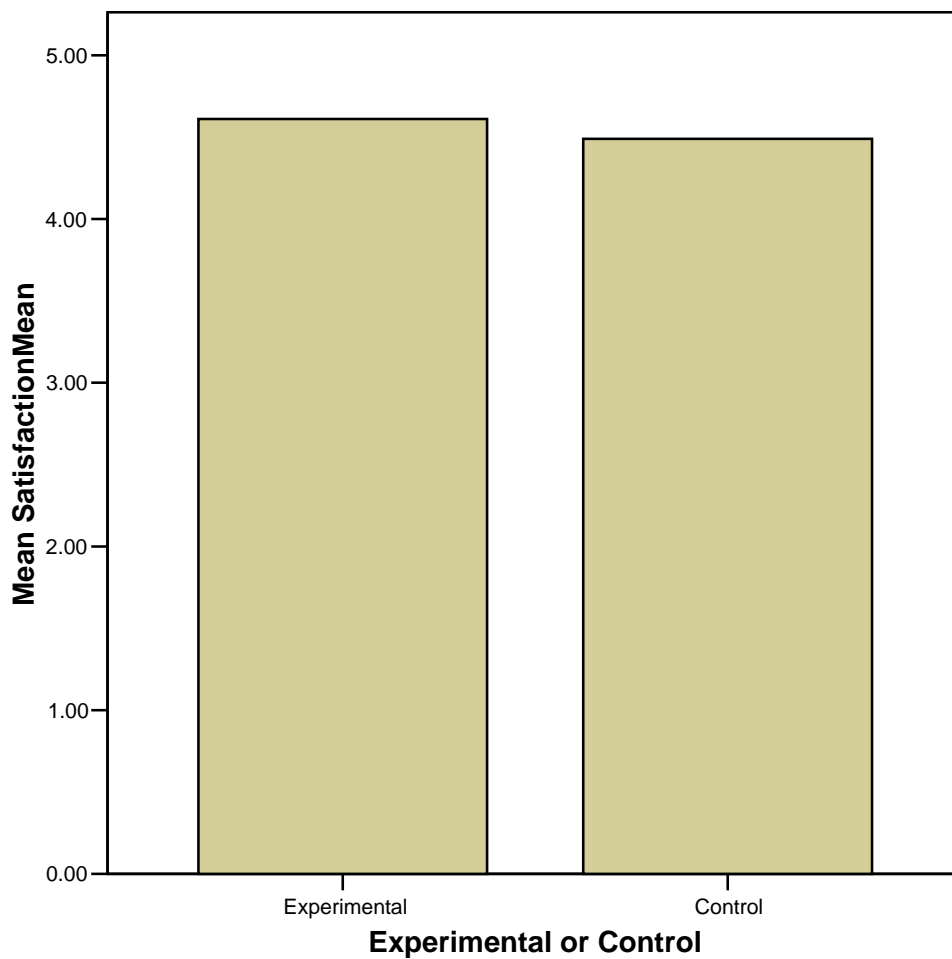


Figure 6. Overall Satisfaction With Advising Received With Web Camera (Experimental) and In-Seat (Control)

Limitations

It is important to make note of several limitations of this study. Perhaps most significant of all of the limitations was the relative homogeneity of the sample of students. Because of the relatively small subset of minority students who participated, differences in ethnic backgrounds were not considered. Further, because gender was predominately female, any generalizability was limited to female students. In addition, a small sample size was used. Also, the abbreviated version of the Academic Advising Inventory did not permit a full assessment. Therefore, the reliability, mean scores and factor structure should be taken into consideration prior to generalizing the findings to other populations. For test-retest reliability, a sample of 102 participants is relatively small. To be more confident in the stability of responses to the instrument, future research should use more diverse and larger samples and should consider a range of test-retest time periods.

CHAPTER 5 SUMMARY, IMPLICATIONS AND RECOMMENDATIONS

Statement of the Problem

This study sought to determine the difference in satisfaction levels of College of Arts and Sciences students in the Department of Psychology at the University of Central Florida (UCF) in 2005-2006 regarding the academic advising services offered by the department's advising office. Data collected from the administration of the Academic Advising Inventory (AAI) were analyzed controlling for the variable of method of advising, either in-seat face-to-face advising (controlled) or web camera (experimental) advising.

Methodology

Population and Data Collection

The participants in this study consisted of students majoring in Psychology at the University of Central Florida during the 2005–2006 academic year. The Psychology Department administered the survey to enrolled University of Central Florida students in randomly assigned sessions. Participants were recruited from the approximate 2,500 psychology majors. An invitation was sent to all majors to participate in an advisement session via the department's advising newsletter listserv. A total of 102 surveys were distributed and 102 (100%) of the participants completed and returned the surveys.

Instrumentation

The Academic Advising Inventory was used to collect data for the study. While the measure has four parts, only Parts III and IV were used. Part III measured satisfaction across five dimensions and Part IV was used to collect demographic information about the participants. Satisfaction with Advising (Part III) of the AAI had 5 items (45-49) that related to the various aspects of a student's satisfaction with advising they received during the current academic year: (a) overall satisfaction, (b) accuracy of information provided, (c) adequacy of notice about important deadlines, (d) availability of advising when desired, (e) amount of time available during advising sessions.

Demographic Information (Part IV) elicited demographic information about students and the frequency and type of advising received. Students provided information about: (a) gender, (b) cultural/racial background, (c) age, and (d) academic class standing. Data requested about the advising setting included: (a) type of advising, (b) amount of time typically spend in advising, (c) number of sessions in current advising situation, and (d) total number of advising sessions participated in during the current academic year.

Administering the AAI took approximately 15-20 minutes. Part III, composed of five items, addressed the students' satisfaction with the academic advising they had experienced during the current academic year. Students responded to each item using a Likert-type scale ranging from 1 = Strongly disagree to 5 = Strongly agree. Each item was coded, and the frequencies and means for each item were computed. Mean scores of 1-2 suggested dissatisfaction with the overall advising and/or specific aspects of advising; high mean scores or 4-5 indicated satisfaction with advising.

Summary of Discussion of Findings

The data reflected mean differences between .09804 and .17647 for inventory items 1-5 and the average responses for all questions combined. These differences were not large enough to report as statistically significant. However, Item 4 had a significance level of 0.184 that slightly approached statistical significance. It appeared, therefore, that there was not a clear preference among students for a specific method of advising. It was noted by the students' overall average responses among the five items that there was a slight preference for web camera advising (4.6118) over in-seat face-to-face advising (4.4902). Since this difference was not statistically significant, it was likely to have been the result of the random nature of the study as opposed to being related to an advising preference. Despite the lack of evidence from this study to indicate a preferential difference, in the event of the existence of a preference, it appears to be more likely that the preference would be toward web camera advising. This is based on the fact that the average responses for every question on the inventory favored web camera advising.

Implications and Recommendations

Students' expectations of advising have changed. Students have a variety of complex needs such as family responsibilities, work requirements, shifting goals, and personal development issues. Advisors and the models for delivering advising services, must be able to evolve in order to maintain relationships with students. Emphasis needs to continue to be placed on organizing institutions to ensure student learning and to provide for quality student services. Academic advising plays a critical role in achieving

that goal. Advising services and the delivery of advising services must continuously be developed and implemented. As academic advising systems evolve, especially on large campuses such as the one which served as the site for the present study, advisors must be connected to an integrated network of technological services. It is imperative that advisors are consistently made aware of the importance of establishing and maintaining a one-to-one relationship with students regardless of the use of technology.

The tools used by advisors in the 1970s to meet the needs of distance learners were telephone, postal mail, and even citizen band radios. Desktop computers emerged as new technological resources in the 1980s, but few advisors had access and the training to use them effectively. In the 1990s, accessibility to computers, innovative technology, and the Internet exploded. At the time of the present study, advisors had a variety of powerful technological devices and sophisticated hardware and software that were economical and easy to use. In fact, since advising was refocused on developmental advising beginning in the 1990s, information technology has played, and likely will continue to play, a role in the development of advising services. Sophisticated new devices will continue to be infused into organizations, and institutions of learning must respond.

The use of technology has been considered an innovative way to provide services; however, it can demand unique approaches to legal decision making. There are a number of legal and ethical issues to be considered when developing technological advising services. These include issues of confidentiality, privacy, data validity and equality of access to the internet. Examining these issues is beyond the scope of this study, but each

issue should be considered before utilizing technological interventions in advising services.

Technology has transformed the world from the Industrial Age, the Information Age, and into the Learning Age. Access to knowledge and linkage to learning has been transformed through the ability to use computers and communicate through technology. Whether through seeing, reading, or doing, information has come to be communicated through technology to individual databases of knowledge. Never before have knowledge or opportunities been available to so many to access higher education and its resources.

The transition to the Learning Age has provided academia the opportunity to explore and develop new learning models. Students have increasingly sought alternatives, flexibility, and a variety of choices to meet their educational goals. They have recognized a broad range of options including completing courses through technology-driven systems such as the Internet that can be accessed. They have also been able, in numerous instances, to receive college degrees without stepping onto physical campus. Academia has transformed itself to meet needs and student demands of students. This same transformation must be assured in providing student support services such as academic advising. The challenge for advising offices is to provide quality service to the students who select technology-delivered courses.

Advising provided via technology is most beneficial to distance learners who have been defined in this study as students taking courses delivered through alternative systems. However, it is worth noting that advising conducted through technology has not been limited to distance learners. More traditional on-campus students may actually

prefer to use electronic means of accessing services and information. However, technology may be the only source of academic advising for distance learners. One important aspect of advising is the one-to-one relationship developed in person-to-person sessions. While advising delivered through technology may not be quite the same as being face-to-face in the same office, some systems can provide the next best thing.

Synchronous advising that is delivered through technology at the same time, same pace, and different place, but retains a person-to-person feature, can meet the needs of students in a variety of settings. The advantage of synchronous technology is that the advising sessions are live or real-time. Whether the technology used in the advising session is video, text, or audio conferencing, the advisee is able to receive immediate feedback in an interactive discussion with an advisor. Advising is a people-oriented function. No matter how the communication is delivered, it is reassuring to both advisor and advisee to retain some sense of human contact.

Videoconferencing (VC) can provide a close experience to that of an in-the-same office session. It provides the advisee and advisor with both audio and video communication. A VC session provides both advisors and students with a greater sense of togetherness than other forms because each is able to see the other. The student can associate a face with the institution, and the advisor can watch for visual cues from the student. Advisors are able to share transfer guides, department requirements, student records and other text information. Advisees can print out information at their location and use it for future reference. The video aspect also resolves security issues; students can show their identification for verification before personal material is discussed.

The most economical systems are Internet-based, such as Microsoft's Net-Meeting. The quality of the audio and video transmission depends on the Internet traffic connection. The advantage of Internet-based videoconferencing has been that operational communication costs are low, and anyone who has an Internet connection and the appropriate hardware and software can videoconference. Internet-based VC systems are especially beneficial for distance learners located far from the college campus. The Internet also makes videoconferencing available internationally. For these students, attaching a face to the advising session provides a sense of connectedness even from afar. The disadvantage of Internet-based VC systems is that quality of the transmission can be jerky, although the software has been improving and some progress has been made in eliminating this disadvantage.

The more sophisticated VC systems now have direct communication lines between the sites. These systems range from full studio-quality classrooms to simple desk-top computers. The advantage of these systems has been in the high quality of video and audio transmission and the lack of interruption of the communication between the advisor and advisee. The disadvantage has been that the communication may be limited to the sites that are connected. These VC systems also require large band-width communication lines which translate into ongoing operation costs.

Some advantages of using technology in the delivery of advising are timeliness of feedback, convenient access, and accuracy of information for the student. Through the Internet, services and information have been able to be accessed from around the world. Students have been able to register for their classes on-line while at home on vacation.

Questions can be posed to advisors by email at 2 a.m., and the advisor can respond later on the same day. Advisors can meet with advisees who live miles away via videoconferencing and then meet other advisees face-to-face without leaving their working area.

As indicated by Sotto (1996), there have been some potential disadvantages. Notwithstanding technical difficulties, he has asserted that the person-to-person relationship is different via technology. He has suggested that while videoconferencing provides the closest proxy for advisee and advisor being in the same place, the advisee-adviser interaction cannot provide the same sense of connectedness as an in-person meeting. The extent to which technology, in the future, will support building rapport, a sense of contact and conveyance of personality in advising sessions is a question to be examined in future research.

Recommendations for Future Research

Formal research on the impact of technology on advising has been very limited, documenting usage patterns (Lyon & Carpinelli, 1996) satisfaction and convenience (Sotto, 1996) and impact on retention, advancement, and advisor contacts (Severy & Singer, 1996). While advice and anecdotal reports about electronic resources and electronic learners have been widely available (Lieberman, 1996), there has not been an abundance of empirical research on the topic.

It is evident that the research agenda for academic advising must become a priority. The status of advising as a professional student service, the roles of advisors,

institutional support, and effective uses of technology as support mechanisms will depend on the generation of qualitative and quantitative research which documents what advisors do. Researchers must present findings to document the outcomes and impact, including cost and benefits, of advising efforts in higher education.

Further studies should address advisor roles and the technological support mechanisms that allow them to deliver their services more effectively and efficiently. Observational and reflective studies of advising encounters may provide understanding of effective practices and of the meanings generated by both advisor and advisee. The process of advising at a distance must be further explored as advances in technology become available and more widely used. Methodologically, one-dimensional student surveys of advisor behaviors or preferences must be expanded. Advising scholars must establish instrument reliability and validity. Research must also move beyond single-campus, single-program investigations. Finally, faculty perception of advising with technology and delineating between advising a graduate population and undergraduate population of students should be considered.

A future research hypothesis should consider the possibility of students' preferential leanings toward web camera advising. In the design, a larger sample size could be used to better determine whether any realized difference is indicative of an advising preference or random chance. This is due to the reduced variability of the average of response. In addition, a within-subjects design could be utilized to check for differences in advising satisfaction between the two methods by each participant. This would permit the identification of individual preferences as well as the strength of those

preferences. This might be more useful in determining whether there is a preferred method of advising; however, there is a risk of practice effect. Further, participants should be included from a variety of educational settings, such as 2-year community colleges and institutions with a more diverse population. Alternatively, the participant demographics should be controlled to include proportionate participation from the widest ethnic background of students. Finally, future research might seek to include multiple scales which have been found to be reliable in determining student satisfaction. Advising services must continue to be evaluated, adapted and changed through continuous research.

APPENDIX A
ACADEMIC ADVISING INVENTORY

Academic Advising Survey

Consider the academic advising session you have just completed. After reading each statement below, please indicate your response by circling your level of agreement.

1. I am satisfied in general with the academic advising I have received.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

2. I have received accurate information about courses, programs, and requirements through academic advising.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

3. Sufficient prior notice has been provided about deadlines related to college policies and procedures.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

4. Advising has been available when I needed it.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

5. Sufficient time has been available during advising sessions.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

PART III - Used with permission of the National ACademic ADvising Association.
<http://www.nacada.ksu.edu/Clearinghouse/Links/assessment.htm>

Academic Advising Survey Demographics Questionnaire

Please circle or respond to each of the following questions on this sheet.

1. What is your sex?

- (a) male (b) female

2. What is your ethnicity? _____

3. What was your age at your last birthday? _____

4. What is your marital status?

- (a) Unmarried (b) Married (c) Divorced/Separated
(d) Widowed (e) Living with Partner (f) Decline to Respond

5. What is your academic class standing?

- (a) Freshman (b) Sophomore (c) Junior (d) Senior
(e) Irregular or Transient Student

6. Which of the following best describes the majority of the academic advising you have received prior to this session? *Select only one.*

- (a) Advised individually by assigned advisor at an advising center.
(b) Advised individually, by a faculty advisor.
(c) Advised with a group of students.
(d) No advising received.

7. Approximately how much time was generally spent in each advising session?

- (a) less than 15 minutes (b) 15-30 minutes (c) 31-45 minutes
(d) 46-60 minutes (e) more than 1 hour

8. How many academic advising sessions in total have you had this year?

- (a) none (b) one (c) two (d) three (e) four
(f) five (g) six (h) seven (i) eight (j) nine or more

9. Which campus do you primarily attend classes? _____

PART IV - Used with permission of the National ACademic ADvising Association.
<http://www.nacada.ksu.edu/Clearinghouse/Links/assessment.htm>

APPENDIX B
INSTITUTIONAL REVIEW BOARD APPROVAL



July 26, 2005

Terri R. Hernandez
2634 Danielle Drive
Oviedo, FL 32765

Dear Ms. Hernandez:

With reference to your protocol #05-2664 entitled, "Academic Advising in Higher Education: Distance Learners and Levels of Satisfaction Using Web Camera Technology" I am enclosing for your records the approved, expedited document of the UCFIRB Form you had submitted to our office. **This study was approved by the Chairman on 7/17/05. The expiration date for this study will be 7/16/06.** Should there be a need to extend this study, a Continuing Review form must be submitted to the IRB Office for review by the Chairman or full IRB at least one month prior to the expiration date. This is the responsibility of the investigator. **Please notify the IRB when you have completed this study.**

Please be advised that this approval is given for one year. Should there be any addendums or administrative changes to the already approved protocol, they must also be submitted to the Board through use of the Addendum/Modification Request form. Changes should not be initiated until written IRB approval is received. Adverse events should be reported to the IRB as they occur.

Should you have any questions, please do not hesitate to call me at 407-823-2901.

Please accept our best wishes for the success of your endeavors.

Cordially,

Barbara Ward

Barbara Ward, CIM
IRB Coordinator

Copy: IRB file
LeVester Tubbs, Ph.D.

BW:jm

APPENDIX C
INVITATION TO PARTICIPATE IN THE STUDY

Invitation to Participate in Academic Advising

Students,

Just a reminder that while academic advising has converted to multi-term registration, many of you may not have completed your spring 2006 registration. At this time the psychology department invites you to visit/seek academic advising to confirm your spring registration. Academic Advising is located on the Orlando campus in Howard Phillips Hall Room 305G. In seeking advising, based on availability, you will be provided an opportunity to participate in in-seat face-to-face or in-seat via web camera face-to-face in an academic advising session. The advising office's hours are Monday through Thursday from 8:00 a.m. to 5:00 p.m.

APPENDIX D
INFORMED CONSENT OF PARTICIPANTS

Informed Consent Form and Volunteer Agreement

The focus of this study is academic advising. As a participant, I will receive departmental academic advising through a traditional in-seat, face-to-face advising session or through a web camera face-to-face advising session. Specifically, this study is looking at how academic advising can best meet student's needs. As a participant in this study, I understand that I will be asked to complete a survey that will take approximately 60 to 90 minutes. As a participant, I am 18 years or older. Any information that I provide will be used strictly for the purpose of this research project. I understand that all personal information, as well as my questionnaires, will be kept confidential. Debriefing will take place after data collection.

I have the full capacity to consent and do hereby volunteer to participate in this research, which is being conducted by Terri Hernandez, Departments of Psychology and Educational Research, Technology, and Leadership and Levester Tubbs, Ed.D., Department of Educational Research, Technology, and Leadership, University of Central Florida. I have been informed of the nature, duration and purpose of this research, and I understand my role as a participant. I have been given an opportunity to read, sign, and to ask questions concerning this research. Any such questions have been answered to my full and complete satisfaction. I have received a copy of this agreement. Should any further questions arise, I will be able to contact Terri Hernandez at (407) 823-2547, email: thernand@mail.ucf.edu or Levester Tubbs, Ed.D. at ltubbs@mail.ucf.edu. I understand that I may at any time during this research withdraw my consent and discontinue without penalty.

Printed Name

Phone Number

Address

Signature

Date

Explanation of Informed Consent Form and Volunteer Agreement

The focus of this study is academic advising. Specifically, this study is looking at how academic advising can best meet student's needs. As a participant, I will receive departmental academic advising through a traditional in-seat, face-to-face advising session or through a web camera face-to-face advising session. Specifically, this study is looking at how academic advising can best meet student's needs. As a participant in this study, I understand that I will be asked to complete a survey that will take approximately 60 to 90 minutes. As a participant, I am 18 years or older. Any information that I provide will be used strictly for the purpose of this research project. I understand that all personal information, as well as my questionnaires, will be kept confidential. Debriefing will take place after data collection.

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If you believe you have been injured during participation in this research project, you may file a claim with UCF Environmental Health & Safety, Risk and Insurance Office, P.O. Box 163500, Orlando, FL 32816-3500 (407) 823-6300. The University of Central Florida is an agency of the State of Florida for purposes of sovereign immunity and the university's and the state's liability for personal injury or property damage is extremely limited under Florida law. Accordingly, the university's and the state's ability to compensate you for any personal injury or property damage suffered during this research project is very limited.

Information regarding your rights as a research volunteer may be obtained from:
Barbara Ward, UCF IRB/IACUC
Office of Research & Commercialization
12443 Research Parkway, Suite 302
Orlando, Florida 32816-3252
Telephone: (407) 823-2901

Original signed and provided to the administrator of this study.

APPENDIX E
PRIVACY OF STUDENT INFORMATION PROTOCOL

Privacy of Student Information Protocol

Students voluntarily seek advising based on the advising centers hours, they are invited to come visit the center and are made aware of the center's hours and methods of delivery including in-seat face-to-face sessions or face-to-face sessions via a web camera. Students will sign in at the front of the advising office located on the primary/main campus site. Signing in involves a student providing their name, student number, date, time of arrival and purpose for their visit.

Advisors access sensitive student information (such as disciplinary records, grades and test scores). Lawsuits based on invasion of privacy and defamation may occur, therefore, it is crucial to manage private information. Confidentiality and privacy issues may arise if there is student record information is inappropriately released.

The Family Education Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99) as a Federal law, protects privacy of student education records. The law is applicable to schools that receive funding under certain programs from the U.S. Department of Education. UCF is such an institution and therefore, in conjunction with Appendix F (FERPA Reference Sheet for Staff and Academic Peer Advisors), the following protocol will be adhered to regarding the handling of student records both during in-seat face-to-face sessions or face-to-face sessions via a web camera.

1. Peer Advising reception area assignee should inquire as to whether the student is seeking general advising. The general advising is appropriate to their area of study and what needs to be done to complete their undergraduate degree with a minimal amount of developmental advising.

A consent form is presented so the student can decide if they want to not be included in the data collection. The student is presented with Appendix A and B. The participant copy is returned to the student.

2. The student is given materials, which include: a copy of their degree audit (both B.S. and B.A. tracks), a titles page, the advising note, the survey, and a fall and spring academic calendar. The advisor is given a copy of the student's degree audits and titles page. While the student is waiting to be seen, they are asked fill out the top portion of the advising note and the demographics page of the survey (part IV).
3. The student is assigned to an appropriate academic advisor, indicating whether they are in the control group or the experimental group.

4. Conduct the advising session. The student is brought into the advising room with the top portion of the advising already completed.

If the student is referred to an in-seat/face-to-face advisor, it is appropriate to introduce the student to the advisor. Alternatively, it would be appropriate that when the student is shown to a web camera location, the student is also introduced to the advisor over the web camera.

5. Advising Session Script

Intro phrase: "Hello (student's name), what brings you into the advising office today?"

Acknowledge the advisee's questions and concerns. Ask the advisee if they have thirty to sixty minutes to spend for the advising session to include participation in a survey at the end of the session.

If not affirmed, advising session will continue guided by the students inquiries. If affirmed, advisor will proceed with the remaining script.

State to the advisee that we would like to complete an audit review, which covers requirements necessary to earn the B.A. or B.S. degree, as appropriate to the advisee.

Confirm advisee's degree as B.A. or B.S.

"Are you aware that we offer two different bachelors degree options: a B.A. or B.S.?"

Almost all of the requirements are the same as a B.A. However, there are a few differences. Not only does the B.S. student have to take Research Methods, but they must also take Advanced Research Methods. B.S. student must also take six hours from the psychology science courses, which are listed on their audit and in the catalog. The student must also take six hours from the Science/Math electives. The courses that qualify for that are listed in the student's degree audit and in the catalog. The B.S. student does NOT have to take the additional diversity course.

Students majoring in Psychology as the foundation of a Liberal Arts degree will likely find the BA option an appropriate one. Psychology majors often go on to graduate school in psychology, education, social work, and other professional training programs (e.g. law school, medical school). While either the BA or BS degree provides excellent preparation for graduate school, students interested in

graduate training programs emphasizing a strong educational background in statistics, math, and science should consider the BS option.

“Do you wish to have additional information regarding the B.A. or B.S. option?”

Given that each advisee’s degree audit will be unique, each category will be explained as appropriate.

Direct the advisee’s attention to the copy of the academic calendars for the current year, which they were provided with when they initially signed in at the front desk. “For your benefit when you entered you were provided with an academic calendar. Some important dates are…”

“What do you plan to do with your degree when you graduate?” Provide the advisee with tip sheets on going to graduate school or getting a job with a bachelor’s degree in psychology if they are interested.

Tell the advisee to go home and review the information they have been presented with and come back with specific questions regarding what they would like to do.

Provide the advisee with an opportunity to ask any unanswered questions.

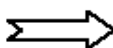
Conclude the advising session and ask the student to complete the survey.

6. Request the student take materials to a peer advisor for appropriate copying.
7. Note: Materials include the degree audit, advising note with the student’s signature, and completed survey. The peer advisor should only make a copy of the advising note and the degree audit.
8. The advisee is given the copies of the degree audit and the advising note.
9. The advisor places the originals in the students file.
10. The advisee is presented with a debriefing form.

FERPA Reference Sheet for Staff and Academic Peer Advisors

FERPA Reference Sheet for Staff

FERPA, the Family Educational Rights and Privacy Act of 1974, as Amended, protects the privacy of student education records. It gives students the right to review their educational records, the right to request amendment to records they believe to be inaccurate, and the right to limit disclosure from those records. Ultimately, an institution's failure to comply with FERPA can mean the withdrawal of federal funds by the Department of Education.



As a University support staff member, you need to know the difference between **Directory Information** and **Personally Identifiable Information or Education Records**

DIRECTORY INFORMATION

(May be disclosed, unless the student requests otherwise. Check the student records database.)

- Name
- Current Mailing Address
- Phone
- Date of Birth
- Major
- Dates of Attendance
- Enrollment Status (Full/ Part-time)
- Degrees/Honors/Awards Received
- Participation in Officially Recognized Activities and Sports
- Athletes' Weight/Height

PERSONALLY IDENTIFIABLE INFORMATION (any data other than "Directory Information")

Including, but not limited to:

- Social Security Number
- EmplID/PID (PeopleSoft)
- Residency Status
- Gender
- Religious Preference
- Race/Ethnicity

EDUCATION RECORDS

Including, but not limited to:

- Student's Class Schedule
- Grades/GPA
- Test Scores
- Academic Standing
- Transcripts

May have access to Personally Identifiable Information without prior written consent:
(This is not a comprehensive list)

- University Personnel with Legitimate Educational Interest (consult Registrar's Office)
- Certain government officials (contact Registrar's Office)
- In compliance with a judicial order or subpoena (contact General Counsel's Office)
- Health or safety emergency (contact Registrar's Office and University Police)

ANYONE ELSE MUST PROVIDE THE PRIOR WRITTEN AND SIGNED CONSENT OF THE STUDENT— *Parents (in most cases) and spouses must present the student's written and signed consent before the University may release personally identifiable information. Refer all such requests to the Registrar's Office.*

APPENDIX F
ADVISING STUDY DEBRIEFING FORM

Advising Study Debriefing Form

Thank you for your participation in this study. The purpose of this study is to better understand the advising needs of students. The study looks at several variables in an advising scenario. Your responses, while not individually examined, will be combined with other participants to better understand the variables that may impact an advising session. The primary investigators may utilize this information to design advising training to best meet the needs of students. Should you experience any discomfort or concerns as a result of participating in this study, please visit the Counseling center on campus or contact Terri Hernandez at (407) 823-2547, thernand@mail.ucf.edu, or Dr. Levester Tubbs at ltubbs@mail.ucf.edu.

Further, if you would like to receive a copy of the results of this study, please provide your name and address at the bottom of this page, detach and provide it to the individual administering this study.

If you believe you have been injured during participation in this research project, you may file a claim with UCF Environmental Health & Safety, Risk and Insurance Office, P.O. Box 163500, Orlando, FL 32816-3500 (407) 823-6300. The University of Central Florida is an agency of the State of Florida for purposes of sovereign immunity and the university's and the state's liability for personal injury or property damage is extremely limited under Florida law. Accordingly, the university's and the state's ability to compensate you for any personal injury or property damage suffered during this research project is very limited.

Information regarding your rights as a research volunteer may be obtained from:

Barbara Ward
UCF IRB/IACUC
Office of Research & Commercialization
12443 Research Parkway, Suite 302
Orlando, Florida 32816-3252
Telephone: (407) 823-2901

LIST OF REFERENCES

- Appleby, Drew. (2001). The teaching-advising connection-part III. *The Mentor: An Academic Advising Journal*. 3(1). Retrieved May 8, 2006 from the Center for Excellence in Academic Advising Division of Undergraduate Studies, The Pennsylvania State University Web site <http://www.psu.edu/dus/mentor>.
- Astin, A.W. (1984). Student Involvement: A developmental theory for higher education. *Journal of College Student Personnel*. 25(4), 297-308.
- Astin, A.W. (1985). *Achieving educational excellence*. San Francisco: Jossey-Bass.
- Astin, A. W., Korn, W., and Green, K. (1987). Retaining and satisfying students. *Educational Record*, 68(1), 36-42.
- Barak, M. (1999). Psychological application on the internet: A discipline on the threshold of a new millennium. *Applied and Preventive Psychology*, 8, 231-246.
- Beal, P.E., & Noel, L. (1980). *What works in student retention*. Iowa City, IA: American College Testing Program; Boulder City, CO: National Center for Higher Education Management Systems.
- Belcheir, M.J. (1999). *Student satisfaction and academic advising*. A paper presented at Association for Institutional Research 1999 Annual Forum. Seattle, WA.
- Berdahl, R.M.(1995). Educating the whole person. In A.G. Reinartz and E.R. White (eds), *Teaching Through Academic Advising: A Faculty Perspective*. New Directions for Teaching and Learning, no. 62. San Francisco: Jossey-Bass.
- Boyer. E.L. (1987). *College: The undergraduate experience in America*. New York: Harper-Collins
- Bush, N. B. (1969). The student and his professor: Colonial times to twentieth century. *Journal of Higher Education*, 40(8) 593-609.
- Cabrera, A.F., Nora, A., & Castandea, M.B. (1993). College persistence: structural equations modeling test of integrated model of student retention. *Journal of Higher Education*. 64(2), 123-140.
- Carstensen, D., & Silberhorn, C. (1979). *A national survey of academic advising: Final report*. Iowa City, Iowa: American college testing program (ED 232 525).

- Carr, S. (2001). Online courses cover student-health issues. *The Chronicle of Higher Education*, (March, A42)
- Chickering, A.W. (1969). *Education and identity*. San Francisco: Jossey-Bass.
- Chickering, A.W. & Ehrmann, S.C. (2004). Implementing the seven principles: Technology as lever. Retrieved June 15, 2004, from <http://www.tltgroup.org/programs/seven.html>.
- Chickering, A.W., and Gamson, Z.F. (1987). Seven principles for good practice in undergraduate education. *AAHE Bulletin*, 39(7) 3-7.
- Cook, J.E., & Doyle, C. (2002). Working alliance in online therapy as compared to face-to-face therapy: Preliminary results. *CyberPsychology & Behavior*, 5 95-105
- Cowley, W.J. (1938). Intelligence is not enough. *Journal of Higher Education*, 9(9), 469-477.
- Creamer, D.G. (1980). Educational advising for student retention: An institutional perspective. *Community College Review*, 7(4), 11-18.
- Creamer, E.G., and Creamer, D.G. (1994). Planned change projects in academic advising: A NACADA Research Grant Report. *NACADA Journal* 14(1), 43-45.
- Crockett, D.S., & Levitz, R.S. (1983). *A national survey of academic advising*. Iowa City, Iowa: American college testing program.
- Crookston, B.B. (1972). A developmental view of academic advising as teaching. *Journal of College Student Personnel*, 13, 12-17.
- Ender, S.C. (1997). *Developmental advising*. In M. Houland, E. Anderson, W. McGuire, D. Crockett, T. Kaufmann, and D. Woodward (eds.), *Academic advising for student success and retention*. Iowa City: The Noel Levitz Center for Enrollment Management.
- Ender, S. C., Winston, R.B., & Miller, T.K. (1982). Academic advising as student development. In R.B. Winston Jr., S.C. Ender, & T.K. Miller (eds.), *Developmental approaches to academic advising*. New directions for student services, no. 17. San Francisco: Jossey-Bass.
- Fenichel, M., Suler, J., & Barak, A. (2002). Myths and realities of online clinical work. *CyberPsychology & Behavior*, 5(5) 481-497.

- Fielstein, L. L. (1994) Developmental versus prescriptive advising: Must it be one or the other?. *NACADA Journal*, 14(2) 71-75.
- Fisher, C.B., & Fried, A.L. (2003). Internet-mediated psychological services and the American Psychological Association ethics code. *Psychotherapy: Theory, Research, Practice, Training*, 40(1)110-111.
- Frank, C.P.(2000). An integrated model of academic advising program development. *NACADA Journal* 13(1) 62-73.
- Freud, S. (1953). On the beginning of treatment: Further recommendations on the technique of psychoanalysis. In J. Strachey (Ed. & Trans.), *The standard edition of the complete psychological works of Sigmund Freud* (12) 123–144.London: Hogarth Press. (Original work published 1913)
- Friedman, D.H. (2001). The politics of information: Building a relational database to support decision-making at a public university. *Change*, 33(3), 50-57.
- Frost, S.H. (1991). Academic advising for student success: A system of shared responsibility. *ASHE-ERIC Higher Education Report*, no. 3. Washington, D.C.: George Washington University, School of Education and Human Development.
- Gaither, G. (1999). *The multicampus system: Perspective on practice and prospects*. Sterling, VA: Stylus Publishing.
- Gale, A.U. & McKee, E.C. (2002). An information literate approach to the internet for counselors. *Journal of Technology in Counseling* (2) 2
- Giffords, E. (1998). Social work on the internet: An introduction. *Social Work*, 43, 243-251.
- Goetz, J. (1986). Academic Advising. *Student affairs practice in higher education* (p.88). Springfield: Thomas Publisher.
- Gordon, V.N. (1995). *The undecided college student: An academic and career advising challenge*. (2 ed). Springfield, IL.
- Gordon, V.N. (1988). *Developmental advising*. In W.R. Habley (ed), The status and future of academic advising: problems and promise. Iowa City, Iowa: American College testing program.
- Greenburg, L. S. & Pinsof, W. M. (1986). *The psychotherapeutic process*. London: Guilford Press.

- Grites, T.J. (1979). *Academic advising: Getting us through the eighties*. AAHE_ERIC Higher Education Research Report, No. 7. Washington, D.C.: American association for higher education. ED 178 023.
- Grohol, J.M. (1998). Future clinical directions: Professional development, pathology, and psychotherapy on-line. In Gackenbach, (Ed); et al. *Psychology and the Internet: Intrapersonal, interpersonal, and transpersonal implications*, 111-140. San Diego, Academic Press.
- Guanipa, C., Nolte, L.M., Lizarraga, J (2002). Using the Internet to help diverse population: A bilingual website. *Journal of Technology in Human Services*, 19, 13-23.
- Guterman, J. & Kirk, M (1999). Mental health counselors and the internet. *Journal of Mental Health Counseling*, 21, 309-325.
- Habley, W.R. (1983). *Fulfilling the promise?* Iowa City, Iowa: American College Testing Program.
- Habley, W.R. (1988). *The status and future of academic advising: Problems and promise*. Iowa City, Iowa: American College Testing Program.
- Habley, W.R. (2000). *Current practices in academic advising*. In V.N Gordon & W.R. Habley (eds), *Academic advising: A comprehensive handbook*. Manhattan, KS: Kansas State University and Wiley & Sons
- Habley, W.R. (2004). *The status of academic advising: Findings from the ACT sixth national survey*. National Academic Advising Association Monograph Series, 10. Manhattan, Kansas: National Academic Advising Association.
- Habley, W.R., & Crockett, D.S. (1988). *The third ACT national survey of academic advising*. In W.R. Habley (ed), *The status and future of academic advising: problems and promise*. Iowa City, Iowa: American College testing program.
- Habley, W.R. & Morales, R.H. (1998a). *Current practices in academic advising: Final Report on ACT's fifth national survey of academic advising*. National Academic Advising Association Monograph Series, 6. Manhattan, Kansas: National Academic Advising Association.
- Habley, W.R. & Morales, R.H. (1998b). Advising models: Goal achievement and program effectiveness. *NACADA Journal*, 18(1) 35-41.

- Hackbarth, S. (1997). *Web-based Instruction*. (pp. 191-212). Englewood Cliffs, NJ: Educational Technology.
- Herbst, J. (1982). *From crisis to crisis: American college government, 1636-1819*. Cambridge, Massachusetts: Harvard University Press.
- Hsiung, R. C. (2001). Suggested principles of professional ethics for the online provision of mental health services. *Medinfo*, (10) 296-300.
- Johnson, S.D., Aragon, S.R., Shaik, N., & Palma-Rivas, N. (2000). Comparative analysis of learner satisfaction and learning outcomes in online and face-to-face learning environments. *Journal of Interactive Learning Research*, 11, 29-49.
- Johnstone, S.M. & Krauth, B. (1996). Balancing quality and access: some principles of practices for the virtual university. *Change*, 38-40.
- King, M. (1994). Enhancing transfers. *NACADA Journal* (14) 1, 4-7.
- Kingan, M.E. & Alfred, R. (1993). Entry assessment in community colleges: tracking or facilitation? *Community College Review* (21), 3. Available on EBSCOHost. Accessed July 2, 2004.
- Komives, S. R. (2002). *The Changing Nature of Work in Higher Education*.
- Kramer, G.L. & McCauley, M.E.(1995). *Academic advising as a comprehensive campus process*. National Academic Advising Association Monograph Series, (2) Manhattan, Kansas: National Academic Advising Association.
- Lagowski, J.M. & Vick, J.W. (1995). *Faculty as mentors*. *New Directions for Teaching and Learning*, 62, 79-85.
- Laszlo, J.V., Esterman, G., & Zabko, S. (1999). Therapy over the internet? Theory, research & finances. *CyberPsychology & Behavior*, 2, 293-307
- Lieberman, S.J., (1996). Cyber adviser: High-tech, high-touch Advising. *T.H.E. Journal*, 24(4), 111-114.
- Lloyd-Jones, E. (1934). Personnel Administration. *Journal of Higher Education*, 5(3), 141-147
- Low, L. (2000). Are college students satisfied? A national analysis of changing expectations. (p. 34). *New Agenda Series*. USA Group, Inc. Indianapolis, IN.

- Lynch, M. (2002). Advising at the millennium: Advisor satisfaction and perceived avenues to enhancement. *NACADA Journal*, 22 (2), 5-25.
- Lyon, J.L. & Carpinelli, M.S. (1996). The use of the Kiosk systems technology in academic support services. In Kramer, G.L., and Childs, M.W. (eds). *Transforming academic advising through the use of information technology*. National Academic Advising Association Monograph Series, no.4. Manhattan, Kansas: National Academic Advising Association
- MacBrayne, P. & Russo, J. (1995). *The electronic classroom: a handbook for education in the electronic environment* (pp. 165-172). Medford, NJ.
- Miller, T.K. (1999). *Standards and guidelines for academic advising*. CAS Blue Book. College Park, MD: Council for the advancement of standards for student services/development programs.
- Mitra, A. & Hullett C.R. (1997). Toward evaluating computer aided instruction: Attitudes, demographics, context. *Evaluation and Program Planning*, 20, 379-391.
- NACADA. (1999). NACADA Standards for advising distance learners. Retrieved June 22, 2004, from [http://www.nacada.ksu.edu/Clearinghouse/Research Related/distance.htm](http://www.nacada.ksu.edu/Clearinghouse/Research%20Related/distance.htm).
- NACADA (2004). NACADA Academic Advising Primary Role. Retrieved June 22, 2004, from <http://www.nacada.ksu.edu/Resources/index.htm>
- Nutt, C.L. (2000). One-to-one advising. In Advising at-risk students in college and university settings. *College Student Journal*. March 2002.
- O'Banion, T. (1972). An academic advising model. *Junior College Journal*. 42(6), 62-69.
- O'Banion, T. (1994). Retrospect and prospect. *NACADA Journal*, 14(2), 117-119.
- Ouellette, P.M. (1999). Moving toward technology-supported instruction in human service practice: The virtual classroom. *Journal of Technology in Human Services*, 16, 97-111.
- Pardee, C. F. (2004). Organizational structures for advising. Retrieved April 8, 2006 from the NACADA Clearinghouse of Academic Advising Resources Web site: http://www.nacada.ksu.edu/Clearinghouse/AdvisingIssues/org_models.htm

- Potts, D.B. (1971). American colleges in the nineteenth century: From localism to denominationalism. *History of Education Quarterly*, 11, 363-380.
- Raskin, M. (1979). Critical issue: faculty advising. *Peabody Journal of Education*, 56, 99-108.
- Rogers, C. R. (1951). *Client-centered therapy*. London: Constable.
- Rudolph, R. (1962). *The American college and university: A history*. New York: Vintage Books.
- Rudolph, F. (1990). *The American college & university: A history*. Georgia: University of Georgia Press.
- Russell, W.F. (ed). (1937). *The rise of a university, Vol 1: The later days of old Columbian college*. New York: Columbia University Press.
- Sampson, J.P., Jr., Kolodinsky, R.W., & Greeno, B.P. (1997). Counseling on the information highway: Future possibilities and potential problems. *Journal of Counseling & Development*, 75, 203-212.
- Says, D. M. (2000). An experimental analysis of the effects of an intrusive academic advising package on academic performance, satisfaction, and retention. *Dissertation Abstracts International*, 61 (2-B), 1067.
- Severy, L.J. & Singer, P.J. (1996). *The University of Florida's monitoring academic progress policy (MAPP)*. In G.L. Kramer and M.W. Childs (eds), *Transforming Academic Advising Through the Use of Information Technology*. NACADA Monograph Series, no. 4, Manhattan, Kansas: National Academic Advising Association.
- Shaw, H.E. & Shaw, S.F. (2006). Critical ethical issues in online counseling: Assessing current practices with an ethical intent checklist. *Journal of Counseling and Development*, Winter 2006, Volume 84, pg. 43.
- Shields, N. (1994). Retention, academic success, and progress among adults, returning students: A comparison of the effects of institutional and external factors. *NACADA Journal*, 14(1), 13-23.
- Shuler, J. (2000). Psychotherapy in cyber-space: A 5-dimension model of online and computer-mediated psychotherapy. *CyberPsychology and Behavior*, 3, 151-160.

- Smith, C.L., & Allen, J.M. (2006). Essential functions of academic advising: What students want and get. *NACADA Journal*, 26(1), 56-66.
- Solomon, B.M. (1985). *In the company of educated women*. New Haven, Connecticut: Yale University Press.
- Sotto, R.R. (1996). *Interactive video advising*. In G.L. Kramer and M.W. Childs (eds), *Transforming Academic Advising Through the Use of Information Technology*. NACADA Monograph Series, no. 4, Manhattan, Kansas: National Academic Advising Association
- Tinto, V. (1975). Dropout from higher education. A theoretical synthesis of recent research. *Review of Educational Research*, 45, 89-125.
- Tinto, V. (1987). *Leaving college: Rethinking the causes and cures of student attrition*. Chicago: University of Chicago Press.
- Torres, R., Maddux, C., & Phan, L. (1999). An evaluation of style and design elements of counseling world wide web sites. *Journal of Technology in Counseling*, 1.
- University of Central Florida (2007). Factbooks. Retrieved April 6, 2006, from <http://www.iroffice.ucf.edu/factbooks/2005-2006/index.html>.
- U.S. Department of Education, Family Educational Rights and Privacy Act (FERPA). www.ed.gov/policy/gen/guid/fpco/ferpa.
- U.S. Department of Education, National Center for Education Statistics, Education Directory, Colleges and Universities, 1949-50 through 1965-66; Higher Education General Information Survey (HEGIS), "Institutional Characteristics of Colleges and Universities" surveys, 1966-67 through 1985-86; and 1986-87 through 2003-04 Integrated Postsecondary Education Data System, "Institutional Characteristics Survey" (IPEDS-IC:86-99), and Fall 2000 through Fall 2003. Retrieved April 6, 2006, from http://nces.ed.gov/programs/digest/d04/tables/dt04_244.asp.
- U.S. Department of Education, National Center for Education Statistics, U. S. Department of Education Office of Educational Research and Improvement NCES 2000-068. "Federal Support For Education, Fiscal Years to 2002". Retrieved April 6, 2006, from <http://nces.ed.gov/pubs2002/2002129.pdf>
- Veysey, L.R., (1965). *The emergence of the American university*. Chicago: University of Chicago Press.

- Watson, Z. (1994). The relationship between black student level of academic success and academic advisement: A case study. *Change* 33(3), (pp. 47-52).
- Western Cooperative for Educational Telecommunications. (1997). *Good practices in distance education*. Boulder, CO: Western Interstate Commission for Higher Education.
- Willis, B. (1992). Strategies for teaching at a distance. *Eric Digest*. Syracuse, NY.
- With the technicians. (1952). *Journal of Higher Education*. 23(1), 40-49, 58.
- Winston, R.B., & Sandor, J.A. (1984a). *The academic advising inventory*. Athens, GA: Student Development Associates.
- Winston, R.B. (1996). Counseling and advising. *Student services: A handbook for the profession*. 3rd ed. (pp. 335-360). San Francisco: Jossey-Bass.
- Zalaquett, C.P. & Sullivan, J.R. (1998). Counseling center help screens: Students use and evaluation of an internet-based program. *Journal of College Student Development*, 39 (5), 494-498.