

The Impact of Academic Advising Center Interventions on Freshmen

by

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(ABSTRACT)

Despite the fact that over one-third of all colleges and universities have an advising center staffed by non-faculty, current research does not include systematic investigations of the impact of routine interventions of advising centers. The purpose of this study was to assess such an impact on freshman academic achievement, involvement in the university, and certain developmental outcomes.

From a population of 628 freshman business students, 300 were randomly selected and assigned to three groups. Each group was randomly assigned to one of three treatments: a traditional advising center, an additional three interventions during the first term, or an additional six interventions during the first two terms. Academic persistence, progress and grade point averages were collected for each student. From the 260 students still enrolled at the beginning of the third term, 175 (67.3%) usable responses to the College Student Experiences Questionnaire (CSEQ) and the Advising Survey Form (ASF) were analyzed.

Analysis of variance yielded no significant differences among the three groups in the three areas of academic achievement, involvement in the university, and developmental outcomes. However, the group receiving interventions for one term had the highest scores on five of the six ASF

advising outcomes scales. Orthogonal contrasts between the no-intervention group and the two intervention groups yielded one unanticipated significant difference: the no-intervention group was more persistent than the two receiving interventions. Further orthogonal contrasts between just the two intervention groups yielded no significant differences. The number of student-initiated visits to the advisor did not appear to be a contributor to the impact; such visits had significant negative correlations with only academic progress and grade point average.

A loglinear logit model used to compare the responses to the six interventions yielded a significant difference among the interventions on perceived caring from the advisor and effectiveness of the intervention. Although all interventions elicited high levels of perceived caring, the first intervention, an introductory call, elicited less than expected. Also, although all the interventions were largely perceived as effective, the second, a registration meeting, was found even more effective than the others. Perceived caring increased across the two terms, and second-term interventions were more effective than first-term interventions. Analysis of variance indicated that the follow-up calls made to obtain these evaluations did not have a significant effect on the impact on academic achievement, involvement in the university, and certain developmental outcomes.

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DEDICATION

This dissertation is dedicated to , and
who kept me company through every course and milestone and who guarded
all returned questionnaires, data tapes, and printouts by napping on them.

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INTRODUCTION

BACKGROUND

Although academic advising is not a new phenomenon in American higher education---indeed it dates back to the colonial colleges (Rudolph, 1962)---researchers and administrators alike have recently rekindled an interest in advising. A number of factors have converged to cause this interest of late, the first of which is critical to the life of the institution itself. Good advising has been linked to student satisfaction with the institution and thus with retention of students (Beal & Noel, 1980; Pascarella & Terenzini, 1977b). In the face of a reduction in the number of traditional college-age students, the issue of retention of students has become important to all institutions (Kerr & Gade, 1981). For some it means economic survival; for others, the basis for funding; and for still others, a yardstick of institutional effectiveness (Crockett, 1986).

Secondly, the faculty-student advising relationship is often viewed as one facet of the whole spectrum of faculty-student informal contacts. In addition to affecting retention, such contacts also have been shown to be associated with enhanced academic achievement (Pascarella & Terenzini, 1977a), involvement in the university (Glennen, 1976; Terenzini, Pascarella, & Lorgan, 1982; Stern, 1964), positive self-concept (Grites, 1980), and growth and development (Chickering &

Havighurst, 1981; Endo & Harpel, 1982). It is reasonable to link advising, as a subset of such contacts, with these favorable outcomes.

The concept of developmental academic advising (Crookston, 1972; O'Banion, 1972; Winston & Sandor, 1984b) is especially compatible with the increased focus on faculty-student relationships. This approach is firmly-rooted in the theories of developmental tasks (Chickering, 1969; Erikson, 1968), stages of cognitive learning (Perry, 1970), interaction of individual and environment (Lewin, 1936), and student-environment fit (Stern, 1964; 1966). Fundamental to this developmental approach is the collaboration between advisor and advisee.

Blocher (1974) and Holmes, Clarke, & Irvine (1983) note that a structure such as the developmental advising model, although widely-touted and well-received, does not occur automatically. It must be both triggered and nurtured. Advisors and administrators establishing the model must commit energy and resources to inserting the model into the normal student activities and planning (Kramer, 1979). This is particularly true for new students who may have little orientation to academic responsibilities (Earl, 1987). The interventions developed to maintain the model must be diverse in purpose (e.g. remedial, preventive, developmental) and in method (Hurst & Morrill, 1980).

Concurrent with an increase in research on the importance of advisement, the emphasis of the research has changed. Earlier, the focus was on student characteristics, such as prior development, ability, and education; more recently the focus has shifted to institutional characteristics such as institutional goals, advising policies and

systems, and curricular options (Drum, 1980; Endo & Harpel, 1982; Feldman & Newcomb, 1969; Paul, 1980; Schrader, 1980; Tinto, 1987). Researchers and administrators now concentrate on what impact the university as a whole or particular programs have on students.

Given the emphasis on institutional impact, what are the key points of potential interaction? The literature suggests that the freshman year, especially the first term, is the critical one for student assimilation into the institution and for receptivity to advising and to change (Astin, 1986; Chickering, 1969; Gardner, 1986; Hazen Foundation, 1968; Marchese, 1987; Stern, 1966; Tinto, 1987). Within this freshmen year an advising center followed by individual faculty advisors for upperclassmen has been identified as an optimal delivery system for assimilation (Crockett, 1984; Habley & McCauley, 1987).

In addition to advising being identified as a pivotal area for student and institutional success, particularly for freshmen, it is an area ripe for improvement. The degree of dissatisfaction with advising is widespread (DeCoster & Mabel, 1981; McKinney & Hartwig, 1981; Riesman, 1981; Watkins, 1983). Boyer (1987) described academic advising as one of the weakest links in the American undergraduate experience.

THE PROBLEM

Existing research has centered on evaluation of single advisors, student satisfaction (sometimes measured within minutes of an advising appointment), the relative merits of various advising delivery systems,

and student and faculty expectations of advising. Many of the subjects in these studies have been groups with distinct advising needs, such as underclass students undecided about a major or minority students.

Further, although professional and graduate student advisors often staff advisement centers and, compared to faculty, are well-received and effective (MacAleese, 1974; Winston, Grites, Miller, & Ender, 1984), few studies use non-faculty exclusively for the advisor role. One-third of all colleges and universities use an advising center staffed by non-faculty (Crockett & Levitz, 1983); yet, the traditional interventions such as a freshman course (Banzinger, 1987) and small-group advising programs do not adapt to an advising center, where advisors do not have faculty status and the advisor:advisee ratio is often 1:300 or more.

The current research does not include systematic investigations of the impact of routine interventions of advising centers. As called for by Polson & Cashin (1981), Bucci (1978), Grites (1979), and Tinto (1987), the research needs are in well-defined situations, where common advising needs, a given system, and programs well-matched to theory and resources are defined.

PURPOSE OF THE STUDY

The purpose of this study was to assess the impact of three levels of interventions by an advising center staff in the academic advising of freshman students in an undergraduate business college. The three levels included a traditional advising center, a program of planned

interventions for one academic term, and a program of planned interventions for two academic terms. Based on the literature, the potential areas of impact to be examined were academic achievement, involvement in the university, and certain student developmental outcomes.

RESEARCH QUESTIONS

The following research questions were addressed in this study:

- 1) Do advising interventions of telephone calls, personal letters, and group meetings have an influence on freshman academic achievement, involvement in the university, and certain developmental outcomes?
- 2) Does the duration of these interventions affect the impact? Do the impacts differ between students who have interventions for one term and those who have them for two terms?
- 3) Are particular interventions more successful than others in achieving the goals of the interventions?

SIGNIFICANCE OF THE STUDY

The need for this study resulted from the lack of direction that is both theory-based and practical in the area of advising freshmen through an advising center. This study should provide an evaluation of some pragmatic interventions that may be useful to academic administrators who recognize the documented value of the advisor-advisee relationship and

the importance of the freshman year, but have had no direction for program interventions that is both sound and practical. In addition, the study should contribute to the relatively small number of studies that focus on advising outcomes rather than inputs and to the few studies that use dependent variables other than student satisfaction.

DEFINITION OF TERMS

Academic persistence - Measure of the continued enrollment in higher education in successive terms.

Academic progress - Measure of the student's advancement toward a particular degree, including both the rate and quality of advancement in that specified curriculum.

Advising interventions - Purposeful contacts grounded in theory from advisor to advisee designed to come between the advisee and his/her academic alternatives.

Developmental academic advising - From the work of Crockett (1986) and O'Banion (1972), a logical and sequential process which assists students in the clarification of their life/career goals and in the development of educational plans for the realization of these goals. The decision-making process emphasizes communication with the advisor and implies shared responsibility between advisor and advisee.

Developmental outcomes - Those results of a student's development and activities which are affected by the college experience, based on

relevant research; e.g., developing one's own values, establishing independence, gaining confidence in pursuing a degree program.

Quality of student effort - Measures of the amount and intensity of behaviors and activities in which students engage (Pace, 1980).

Student involvement - The energy, both physical and psychological, invested by a student in the university experience. Astin (1984) uses this term to describe levels of time spent in campus activities.

LITERATURE REVIEW

INTERACTION OF PERSON AND ENVIRONMENT

Although the importance of the interaction of person and environment may have first been noted by Aristotle, its introduction to social science research did not occur until this century. Kantor (1924) included in his psychology text a definition of behavior which included interactions between an organism and all the situations in which it behaved. In 1936 Lewin introduced the formula $B=f(P,E)$ to symbolize behavior as a function of the person interacting with the environment. Murray (1938) introduced the needs/press theory in which the needs represent the person and the press, the environment; and Stern (1964) elaborated on this by describing student-college interaction models of student needs and campus press. The use of these concepts in research was greatly enhanced by statistical analyses that permitted quantification of the three effects: person/needs, the environment/press, and the interaction of the two (Ekehammar, 1974).

In studying student-environment interaction, Paul (1980) suggested one may consider all three perspectives. The focus on the person, Personologism, consists of those actions directed by traits and dispositions within the person. The second focus, Situationism, includes those events in the social and physical environment outside the person's control. Interactionism, the third perspective, must consider both; and

it is often this perspective that is more illuminating than either of the individual parts (Ekehammar, 1974). Paul (1980) further proposed a prescriptive/intervention approach to studying the interaction. With this approach, a researcher looks for ways to improve the nature of the interaction by changing elements via interventions. The elements under consideration could include the aptitudes or interests of the student, for example, or the advising or curriculum in the educational environment (Creager, 1968; Hurst & Morrill, 1980).

IMPACT OF INTERACTIONS BETWEEN STUDENTS AND FACULTY

Greater amounts of student-faculty interaction promote higher levels of student satisfaction with the college experience than any other variable studied (Astin, 1977; Chickering & Havighurst, 1981; Shrader, 1980). Several aspects of the interaction affect this impact. The degree and quality are critical, and the perception that such interaction is formalistic or confined to the classroom diminishes the degree of satisfaction (Pascarella & Terenzini, 1977a).

Such interaction also is related to continued enrollment or retention (Pascarella & Terenzini, 1977b; Tinto, 1982) in all studies reviewed but one (Shrader, 1980). According to Tinto (1987),

Voluntary withdrawal is much more a reflection of what occurs on campus after entry than it is of what has taken place before entry. And of that which occurs after entry, the absence of contact with faculty proves to matter most.

Departure from large institutions is more likely to mirror isolation than lack of congruence. (pp. 65, 77)

The impact of faculty-student interactions also has benefits in intellectual achievement (Pascarella & Terenzini, 1977a; Endo & Harpel, 1982), grade point average at the end of the freshman year (Glennen, 1976), and freshman year achievement, when the interactions focused on career as well as academic topics (Terenzini, Pascarella, & Lorgan, 1982). More frequent faculty interactions are associated with higher degrees of altruism and university involvement among students (Astin, 1977); increased awareness and willingness to change (Wilson, Wood, & Gaff, 1974); improved self-concept (Grites, 1977); and ability to formulate positive plans of action (Chickering & Havighurst, 1981).

DEVELOPMENTAL ACADEMIC ADVISING

Background

Advising is described by name as far back as the colonial colleges. However, the rigidity within the curricula, the limited career patterns of students, and the societal expectations of higher education all worked to confine advising to relaying information from institution to student, often within the classroom (Rudolph, 1962).

With the increased information from the social sciences on the development and behavior of individuals, a number of key researchers of higher education applied such theories to advising. Using the formula of Lewin, Hardee (1970) described the advisor's role as threefold: understanding the purposes of the student, knowing the purposes of the

institution, and facilitating the interaction. Crookston (1972) built on her ideas and described an interactive process that would expand beyond advising issues to include general developmental skills such as problem solving, decision-making, and behavioral awareness.

O'Banion (1972) coined the term developmental academic advising to describe a process of growth and development at each of five repeatable stages in a student's academic career: exploration of life goals, vocational goals, program choices, course choices, and schedule choices.

Hardee, Crookston, and O'Banion all borrowed their terminology from developmental counseling which emphasizes healthiness in clients. Student development is a process in which a student undertakes more complex behavior as a result of mastering increasingly demanding challenges. Instead of the advisor addressing advisees' "abnormalities" by diagnosing, prescribing, and curing, the advisor and advisee together address the ambition of the advisee and at each stage, collaborate on goal-setting and skill development (Blocher, 1974; Lawrence, 1969).

More recent researchers have added operational details to these early theories with much of the emphasis on the process of advising. Advising is an interaction in which students participate (Blocher, 1974; Ender, Winston & Miller, 1984; Lawrence, 1969), it is continuous (Borgard, 1981; Drum, 1980), and it focuses on incremental change (King, 1984; Thomas & Chickering, 1984). This focus on process requires substantial assessment and feedback (Basil & Cook, 1974; Peterson & McDonough, 1985) by the advisor. Although the advisor shares responsibility with the

advisee, it is the advisor who must be integrator and orchestrator (Walsh, 1979).

What are the desired personal outcomes of advising for the advisee? An advisee must set realistic goals (Creamer, 1980; Crookston, 1972) and then articulate and acquire the requisite skills (Ender, Winston, & Miller, 1984; Gordon 1984). By such goal setting, advisees should improve decision-making skills (Janis & Mann, 1977; Laff, Schein, & Allen, 1987; Tiedeman & O'Harar, 1963) and should value such skills more and take more self-responsibility for decisions (Ender & Winston, 1982; Kramer, 1983). The choices in developmental academic advising, from life goals to schedule decisions, are seen as models or test cases for subsequent choices. Advisees who raise questions, survey and weigh alternatives, and pursue those skills will presumably apply these steps in varied circumstances, recognize the process, and value their own responsibilities (Crookston, 1972; Habley, 1981; Hardee, 1970; O'Banion, 1972).

Delivery Systems

Traditionally, advising has been accomplished by faculty members in one-on-one sessions with individual advisees (Carstensen & Silberhorn, 1979; Crockett & Levitz, 1983; Rudolph, 1962). With the increased acceptance of the concepts of developmental academic advising, the advisors were asked to alter their role. In a 1977 handbook published by the National Education Association, Kramer and Gardner even listed a

week-by-week checklist of assignments for the advisor. Taxonomies of services were developed, following the models of Hardee and O'Banion (Kramer & Peterson, 1983; Kramer, Taylor, Chynoweth, & Jensen, 1987).

Given the primary demands of teaching, research, and service on faculty time, faculty members and academic administrators alike realized that the traditional faculty one-on-one delivery system was not always compatible with the concepts of developmental academic advising. The differing needs of many kinds of students at various stages had to be considered (Hoffman, 1975) as well as different kinds of institutions (Creamer & Atwell, 1984; Habley & McCauley, 1987; Polson & Jurich, 1981).

The initial solution was a clustering of all academic advising services and personnel, if not physically, at least administratively, into an advising center (Carstensen & Silberhorn, 1979; Kramer, 1981). The center was designed to provide continuity from orientation to graduation, serve as a reliable source of accurate information, offer maximum accessibility, and focus on advisees, not particular disciplines (Crockett, 1986; Dameron & Wolf, 1974; Higbee, 1979). Winston, Grites, Miller, & Ender (1984) described an advising center as "offering the best prospect for achieving the goals of academic advising". (p. 538) Following a national survey of advising, Crockett (1984) concluded the optimal advising delivery system was the combination of a center for new students and individual faculty for upperclass students.

The variety of delivery systems available for advising was categorized by Habley (1983), using as parameters organizational context and structure, clientele, and term of assignment. For example, the "Total

"Intake Model" involved initial advising for all students in an advising office until some predetermined conditions were met and the student moved to an academic subunit (e.g., department) for subsequent advisement. Of the 12% of all universities that use the total intake approach, 53% of these are large state universities. The other popular system for large public schools is Habley's (1983) "Satellite Model" in which advising is controlled by the college, offered first in a center and then followed by individual faculty (Habley & McCauley, 1987).

Satisfaction with Advising Systems

Given the emphasis on new delivery systems and the claims of Crockett and others, many studies measure advisee satisfactions with new found systems. Generally, students were at least as satisfied being advised by faculty in a group of students as they were being advised one-on-one by faculty (Jenkins, 1981; Lewis, 1972). Moreover, group advisees' knowledge of academic information was higher (Grahn, Kahn, & Kroll, 1983); and when the group included an upperclass student, advisees demonstrated fewer registration errors, fewer disciplinary referrals, and better retention (Hutchins & Miller, 1979).

Similarly, there were no differences in satisfaction or curricula knowledge between students advised by faculty and those advised by trained graduate students (Bostaph, 1977; Habley, 1979a; MacAleese, 1974) or between those advised by professional counselors and faculty (Habley, 1979b; Teague, 1977; Wankat, 1986). Further, systems that used computers

or detailed manuals to transmit routine information were as satisfying to advisees as systems which used faculty to transmit information. In fact, more errors were made in registration with the faculty advising (Aitken & Conrad, 1977; Lewis, 1972; Recer, 1969).

An unenlightened reader might scoff at such a parade of non-significant differences. However, the researchers and administrators involved felt quite successful. They had cast empirical doubt about the sacred cow of one-on-one faculty advising, and new, less expensive, more efficient services could be offered with no apparent loss in advisee satisfaction.

Student satisfaction with developmental academic advising approaches was higher than with traditional, prescriptive approaches (Callis & DePauw, 1985; Winston & Sandor, 1984a). Dowst, McGreevey, & Raoundy (1985) also noted improved levels of decidedness and Pino (1975) discovered women were particularly satisfied with these approaches. There was just one exception in 22 aspects of satisfaction with the developmental model in the Winston and Sandor (1984a) study; advisees resisted responsibility for academic course choices and were more satisfied if their advisors were more direct in telling them which courses to take, even electives.

Satisfaction with Individual Advisors

Another set of studies deals with advisee satisfaction of individual advisors, regardless of system. The primary advisor characteristics

which predicted high levels of advisee satisfaction revolve around interpersonal skills and warmth (Cunningham, 1975; Grites, 1981; Hardy, 1976; Hornbuckle, Mahoney, & Borgard, 1979; Kauffman, 1975). Polson & Jurich (1981) found three of the top four predictors of advisee satisfaction were concern, warmth, and dependability. Chathaparampil (1971) found that in order for advisees to be highly satisfied, advisors had to have some perceived competencies in five basic areas: technical help, rapport, personal help, service in getting students through the system, and competence in one's field. However, to have even moderate degrees of advisee satisfaction, the advisor had to be perceived as having good rapport, no matter how strongly they were perceived on the other four areas. Further, Morpurgo (1975) noted this need for caring was not unique to new students but was a primary issue with upperclass students as well.

In addition to the identification of a caring relationship, several researchers have noted other advisor attributes or advisor methods related to high levels of satisfaction with individual advisors. Availability (Kozloff, 1985), emphasis on goal-setting (Kapraun & Coldren, 1980), and input into evaluation (Kramer & Peterson, 1983) have been identified.

Other evaluators have tried to identify advisee attributes that may be best matched with advisor attributes. Romano (1972) found that only the non-conformist advisee had patterns of satisfaction different than other personality types, and that the non-conformists were the least satisfied with all the individual advisors studied. Highly-motivated students were most satisfied with an advisor who emphasized the advisee's

role (Hazleton & Tuttle, 1981). Advisees who most valued information were found to be more satisfied with their advisors than students who valued a relationship, counseling, or availability (Trombley, 1984). Finally, in a study of class in college and gender, Sanders (1973) found that freshmen were more satisfied with advising than upperclass students and that both male and female students were more satisfied with female advisors than with male advisors.

Differing Evaluations of Advising from Advisees, Advisors, and Administrators

Advisors and advisees frequently differ on their evaluation of overall satisfaction with advising (Grites, 1981; Mahony, Borgard, & Hornbuckle, 1978), the role of career advising (Kramer, Arrington, & Chynoweth, 1985; McAnulty, O'Connor, & Sklare, 1987), advisors taking some initiative (Larsen & Brown, 1982), knowledge of the curriculum and university services (Stickle, 1982), and warmth and caring (Grites, 1981). Typically students are less satisfied in these areas than are faculty. Similarly, faculty valued themselves over the catalogue as an information source and students did not (Giencke-Holl, 1985). In only one study located did faculty advisors and students agree on evaluations of advisors (Tiede, 1976). Weinburg (1983) found these differences were more pronounced in professional schools where faculty preferred an employer-employee model to a student development model. Advisors attributed good advising to their knowledge and positive attitudes toward

the advisees but felt poor advising was a result of advisee behaviors such as inattentiveness to information, and not coming to see the advisors (Kramer, 1982a).

Other campus constituencies were studied. Murray (1981) calculated a low negative correlation between advisor evaluations by students and those by administrators in charge of advising. In a study of faculty advisors, advisees, and administrators, the only area of advisor functions in which there was not disagreement was that academic advisors are not responsible for personal counseling (Guinn & Mitchell, 1986). In a study tracing advisee satisfaction from student status through five-year alumni status, Giencke-Holl (1985) found alumnae were more positive than they had been as students.

Outcomes of Advising

Persons evaluating advising are critical of the near-exclusive use of student satisfaction, occasionally measured moments after an advising session, as the dependent variable (Banzinger, 1987; Crockett, 1984; Dowst, McGreevey, & Roundy, 1985; Winston & Sandor, 1984a). Students are perceived as unable to appreciate the ultimate values of varying approaches or tasks at the student stage of their lives. At the very least, advisee satisfaction should be but one of several measures in such an evaluation.

Many of the variables identified in studies done on student-faculty interaction in general (as noted above) have not been studied with

particular attention to advising. The primary alternative measure is retention of students. Generally, universities with an emphasis on advising have higher retention of the students (Beal & Noel, 1980; Desler, 1987; Forrest, 1986; Glennen, 1976; Habley, 1981; Hutchins & Miller, 1979; Noel, 1983), although one author (Enos, 1983) found the improved retention true following only the freshmen year. In their 1979 survey, Carstensen and Silberhorn found an average 25% increase in overall retention rates among universities who said they had made improvements in their advising over the past two years.

Jackson (1979) found fewer withdrawals with experienced faculty advisors than first-year faculty advisors. Glennen (1976) was the only study found that linked an intrusive developmental advising approach with improved academic performance; and Hutchins & Miller (1979) found fewer course changes, residence hall damage, or disciplinary referrals with a developmental advising approach. Very few other advising outcomes have been studied.

STUDENT INVOLVEMENT

Many of the studies on student persistence identify involvement as an important factor (Astin, 1975; 1977; Glennen, 1976; Jacobs, 1957; Stern 1963; 1964). While it is not certain the exact meaning each of these authors had for involvement, Astin (1984) defined it as the amount of physical and psychological energy that students devote to their academic experience. He operationalized involvement as time and energy committed

to studying, using the library, attending club meetings, interacting with faculty, just being on campus. Astin proposed such involvement was a factor in retention because such devotion of energy formed attachments and bonds to the institution and this involvement was indicative of the students' adjustment to campus.

Pace (1980; 1984) introduced the concept of quality of student effort in the College Student Experiences Questionnaire (CSEQ), described in more detail below. Pace identified 14 aspects of college life, some of which are facilities such as the library, and others, opportunities for involvement such as clubs and conversations with faculty. The quality aspect was measured both in frequency of usage/participation and effort/energy committed.

Few studies on involvement beyond the relationship to retention were found. Terenzini, Pascarella, & Lorang (1982) found social involvement was a strong influence on perceived personal growth. Friedlander (1981) noted that high quality of effort in academic scales of the CSEQ was related positively to higher gains in intellectual competency, and high quality of effort in peer interaction scales was positively related to gains in personal understanding. Background characteristics were not found to be predictors of involvement, beyond high levels of academic achievement predicting academic involvement (Burton, 1981).

INTERVENTION MODELS AND RESEARCH

At the same time some student development theorists were applying interactionism to academic advising, others were describing ways to promote "environmental resource development" by restructuring, redesigning or modifying the student-environment interaction (Hurst & Morrill, 1980; Morrill, Oetting, & Hurst, 1974). The student development process as described by Chickering, Drum, Perry, and others would not occur automatically but must be both triggered and nurtured (Blocher, 1974; Kramer, 1979). Tinto (1982) concluded that institutions need to "structure and regularize student-faculty interactions" (p. 697).

Morrill, Oetting & Hurst (1974) described a three-dimensional process model for interventions in counseling which was subsequently adapted for advising (Hurst & Morrill, 1980; Paul, 1980). One dimension of the cube-shaped model is the target, the individual or environment that is to be influenced; this may be a primary target, an individual; a primary group such as the family; an associational group such as a club; or an institution or community. The purpose of an intervention, the second dimension, may take one of three forms: remedial or repair after something has gone awry; preventive or an avoidance intervention, the result of something being predicted or known; or developmental, designed to enhance one's direction, "identifying the horizon" (Morrill, Oetting, & Hurst, 1974). The final dimension, method, may be media (for example, computer-assisted learning), training and consultation of the target, or

a direct intervention, often done administratively with personal communications or interactions.

Several surveys have pointed to the need for an intervention model. In a study of four midwestern universities, students and advisors alike believed advising interventions were critical to the effectiveness of advising programs (Larsen & Brown, 1982). Also, student satisfaction with advising did increase with the number of contacts from the advisor (Kramer, Arrington & Chynoweth, 1985). Nonetheless, in their 1983 national survey of advising, Crockett and Levitz found the degree of intrusiveness had not increased since a similar survey in 1979.

Many of the interventions described in the literature are freshman courses containing information on the university and its services, expectations of students, academic skills, and career exploration. The findings of these studies are often suspect since students self-select the courses. No differences between people enrolled in such a course and those not enrolled were found in academic achievement (Anchors, Gershman, & Dreyful, 1984; Banziger, 1987; Browne, 1978; Mitchell, 1980), satisfaction with the university (Banziger, 1987; Browne, 1978), or developmental outcomes such as goal-setting and independence (Anchors, Gershman, & Dreyful, 1984). Others have found students who take the course have a significantly higher retention rate (Gardner, 1986) and demonstrate higher levels of motivation to participate in all facets of the university (Mitchell, 1980).

Several interventions other than courses have been aimed at students in academic difficulty. Anadam (1984) used a computerized "academic

"alert" letter campaign to a sample of students not meeting the necessary grade averages. Although there was no difference between those who received the letter and those who did not on progress toward degree (taking the correct courses at the prescribed rate), those receiving the letter did subsequently have higher grades. In a related study, Cuvo (1986) sent two different letters to two subgroups of students facing academic drop; one letter merely alerted them to the dilemma they faced and the other elaborated on the consequences of being dropped. Students who received either letter were more likely to consult an advisor for help and did better academically than those students who did not receive any letter. However, there were no differences in advising behavior or grades between those who received different kinds of letters.

THE FRESHMAN YEAR

Like all other introductions to new social systems, the freshman year is full of change and stress, formal and informal demands (Astin, Hemond, & Richardson, 1982; Basil & Cook, 1974; Feldman & Newcomb, 1969; Hazen Foundation, 1968). In the series of new life experiences (e.g. beginning school, moving, marriage), it is considered one of the most critical changes (Chickering, 1969). Freshmen are at a personal development stage at which they are formulating their lifestyles and establishing autonomy (Chickering, 1969); and at the same time they must face more rigorous academic standards, a new living style and environment without established supports, and new personal responsibilities and freedoms.

The freshman year is a major sorting point for students (Astin, 1986; Marchese, 1987; Tinto, 1987). As Andrew M. Greeley wrote for the Hazen Foundation (1968),

The freshman experience is thus crucial to the college and to the student. It is the time when the student's critical attitude toward his studies and college in general is formed....This is not to suggest a doting, sentimental kind of education, but one which seeks from the beginning, the shifting of the responsibility for his own education onto the student himself. (pp. 11-12)

Freshmen arrive at a university with high expectations, both in terms of the nature of their academic experience and their own personal development (Boyer, 1987; Hazen Foundation, 1968; Marchese, 1987). However, their expectations are often not realistic. Even the freshman perceptions of the characteristics of the university are unlike the perceptions of any other campus constituency, a phenomenon called "the freshman myth" (Stern, 1966). Further, these expectations are often vague and highly idealistic (Brown, 1972). Astin (1977; 1982) found over 2/3 of the freshmen expressing grandiose general goals with little degree of assurance and few specific means to achieve them. It should be noted, however, that this indecision and lack of specificity is a typical characteristic and is not predictive of subsequent indecision (Raimst, 1981).

Given such high hopes coupled with the lack of reality, it is no wonder that freshmen frequently become disenchanted (Brown, 1972). "The freshman myth" usually lasts just a few weeks (Stern, 1966) and is replaced by buyers' remorse (Gardner, 1986).

In Perry's scheme of the irreversible stages of cognitive development (1970), he describes a position of dualism, often associated

with the freshman year (Gordon, 1981). At the dualism stage, individuals perceive issues in polar terms and believe correct answers to questions do exist, most likely obtainable from known authorities. Later stages of Perry's theory include multiplicity (accepting uncertainty as legitimate), relativism (using contextual bases for choices) and commitment --- stages achieved through processes of doubt and challenge. Some recent critics have noted this progression may be more typically productive for men than for women who tend to respond more to affirmation than challenge (Knefelkamp, 1987). Nonetheless, freshmen are extremely susceptible to authoritative sources in their new environment and they follow external loci of control.

The concerns about a new environment coupled with the predictable disillusionment often produce anxiety in students. This discomfort, if in a moderate amount, may actually make the freshmen more amenable to change (Basil & Cook, 1974).

Given the crucial point of the freshman year, the knowledge of student development, and the impact of change, freshmen are good candidates to benefit from a mentor or advisor as a source of that information and reaching out, and advisors can provide information and foster belonging (Gardner, 1986; Gordon, 1984). Recent research gives direction to the freshman-advisor relationship. Contact with advisors should occur early and as a regular part of university life (Marchese, 1987; Tinto, 1982). Advisors must be accessible and well-informed (Gordon, 1984; Laff, Schein, & Allen, 1987; O'Banion, 1972) and should address issues of the freshman's development as well as purely academic

concerns (Chickering, 1969). Advising of freshmen must be designed not just for transition, but also for transformation, change itself (Knefelkamp, 1987). For such successful transformation to occur, freshmen must both separate from past forms of association and adjust to new social and intellectual challenges (Leavitt, 1978; Tinto, 1987).

Currently, over 1/4 of all freshmen plan to pursue majors in business (Astin, 1986), and there is some evidence that freshmen and advisors in professional schools have additional needs. Because freshmen in business perceive a university more because of where it leads than what it offers in and of itself, their responsibilities and development as students may need to be addressed more often and more emphatically (Feldman & Newcomb, 1969). For example, students in the professional areas may jump to final steps in career planning before adequately exploring appropriate initial stages. Moreover, since critical prerequisite skills are often offered early in a lock-step curriculum, professionally-oriented freshmen need more frequent diagnosis and remediation in these key areas (Trosen, Fouch, & Mossop, 1985). Faculty in professional schools may have different needs as well; often more familiar with the ethic of the workplace and not experienced or schooled in student development, they need additional support and training as advisors (Weinburg, 1983).

METHODOLOGY

DESCRIPTION OF THE POPULATION

The population for this study consisted of all white, first-time freshmen admitted for the fall of 1987 to a college of business at a land grant university of 18,000 undergraduates in the southeast. Black freshmen were eliminated because they were so few in number. Also, they have been shown to differ in their expectations of the university (Winston, 1976), advising needs (Oliver, 1978), patterns of departure (Pascarella & Chapman, 1983; Tinto, 1987), and access to advising (Loo & Rolesen, 1986). These differences would understandably interfere with the impact of the interventions and several of the measures. Students who matriculated during the 1987 summer or who had taken any collegiate-level work, even if done concurrently with their high school courses, were likewise eliminated. The assumption regarding the critical nature of the first few weeks of the freshman year would not apply to these students who had already tested the collegiate waters.

DESCRIPTION OF THE SAMPLE

Three hundred students were randomly selected from the above population of 628 and randomly assigned to three groups of 100 students

each. Each of the groups was randomly assigned to one of three treatment groups: a control group (I) or two experimental groups (II and III).

TREATMENTS (INTERVENTIONS)

Since the purpose of this study was to assess the impact of three levels of interventions, care was taken to control as many other factors as possible. In so far as possible, all three groups were treated as one in all other areas of contact with the academic college. At no time was any student identified as belonging to a particular group, except to the researcher. For example, files were not marked to indicate a student was in any one of the three groups.

Advisors, of course, were informed that an evaluation of various advising options was to be conducted, and they were assured that the evaluation was of the programs, not of the advisors themselves. Since the advisors met weekly to receive specific assignments or projects, cooperation and clear communication were assured.

All subjects participated in a summer orientation program conducted two months before their fall enrollment. As part of this program, all subjects received information about their academic requirements and university policies and procedures. In addition, their assignment to the Advising Center was announced as well as a listing of their responsibilities as an advisee (e.g. to know the requirements, to inform their advisors of any changes in plans, to assume responsibility for their decisions). Because of the logistics of time and space and as an

accommodation to student summer schedules, this program was given on 12 different days. To insure as identical treatment as possible, the same administrators spoke each day, adhering to a script.

Beginning with the arrival of students on campus in September and throughout fall term, Group I, the Control Group, received only traditional Advisement Center services; i.e., they were advised, upon their request, during the normal operating hours, weekdays 9 am - 4 pm. During the fall term, Groups II and III each received, in addition to the services of Group I, three interventions: (1) a telephone contact of introduction and follow-up in Week 3 (of a ten-week term); (2) a personal letter of invitation to a meeting to assist with registration (Week 4) and the meeting itself (Week 5); and (3) a personal letter suggesting strategies for final examination success as well as consideration of their first vacation at home as a college student (Week 9).

During the winter term, Groups I and II received only traditional Advisement Center services as described above. In addition, if a student's academic average fell below a 2.0, the student received a form letter reviewing the dilemma and suggesting some remedies. Such a warning letter is standard at the university, as it is many other places. Only Group III received, in addition to the services of both Groups I and II, three interventions: (4) a telephone call from the advisor to assess fall progress and performance (Week 2); (5) a personal letter from the advisor to establish the students' responsibilities for their academic experience, using registration as an example (Week 5); and (6) a personal

written invitation to a meeting (Week 7) and the meeting itself (Week 8) to promote career awareness and planning.

RATIONALE FOR TREATMENTS (INTERVENTIONS)

The freshman year can be viewed as a new social system (Feldman & Newcomb, 1969) where the student must come to grips with both a public curriculum as well as an invisible one. Given this setting, the primary criteria for all interventions must be information that is flawless in quality (Gordon 1984; Laff, Schein, & Allen, 1987; O'Banion, 1972), that goes beyond what the students themselves would even think to ask (Paul, 1980), and can be used in specific decisions at some critical decision points (Chickering, 1969; Tiedeman & O'Harar, 1963). Moreover, this information must have some continuity and sequence (Borgard, 1981; Laff, Schein, & Allen, 1987). Heath (1981) proposed an ordered typology of ways in which advisors could respond to students. Such exchange of timed and timely information is effective only if tied to a relationship between recipient and provider, in this case, advisee and advisor (Pascarella & Terenzini, 1977b; Perry, 1970). Gardner (1986) described higher education as a discipline in itself and the advisor, a mentor introducing it. Finally, different subgroups may need different styles of interventions. Feldman and Newcomb (1969) suggest interventions may need to be harder hitting in professionally-oriented curricula such as business schools where students enter with stronger vocational goals, a

narrower concept of the college, and diminished openness to interaction with the environment.

These six particular treatments were selected with one eye on theory and the other on the practical possibilities of an advising center's advisor-to-advisee ratio. For example, the proven value of small group faculty advising sessions supplemented by peer advisors is not practical or applicable to an advising center staffed by a few professionals and graduate students serving over 300 students per advisor.

The first intervention for Groups II and III, a telephone call from the advisor in Week 3, was selected to establish the advisor-advisee relationship. The script (see Attachment A) for the calls was developed to project support and friendliness (Beasley-Fielstein, 1986; Brown, 1972; Cunningham, 1985), to identify the advisor as a reliable and accessible expert (Tinto, 1987) to the advisee who wants to hear from an authority (Perry, 1970), and to address short-range goals (Bostaph, 1977; Forrest, 1986). This first intervention could best be classified as developmental.

In the fourth week Groups II and III received a personal invitation (see Attachment B) from the advisors to a meeting to share critical registration information. This preventive intervention was designed to continue the relationship with the advisor and to address a very practical task, their first registration. The script for the meeting (see Attachment C) includes the practical directives needed to permit academic progress and provide support if there are problems (Earl, 1987).

In Week 8, the third intervention, both developmental and preventive, was a personal letter from advisors written to prepare students for their first university final examinations and their first official college vacation at home. This letter (see Attachment D) addressed the integration of academic and personal issues, identified by Thomas and Chickering (1984) and by Walsh (1979) as key to student growth. At the same time, critical issues of autonomy (Chickering, 1969) and environmental supports (Bean, 1982), both on- and off-campus, were introduced.

During the first two weeks of the winter term, students in Group III received the fourth intervention, a telephone call from their advisor designed to assess their fall progress and performance. The script for this call (see Attachment E), remedial and developmental in nature, was designed to assist freshmen with diagnosing their critical skills (Trosen, Fouch, & Mossop, 1985), maintaining and adjusting realistic goals (Blocher & Rapoza, 1981; Creamer, 1980; Crockett, 1986; Drum, 1980) and with promoting more behavioral awareness (Crookston, 1972; Kramer & Gardner, 1977).

In the fourth week of the winter term, students in Group III received a personal letter (see Attachment F) from their advisor designed to establish students' responsibilities for their academic experience. Developmental in nature, this letter emphasized goal-setting (Bostaph, 1977; Blocher & Rapoza, 1981) and self-direction (Perry, 1970; Raimst, 1981), with upcoming registration as an example.

The final intervention of the winter term was a meeting designed to foster career awareness and promote career planning. The personal invitation from the advisor during the seventh week followed by the meeting itself the eighth week were planned to explore education and occupational goals (Astin, 1977), to provide some reassurances about uncertainty (Perry, 1970), and to provide some tasks students should accomplish before summer (Crockett, 1986) (see Attachments G and H).

INSTRUMENTATION

At the beginning of the 1988 spring term all students in the original sample who were enrolled were asked to complete two instruments at several designated times (see Attachment O). Pace's College Student Experiences Questionnaire (CSEQ) (1979; 1983) was used to measure the involvement in the university in both time (frequency of usage or participation) and effort (amount of energy committed) as well as estimated progress on some objectives of higher education. The Advising Survey Form, (ASF) (Kramer & Gardner, 1979) developed at the Center for Faculty Evaluation and Development at Kansas State University, was used to measure desired student development outcomes.

The College Student Experiences Questionnaire

The College Student Experiences Questionnaire (CSEQ) includes 14 quality of effort scales, each consisting of activities that include a

variety of levels of effort from the student. Most scales offer ten such activities to each of which the student responds (1) Never, (2) Occasionally, (3) Often, or (4) Very Often. Thus, most scales result in a score of 10-40. Seven of the scales involve facilities (e.g., library, student union) and the other seven involve opportunities for experiences at a university (e.g., experiences with faculty, student acquaintances.) The test is recommended for use when the academic year calendar is 2/3 to 3/4 completed.

In a final part of the CSEQ, estimate of gains, students were asked to assess their own progress in 21 questions which represent important objectives of higher education in general (e.g. vocational training, ability to function as a team member). The student selected one of four responses: (1) Very much, (2) Quite a bit, (3) Some, or (4) Very little. Two other parts of the CSEQ, College Writing and Reading Activities and Characteristics of the College Environment, were not germane to this study.

Five independent quality of effort factors have been identified by Pace and his students: Personal and Interpersonal Experiences; Group Facilities and Opportunities; Academic Experiences; Science/Technology; and Art-Music-Theatre. In the estimate of gains section, Pace reports five independent factors: Personal and Social; General Education, Literature, and Arts; Science and Technology; Intellectual Skills; and Vocation.

Psychometric data on the instrument indicate the CSEQ is valid, reliable, and discriminatory (Pace, 1984; Friedlander, 1981). The CSEQ

was tested over three years at over 40 campuses on a sample of over 10,000 students. Reliability estimates for each of the effort scales ranged from .79 to .90.

The Advising Survey Form

The Advising Survey Form (ASF) was developed in response to the need for evaluation of advisor behavior. Applying the logic of teacher evaluations which try to measure students' learning rather than students' evaluations of teachers, they chose to measure not what the advisor did but whether the advising helped (Cashin, 1979). Based on three traditional areas of advising (academic, career, and personal concerns), the authors developed questions assessing advisor helpfulness and the results of such helpfulness. Students were asked to respond to six questions such as "I understand how to achieve my goals within this institution" with a five-point scale 1 = strongly disagree to 5 = strongly agree.

The test was developed using 726 students and 78 advisors in ten different four-year institutions. The correlation of outcomes with positive advisor behaviors was .60 or better for each item. Discrimination was successfully checked by asking advising administrators to rank advisors; then outcomes of high-ranked advisors and low-ranked advisors were scored. Further, outcomes were tested against importance of item to be sure, for example, students who most wanted preparation for a job did not necessarily report the most progress in that area.

Expectations did not correlate highly with the overall evaluation. Gender of student and year in school of the advisee did not appear to have an impact on the items (Brock, Gardner, & Kramer, 1978). Reliability tests using ten raters yielded average coefficients of .69.

Academic Records

In addition to these two instruments which all students were asked to complete, the academic records of students were reviewed to measure persistence and progress toward degree. Student advisor logs were available for recording the number of visits and possible unobtrusive measures.

Measures of Individual Interventions

Within one week of each intervention 15-20 students of each of the group(s) receiving the intervention were contacted in an effort to assess the impact of that particular intervention. See Attachments I, J, and K for the follow-up calls to the three fall term interventions and Attachments L, M, and N for the follow-up calls to the three winter term interventions. No student was contacted about a particular intervention more than once each term. As noted above in the introduction, although the focus of this study was clearly on the summative impact of the interventions across one or two terms compared to no interventions,

evaluation of individual interventions was included to provide useful insights.

SUMMARY OF VARIABLES

The dependent variables listed below from the above scales and instruments were used in the study.

ACADEMIC ACHIEVEMENT:

1) Academic persistence - Each student's score using a six-point scale at the beginning of the spring term and a nine-point scale at the beginning of the subsequent fall term. The scale was as follows: 0 = withdrew during first six weeks (resignation period) of fall term; 1 = withdrew during fall term after sixth week; 2 = withdrew following fall term but before winter term; 3 = withdrew during first six weeks of winter term; 4 = withdrew during winter term after sixth week; 5 = withdrew following winter term but before spring term; 6 = still enrolled beginning of spring term (spring measure) and 6 = withdrew during first six weeks of spring term (fall measure); 7 = withdrew during spring term after sixth week; 8 = withdrew following spring term but before subsequent fall term; and 9 = still enrolled subsequent fall term.

2) Academic progress - Each student's score, using one point for each of the 12 required courses that was passed and not repeated from fall and winter terms, in the measurement at the beginning of spring term, and using one point for each of the 18 required courses that was passed and

not repeated from fall, winter, and spring terms in the measurement done at the beginning of the subsequent fall term.

Since academic averages were available in the same student records, each student's cumulative Grade Point Average (GPA) was recorded at the end of the fall and winter terms and at the end of all three freshmen terms, fall, winter, and spring.

3) Intellectual gains - Each student's total score on four CSEQ items: ability to think analytically, quantitative thinking, ability to put ideas together, ability to learn on one's own. Students are asked to assess their progress in four areas using the scale very little, some, quite a bit, or very much, with scores of 1 through 4 respectively.

INVOLVEMENT IN THE UNIVERSITY:

4) Personal-Interpersonal Experiences - Each student's total score on the four CSEQ scales: Personal Experiences, Student Acquaintances, Topics of Conversation, and Information in Conversation. Responses to these 38 questions are answered never, occasionally, often or very often with scores of 1 through 4 respectively.

5) Academic Experiences - Each student's total score on the four CSEQ scales: Library Experiences, Experiences with Faculty, Course Experience, and Experience in Writing. These 40 questions have responses and scores as noted in variable 4 above.

DEVELOPMENTAL OUTCOMES:

6) Personal-Social Gains - Each student's total score on five CSEQ items: developing your own values, understanding yourself, understanding and getting along with others, ability to function as a team member, and

developing good health habits and fitness. These five questions have responses and scores as noted in variable 3 above.

7) Advising outcomes - Each student's scores on the six ASF questions (confidence in pursuing program, preparation to seek job or pursue further study, ability to handle personal problems, achievement of goals within the institution, importance of advising, effort put into advising.) Each item is scored 1 through 5, strongly disagree through strongly agree, respectively.

For the measures of the individual interventions, the responses to the follow-up questions were compared. One question, if the specific intervention made students feel someone cared about them, was common to all intervention follow-ups. See Attachments I through N.

The independent or classification variable was the assigned group, I, II, or III, as noted above. Since the follow-up calls to evaluate the individual interventions could be interpreted as interventions themselves, subdivisions of the two groups receiving calls were considered as well.

DESIGN

The pattern of interventions is illustrated below. Group I received no interventions; Group II, three during the first term only; and Group III, the same as Group II plus an additional three during the second term.

	Group I	Group II	Group III
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Intervention

First term

- 1. Telephone call of introduction,
Week 3**

X	X
---	---

- 2. Registration meeting, Week 5**

X	X
---	---

- 3. Letter about exams and vacations,
Week 9**

X	X
---	---

Second term

- 4. Telephone call of assessment, Week 2**

X

- 5. Responsibility letter,
Week 5**

X

- 6. Career awareness meeting, Week 7**

X

The scores of students in these three groups were compared on the seven dependent variables as illustrated below, and records of their visits to advisors were recorded on advisor logs in individual files.

	Group I No Interventions	Group II Three Interventions	Group III Six Interventions
Academic Variables			
1) Persistance	X	X	X
2) Progress	X	X	X
3) Intell. gains	X	X	X
Involvement Variables			
4) Pers.-Interpers.	X	X	X
5) Academic exp.	X	X	X
Developmental Variables			
6) Pers.-Social Gains	X	X	X
7) Advising Outcomes	X	X	X
Record of visits	X	X	X

Following each intervention a small group of 15 to 20 students from each group receiving that intervention were called and asked questions about the effectiveness of that particular intervention. As noted below, students in Group II who received the first three interventions were in one of four possible follow-up call categories, and students in Group III who received all six interventions were in one of seven possible follow-up call categories.

	Group II Three Interventions	Group III Six Interventions
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Call Category

No call	X	X
Call after 1st intervention	X	X
Call after 2nd intervention	X	X
Call after 3rd intervention	X	X
Call after 4th intervention		X
Call after 5th intervention		X
Call after 6th intervention		X

DATA COLLECTION PROCEDURES

Permission for all contacts with the subjects, access to records, and use of advisors' time on interventions was granted by the Dean of the college. Students were asked to take the CSEQ and ASF by invitation of the Dean at one of four established times spring term (see Attachment O). Students who did not complete the two instruments at one of these sittings were to be contacted with a follow-up letter (see Attachment P) and telephone call, if needed, in order to reschedule.

DATA ANALYSIS

By agreement with the author of the CSEQ, all completed forms were sent to National Computer Systems in Iowa City, Iowa, for processing. The researcher received a tape containing the responses for analysis, and the Higher Education Research Institute in Los Angeles also received the data.

By permission of the Director of the Center for Faculty Evaluation and Development, Kansas State University (see Attachment Q), the researcher used and analyzed the advising outcomes questions from the ASF. In exchange, the researcher agreed to indicate the Center as the source of the questions and send a copy of the dissertation to the Center.

In order to answer the first research question regarding the potential effect of the interventions, the scores of the three groups were compared on the seven dependent variables using analysis of variance.

Orthogonal linear contrasts were used to compare the two experimental groups with the control group.

In order to answer the second research question regarding the effects of the duration of the interventions, the scores of the two experimental groups were compared on the seven dependent variables. Orthogonal linear contrasts were used to detect differences between those students receiving three interventions in one term (Group II) and those receiving six interventions in two terms (Group III).

In order to measure the possible impact of office visits on each of the dependent variables, the number of office visits of each student was tallied from advisor logs in each student file. The correlation of this number of visits with each of the dependent variables was determined.

Since follow-up calls to Groups II and III may have had an impact on the dependent variables, subgroups of the two experimental groups were compared on the non-CSEQ variables. Members of Group II received no follow-up calls or calls after Interventions 1-3. Members of Group III received follow-up calls after Interventions 1-6. Three analyses were done: a one-way ANOVA of Group II across the first four follow-up possibilities for Group II; a one-way ANOVA of Group III by the seven follow-up possibilities for Group III; and a two-way ANOVA of group and follow-up possibility.

To answer the third research question about the relative response to the six interventions, scores were tallied to the follow-up questions using the scale Yes=1, No=0 (Attachments I-N). One question, "Did this (intervention) make you feel someone cared about you?", was common to all

six follow-up calls. The average response per person to this question was compared across the six interventions; and the average total scores per person on the other follow-up questions were compared, using loglinear analyses (Hinkle, McLaughlin & Austin, 1988; Kennedy, 1983).

RESULTS

DESCRIPTION OF THE SAMPLE

Of the 300 students originally chosen for the sample, 286 enrolled in the fall term. Eleven students withdrew from the University or changed majors within the fall term and one more, between fall and winter terms. During the winter term eight students withdrew and another six changed majors. These enrollment patterns are described below:

	Group I	Group II	Group III	Total Sample
Original Sample	100	100	100	300
Beginning of Fall Term	99	92	95	286
Beginning of Winter Term	98	87	89	274
Beginning of Spring Term	94	81	85	260
% of 260	36.1	31.1	32.7	

Academic Persistence (Variable 1) and Academic Progress (Variable 2) were measured on these groups of students. Since academic grades were available in the same student records, these data were collected as well. Although the institution permitted freshmen to remove up to six credit hours of grades of D+, D, D-, and F from their overall grade average, only the original grades were considered. For the 121 students who had such grades removed, the unaltered grade point average was recalculated by hand and used.

The 260 students enrolled spring term were invited to take the CSEQ and ASF (Variables 3-7); the number of usable responses to the initial invitation are noted below.

	Responses	Return Rate
Group I	64 of 94	68.1 %
Group II	55 of 81	67.9%
Group III	56 of 85	65.9%
	-- --	
Total	175 of 260	67.3%

Four responses from Groups I and II had to be discarded since these students had attended one or both of the meeting interventions intended only for Groups II and III. Since the number of responses in each group was more than the minimum per group for statistical power, and since the response rates were sufficiently similar not to interfere with subsequent statistical tests, no follow-up calls were made to gather more responses.

The Scholastic Aptitude Test scores of all subjects were collected and compared among the three groups at three different stages. Such comparisons served as one measure of pre-existing differences among the three groups despite random selection and assignment to groups and treatments. The comparison also served as a check on possible differences among the groups after some students withdrew and after some students did not take the CSEQ and ASF. There were no significant differences among the mean SAT scores of the three groups at the time the original 300 were chosen, at the end of winter term when 260 students were enrolled, or at the time of the CSEQ and ASF administration when 175 students responded.

THE IMPACT OF INTERVENTIONS ON ACADEMIC AREAS

Table 1 contains the means, standard deviations, and probabilities of test statistics on the three variables in the academic area (Academic Persistence, Academic Progress, and Intellectual Gains) and Grade Point Average. The first probability of a test statistic is from the appropriate analysis of variance among the three groups, noted I vs. II vs. III. The second probability of a test statistic is from the orthogonal contrast between the control group and the two experimental groups, noted I vs. II and III.

Academic Persistence (Variable 1). As noted in the first two rows of Table 1 there were no significant differences among the three groups on Academic Persistence, a measure of continued enrollment at the end of winter (Persist2) and spring (Persist3) terms as described on p. 37 above. Given the possibility of finding at least one significant difference using the .05 level across 28 comparisons, there was a significant difference between the control group and the two experimental groups at the end of spring term ($p = .037$); the control group, I, was more persistent than II and III.

Academic Progress (Variable 2). As noted in the third through fifth rows of Table 1, there were no significant differences among the three groups on Academic Progress, a measure of required courses completed, at the end of fall, winter, or spring terms; nor did the two experimental groups differ from the control group.

TABLE 1
MEANS, STANDARD DEVIATIONS, AND PROBABILITIES
OF TEST STATISTICS ON ACADEMIC VARIABLES

Variable	Group I n mean s.d.	Group II n mean s.d.	Group III n mean s.d.	pF _{I vs II vs III}	p _{t_{I vs II and III}}
PERSIST-2	99 5.9394 .6030	92 5.6957 1.2902	95 5.6211 1.4672	.1428	.055
PERSIST-3	95 8.8105 .9598	91 8.3626 2.0359	94 8.2872 2.2463	.1072	.037
PROGRESS-1	98 5.5816 .7451	88 5.7045 .5903	89 5.7640 .6220	.1553	.067
PROGRESS-2	98 11.2347 1.2419	87 11.3563 1.0888	89 11.4944 .9668	.2806	.174
PROGRESS-3	94 16.7872 1.7833	81 16.8025 1.6234	85 16.9647 1.4916	.7339	.220
GPA-1	98 2.4860 .6856	88 2.4425 .6415	89 2.5936 .5634	.2640	.689
GPA-2	98 2.4732 .6031	87 2.5256 .6509	89 2.5667 .5808	.5777	.345
GPA-3	94 2.4488 .7199	81 2.5296 .7781	85 2.5164 .7367	.7383	.440
GNINTELL	64 10.825 2.352	55 10.509 2.391	56 10.207 2.497	.3726	.222
-GNANALY	64 2.703 .728	55 2.556 .691	56 2.552 .753	.4425	.190
-GNQUANT	64 2.365 .747	55 2.396 .743	56 2.207 .789	.3632	.597
-GNSYNTH	64 2.734 .716	55 2.685 .722	56 2.465 .754	.1164	.176
-GNINQ	64 3.000 .777	55 2.870 .753	56 2.983 .737	.6136	.537
VISITS	98 1.5714 1.4922	87 1.4828 1.3628	89 1.4607 1.6518	.8670	.600

Grade Point Average. As noted in the sixth through eighth rows of Table 1, there were no significant differences among the three groups on Grade Point Average at the end of fall, winter, or spring terms and no significant differences between the control group and the experimental groups.

Intellectual Gains (Variable 3). As noted in the ninth through thirteenth rows of Table 1, there were no significant differences among groups on Intellectual Gains or any of its four subscales, (ability to think analytically, quantitative thinking, ability to put ideas together, ability to learn on one's own), as measured on the CSEQ; and there were no significant differences between the control group and the two experimental groups. The control group had a higher score than Group III on all four subscales.

Impact of visits. As noted in the last line of Table 1, there were no significant differences among groups on the number of visits, nor did the students in Groups II and III visit an advisor more or less often than students in Group I. Table 2 includes the correlations between the first two academic variables, grade point average, and the number of visits initiated by the student to the advisor during the first two terms. Table 3 includes the correlations between all the CSEQ variables and the number of visits and the intercorrelations among the CSEQ variables and subscales.

As noted in the last row of Table 2, the number of visits to see an advisor had negative correlations with all persistence, progress, and grade point average variables and a significant negative correlation with

TABLE 2
CORRELATIONS OF ACADEMIC VARIABLES AND VISITS

	PERSIST3	GPA1	GPA2	GPA3	PROGRESS1	PROGRESS2	PROGRESS3
PERSIST3							
GPA1	.1563 p = .005						
GPA2	.1616 p = .004	.8672 p < .001					
GPA3	.1431 p = .010	.6420 p < .001	.7702 p < .001				
PROGRESS1	.1764 p = .002	.3964 p < .001	.3844 p < .001	.3027 p < .001			
PROGRESS2	.2398 p < .001	.3979 p < .001	.5128 p < .001	.3746 p < .001	.7585 p < .001		
PROGRESS3	.2295 p < .001	.4093 p < .001	.5016 p < .001	.5138 p < .001	.6910 p < .001	.8491 p < .001	
VISITS	-.0934 p = .064	-.2537 p < .001	-.2481 p < .001	-.1404 p = .012	-.3608 p < .001	-.3417 p < .001	-.2816 p < .001

* Coefficient could not be computed for PERSIST2 because of lack of variance in this variable

TABLE 3
CORRELATIONS OF CSEQ VARIABLES AND ADVISOR VISITS (Part 1)

TABLE 3
CORRELATIONS OF CSEQ VARIABLES AND ADVISOR VISITS (Part 2)

Academic Progress and Grade Point Average. Students with lower grades and fewer completed courses had more self-initiated contacts with their advisors. As noted on Table 3, there was no significant correlation between number of visits and Intellectual Gains.

Impact of follow-up calls. Table 4 indicates the means, standard deviations, and probabilities of test statistics within Group II by the different call status categories on the first two academic variables and on grade point average. Students in Group II are in one of four categories: received no follow-up call, or received a call after the first, second, or third interventions. The first test statistic refers to the analysis of variance among the four categories and the second one, to the orthogonal contrast between those receiving no call (Category 1) and those receiving a call (Categories 2-4).

Table 5 includes similar information for Group III. Students in Group III are in one of seven categories: received no follow-up call or received a call after the first, second, third, fourth, fifth, or sixth interventions. The first test statistic refers to the analysis of variance among the seven categories. The second test statistic refers to the orthogonal contrast between those receiving no call (Category 1) and those receiving a call (Categories 2-6); and the third, to the orthogonal contrast between those receiving a call first term (Categories 2-4) and those receiving a call second term (Categories 5-7).

As noted in the next-to-last column of Table 4, within Group II there were no significant differences among the four possible subgroups in Academic Persistance, Academic Progress, or Grade Point Average.

TABLE 4
MEANS, STANDARD DEVIATIONS, AND PROBABILITIES
OF TEST STATISTICS ON PERSISTENCE, PROGRESS, AND GPA
BY FOLLOW-UP CALL CATEGORY WITHIN GROUP II

Variable	Category I No Call n mean s.d.	Category 2 Call after 1st n mean s.d.	Category 3 Call after 2nd n mean s.d.	Category 4 Call after 3rd n mean s.d.	pF _{1 vs 2 vs 3 vs 4}	pt _{1 vs 2-3-4}
PERSIST-2	33 6.0000 .0000	19 6.0000 .0000	19 6.0000 .0000	16 6.0000 .0000	--	--
PERSIST-3	33 9.0000 .0000	17 8.6842 .8201	15 8.5556 1.0416	16 8.9375 .2500	.0641	.049
PROGRESS-1	33 5.7576 .5019	19 5.5263 .7723	19 5.6842 .6710	16 5.8750 .3416	.3444	.632
PROGRESS-2	33 11.4545 .8693	17 10.8421 1.5005	15 11.4211 1.1213	16 11.6875 .7042	.1071	.562
PROGRESS-3	33 16.7576 1.5213	17 16.4118 2.0018	15 17.0667 1.5796	16 17.0625 1.4818	.6191	.810
GPA-1	33 2.4558 .5561	19 2.3765 .7821	19 2.4298 .7309	16 2.4558 .5383	.8707	.995
GPA-2	33 2.5505 .5662	17 2.5260 .8852	15 2.5163 .6839	16 2.5879 .4883	.9786	.770
GPA-3	33 2.5908 .7076	17 2.6528 .8213	15 2.3799 .8703	16 2.4127 .8195	.6793	.542

TABLE 5
MEANS, STANDARD DEVIATIONS, AND PROBABILITIES
OF TEST STATISTICS ON PERSISTENCE, PROGRESS, AND GPA
BY FOLLOW-UP CALL CATEGORY
WITHIN GROUP III

VARIABLE	Category 1 No call	Category 2 Call after 1st	Category 3 Call after 2nd	Category 4 Call after 3rd	Category 5 Call after 4th	Category 6 Call after 5th	Category 7 Call after 6th	$pF_{1,192,193}$ $w_4w_5w_6w_7$	$pI_{1,w_2,7}$	$pI_{2,4,w_3,7}$
	n mean s.d.	n mean s.d.	n mean s.d.	n mean s.d.	n mean s.d.	n mean s.d.	n mean s.d.			
PERSIST-2	4 6.0000 .0000	18 6.0000 .0000	18 6.0000 .0000	19 6.0000 .0000	8 6.0000 .0000	9 6.0000 .0000	13 6.0000 .0000	—	—	—
PERSIST-3	4 9.0000 .0000	18 8.5000 .9852	17 8.9412 .2425	19 9.0000 .0000	8 8.6250 1.0607	9 9.0000 .0000	13 9.0000 .0000	.0742	.589	.636
PROGRESS-1	4 6.0000 .0000	18 5.7778 .6468	18 5.8899 .4714	19 5.6842 .6710	8 5.5000 .7559	9 5.5556 1.0138	13 5.9231 .2774	.5649	.389	.392
PROGRESS-2	4 11.5000 1.0000	18 11.6111 1.0369	18 11.6111 .8498	19 11.2105 1.0317	8 11.2500 1.1650	9 11.3333 1.3229	13 11.8462 .3755	.6022	.963	.996
PROGRESS-3	4 16.5000 1.2910	16 16.9375 1.9138	17 17.2941 .7717	19 16.4737 1.5765	7 17.4286 1.5115	9 16.5556 2.1858	13 17.4615 .7763	.4225	.495	.487
GPA-1	4 2.1924 .3582	18 2.7366 .3838	18 2.6159 .6288	19 2.3820 .6153	8 2.5156 .6885	9 2.6183 .4882	13 2.8279 .5512	.2146	.141	.555
GPA-2	4 2.1683 .4159	18 2.7275 .5198	18 2.6395 .5288	19 2.3814 .5800	8 2.4507 .6897	9 2.5013 .6984	13 2.7546 .6037	.2995	.172	.919
GPA-3	4 1.7500 .9285	16 2.6594 .6743	17 2.5853 .5917	19 2.3196 .8271	7 2.5835 .7854	9 2.3272 .6737	13 2.8684 .6754	.1166	.031	.675

Similarly, as noted in the ninth column of Table 5, there were no differences within Group III among the seven possible subgroups.

As noted in the last column of Table 4 and next-to-last column of Table 5, there were no significant differences between those who received a call and those who did not on any of the variables except two. Within Group II, students who received a follow-up call were more persistent at the end of spring term than those not receiving a call. Within Group III students who received a follow-up call had a higher spring term Grade Point Average than those students who had not received a follow-up call. As noted in the last column of Table 5, within Group III there were no differences between students who had been called fall term and those who had been called winter term.

Table 6 contains the two-way ANOVA table by group (II and III) and follow-up call category. In this analysis, there were no significant main effects or interaction.

THE IMPACT OF INTERVENTIONS ON INVOLVEMENT IN THE UNIVERSITY

Table 7 contains the means, standard deviations, and probabilities of test statistics for two Quality of Effort scales: the Quality of Effort into Personal-Interpersonal Experiences, Variable 4, and its four subscales, Personal Experiences, Student Acquaintances, Topics of Conversation, and Information in Conversation; and the Quality of Effort into Academic Experiences, Variable 5, and its four subscales, Library Experiences, Experiences with Faculty, Course Experiences, and Experience

TABLE 6
RESULTS OF TWO-WAY ANOVA
ON PERSISTENCE, PROGRESS, AND GPA
BY GROUP AND FOLLOW-UP CALL CATEGORY

	MAIN EFFECTS				INTERACTION	
	Group		Call Category			
	F	pF	F	pF	F	pF
PERSIST-2	---	---	---	---	---	---
PERSIST-3	1.008	.317	1.667	.130	1.610	.189
PROGRESS-1	.302	.583	.556	.765	.795	.499
PROGRESS-2	.006	.937	.560	.762	1.290	.280
PROGRESS-3	.000	.989	.843	.539	.809	.491
GPA-1	.034	.854	.899	.497	.701	.553
GPA-2	1.203	.274	1.078	.378	.367	.777
GPA-3	.278	.598	1.067	.385	1.637	.183

in Writing. Similar to Table 1, the first test statistic refers to the analysis of variance among the three groups; the second refers to the orthogonal contrast between the control group, Group I, and the two experimental groups, Groups II and III.

Personal-Interpersonal Experiences and Academic Experiences. As noted in the next-to-last column of Table 7, there were no significant differences among the three groups on the Quality of Effort into Personal-Interpersonal Experiences Variable (QEINTPER), or on the Quality of Effort into Academic Experiences Variable (QEACADEM), both measured by the CSEQ. However, on one subscale, Personal Experiences (QEPERS), Group III scores were significantly higher than Group II.

As noted in the last column of Table 7, there were no significant differences between Group I and the two other groups on these two scales. However, on two subscales, significant differences were found. On the Student Acquaintances scale (QESTACQ), Group I was significantly higher than the other two; and on the Library Experiences scale (QELIB), Group I was significantly lower than the other two. On the four Academic Experiences subscales, there appeared to be no pattern.

Impact of Visits. As noted in the last line of Table 3, the number of visits students paid to the advisor during the first two terms had no significant correlation with the responses to these two involvement variables. Further, as noted in the last line of Table 7, students in the three groups did not differ significantly in the number of visits to the advisor, nor did Group I visit an advisor more or less often than Groups II and III.

TABLE 7
MEANS, STANDARD DEVIATIONS, AND PROBABILITIES
OF TEST STATISTICS ON INVOLVEMENT VARIABLES

Variable	Group I n mean s.d.	Group II n mean s.d.	Group III n mean s.d.	pF _{I vs II vs III}	p _{t_{I vs II and III}}
QEINTPER	64 78.766 11.402	55 74.204 14.648	56 78.870 13.666	.1076	.286
-QEPERS	64 22.375 4.661	55 20.333 5.179	56 23.701 5.178	.0021	.649
-QESTACQ	64 25.984 5.452	55 24.074 6.071	56 24.275 5.837	.1370	.047
-QECONTPS	64 29.375 4.300	55 28.741 5.720	56 29.363 5.299	.7539	.688
-QECONINF	64 1.031 .1754	55 1.054 .299	56 1.035 .264	.8654	.728
QEACADEM	64 88.377 10.989	55 88.200 12.229	56 87.719 12.580	.9538	.828
-QELIB	64 16.095 3.736	55 17.593 3.849	56 16.914 3.164	.0811	.042
-QEFAC	64 16.746 3.839	55 16.854 4.129	56 16.517 3.383	.8891	.920
-QECOURSE	64 28.935 3.995	55 27.961 4.644	56 28.421 4.694	.5052	.294
-QEWRITE	64 26.828 4.739	55 26.660 5.125	56 25.896 4.553	.5318	.467
VISITS	64 2.3750 1.4086	55 2.6909 1.5501	56 2.1607 1.1406	.1280	.814

THE IMPACT OF INTERVENTIONS ON STUDENT DEVELOPMENT OUTCOMES

Table 8 contains the means, standard deviations, and probabilities of test statistics for the two student development outcomes: Personal Social Gains, Variable 6; and the six Advising Outcomes, Variable 7. Similar to Table 1 and Table 7, the first test statistic refers to the analysis of variance among the three groups; and the second, to the orthogonal contrast between the control group, Group I, and the two experimental groups, Groups II and III.

Personal-Social Gains. As noted in the first row of Table 8, on the Personal-Social Gains Variable (GNPERSOC), as measured by the CSEQ, there were no significant differences among the three groups. As seen in the last column, there were also no significant differences between the control group and two experimental groups, and there were no patterns among the three groups on the five subscales, developing your own values, understanding yourself, understanding and getting along with others, ability to function as a team member, and developing good health habits and fitness.

Advising Outcomes. As noted in the next-to-last column of Table 8, on the six ASF scales on Advising Outcomes, confidence in pursuing program, preparation to seek a job, ability to handle personal problems, achievement of goals within the institution, importance of advising, and effort put into advising, there were no significant differences among the three groups. As noted in the last column, there were also no significant differences between the control group and the two experimental groups.

TABLE 8
MEANS, STANDARD DEVIATIONS, AND PROBABILITIES
OF TEST STATISTICS ON STUDENT DEVELOPMENT VARIABLES

Variable	Group I n mean s.d.	Group II n mean s.d.	Group III n mean s.d.	pF _{I vs II vs III}	pI _{I vs II and III}
GNPERSOC	64 12.619 2.426	55 12.648 3.010	56 12.842 2.827	.8932	.772
-GNVALUES	64 2.078 .514	55 2.073 .572	56 2.035 .625	.9060	.787
-GNSELF	64 2.734 .761	55 2.815 .848	56 2.862 .783	.6680	.405
-GNOTHERS	64 2.906 .684	55 2.830 .841	56 3.034 .7940	.3756	.819
-GNTEAM	64 2.531 .776	55 2.518 .863	56 2.500 .863	.9787	.868
-GNHEALTH	64 2.333 .915	55 2.407 .921	56 2.431 .819	.8182	.539
ASF VARIABLES					
-CONF	64 2.2969 .8851	55 2.6000 .9545	56 2.4821 1.0089	.2140	.103
-JOB	64 2.2188 .8446	55 2.4000 .8300	56 2.3750 .9451	.4657	.220
-PERSPROB	64 2.2031 1.1294	55 2.5091 1.0519	56 2.4286 .9882	.2625	.113
-GOALS	64 2.4219 .9395	55 2.6909 1.1201	56 2.5893 1.0579	.3597	.182
-GOODADV	64 3.1250 .9512	55 3.1636 1.0674	56 3.1964 .9802	.9257	.726
-EFFORT	64 2.2500 .9759	55 2.4727 .9399	56 2.4286 .8498	.3763	.169
VISITS	64 2.3750 1.4086	55 2.6909 1.5501	56 2.1607 1.1406	.1280	.814

However, the rankings on five of the six were the same: students in Group II had the highest scores, then students in Group III, then students in Group I.

Impact of Visits. Table 9 lists the correlations of the six advising outcomes with the number of visits students initiated to the advisor. The correlation of the number of visits with the CSEQ variable Personal-Social Gains was -.0863, $p = .129$, as noted on Table 3.

As noted in Table 3, visits to see the advisor during the first two terms did not have a significant correlation with the Personal-Social Gains scores. As noted in the last row of Table 9 there was a significant negative correlation between the number of self-initiated visits to an advisor and two of the subscales, GOODADV and WORKED. Students who initiated more visits to the advisor were less likely to agree that good advising was important to them or that they had put effort into advising.

Category of Follow-up Call. Table 10 contains the means, standard deviations, and probabilities of test statistics within the subdivisions of Groups II (by the different follow-up call categories) on the six advising outcomes, Variable 7. Similar to Table 4, this table first lists the students in Group II in the four possible categories: received no follow-up call or received a call after the first, second, or third interventions. The first test refers to the analysis of variance among the four categories and the second one, to the orthogonal contrast between those receiving no call (Category 1) and those receiving a call (Categories 2-4).

TABLE 9
CORRELATIONS OF ADVISING OUTCOMES AND VISITS

	CONF	JOB	PERS- PROB	GOALS	GOOD- ADV	EFFORT
JOB	.6115 p < .001					
PERSPROB	.3162 p < .001	.3643 p < .001				
GOALS	.4066 p < .001	.3245 p < .001	.1438 p = .029			
GOODADV	.2761 p < .001	.2712 p < .001	.1067 p = .080	.2474 p < .001		
EFFORT	.3800 p < .001	.3665 p < .001	.3997 p < .001	.3295 p < .001	.3967 p < .001	
VISITS	.0652 p = .196	-.0576 p = .224	.0453 p = .276	.1089 p = .076	-.1853 p = .007	-.2006 p = .004

TABLE 10
MEANS, STANDARD DEVIATIONS, AND PROBABILITIES
OF TEST STATISTICS ON ADVISING OUTCOMES
BY FOLLOW-UP CALL CATEGORY
WITHIN GROUP II

Variable	Category 1	Category 2	Category 3	Category 4	$pF_{1 \text{ vs } 2 \text{ vs } 3 \text{ vs } 4}$	$pt_{1 \text{ vs } 2 \cdot 3 \cdot 4}$
	No Call	Call after 1st	Call after 2nd	Call after 3rd		
	n mean s.d.	n mean s.d.	n mean s.d.	n mean s.d.		
CONF	22 2.5000 1.0118	12 2.4167 .6686	9 3.0000 .7071	12 2.6667 1.2309	.5194	.467
	22 2.3636 .9021	12 2.5000 .9045	9 2.5556 .5270	12 2.2500 .8660	.8280	.761
	22 2.5000 1.1443	12 2.4167 .9962	9 2.3333 1.1180	12 2.7500 .9653	.8162	.999
JOB	22 2.6818 1.1705	12 2.9167 .9003	9 3.2222 .6667	12 2.0833 1.3114	.1062	.845
	22 2.9545 1.1742	12 3.3333 .9847	9 3.4444 .7265	12 3.1667 1.1934	.6333	.233
	22 2.5909 .9591	12 2.5833 .9962	9 2.6667 .7071	12 2.0000 .9535	.2732	.500

Table 11 contains similar information for students in Group III who are in one of seven categories: received no follow-up call or received a call after the first, second, third, fourth, fifth or sixth interventions. The first test statistic refers to the analysis of variance among the seven categories. The second test statistic refers to the orthogonal contrast between those receiving no call (Category 1) and those receiving a call (Categories 2-6); and the third, to the orthogonal contrast between those receiving a call first term (Categories 2-4) and those receiving a call second term (Categories 5-7).

There appears to be no impact of the category of follow-up calls on the scores of the Advising Outcomes, although the sizes of the subgroups are not equal. As seen in the last two columns of Table 10, there were no differences within Group II among the four possible subgroups or among those who received a call and those who did not receive a call. Similarly, as noted in the last three columns of Table 11, within Group III there were no differences among the seven possible groups, between those who received a call and those who did not, or between those who received a call first term and those who received a call second term.

Similar to Table 6, Table 12 contains the two-way ANOVA of scores on the Advising Outcomes by group (Groups II and III) and follow-up call category. The test statistic and probability are listed for the main effects and interaction for each of the six Advising Outcomes.

The two-way ANOVA of scores on the Advising Outcomes scales analyzed by call status and group yielded no significant main effects. Given the probability of finding at least one significant difference using the .05

TABLE 11
MEANS, STANDARD DEVIATIONS, AND PROBABILITIES
OF TEST STATISTICS ON ADVISING OUTCOMES
BY FOLLOW-UP CALL CATEGORY
WITHIN GROUP III

VARIABLE	Category 1 No call		Category 2 Call after 1st		Category 3 Call after 2nd		Category 4 Call after 3rd		Category 5 Call after 4th		Category 6 Call after 5th		Category 7 Call after 6th		PF _{1,4,5,6,7}	PF _{4,5,7}	PF _{2,4,5,7}
	n	mean s.d.	n	mean s.d.	n	mean s.d.	n	mean s.d.	n	mean s.d.	n	mean s.d.	n	mean s.d.			
CONFIDENCE	2	2.0000 .0000	11	3.0909 .7006	13	2.0769 1.3205	11	2.3636 .8090	2	1.5000 .7071	9	2.7500 1.0138	8	2.7500 .8864	.1551	.585	.459
JOB	2	3.0000 1.4142	11	2.5455 .9342	13	2.0769 1.1875	11	2.4545 .9342	2	1.5000 .7071	9	2.2222 .6667	8	2.7500 .7071	.4586	.286	.525
PERSONAL PROBLEMS	2	2.5000 .7071	11	2.5455 .8202	13	2.3077 .8549	11	2.4545 1.5076	2	2.5000 2.1213	9	2.2222 .6667	8	2.6250 .9161	.9850	.939	.970
GOALS	2	2.5000 .7071	11	2.8182 .8739	13	2.0000 1.0000	11	2.9091 .8312	2	2.5000 2.1213	9	3.0000 .8660	8	2.3750 1.5059	.3009	.895	.888
GOOD ADVICE	2	4.0000 .0000	11	3.2727 .9045	13	2.9231 .9541	11	3.0000 1.0954	2	3.5000 .7071	9	3.1111 1.3642	8	3.6250 .5175	.6087	.297	.299
EFFORT	2	2.5000 .7071	11	2.5455 1.1282	13	2.2308 .7205	11	2.0909 .8312	2	2.5000 .7071	9	2.3333 .5000	8	3.1250 .8345	.2248	.962	.194

TABLE 12
RESULTS OF TWO-WAY ANOVA
ON ADVISING OUTCOMES VARIABLES
BY GROUP AND FOLLOW-UP CALL CATEGORY

	MAIN EFFECTS				INTERACTION	
	Group		Call Category			
	F	pF	F	pF	F	pF
CONF	.782	.379	.730	.626	2.630	.054
JOB	.000	.988	.749	.612	.916	.436
PERSPROB	.058	.811	.240	.962	.160	.923
GOALS	.334	.564	.605	.726	3.403	.021
GOODADV	.232	.631	.480	.822	1.044	.376
EFFORT	.327	.569	1.824	.102	.353	.787

level among the 18 comparisons, one significant interaction, as given in the last column of the table, was found. As noted on Figure 1, on the question, "I know how to achieve my goals at Virginia Tech", students in Group III who were called after the second intervention (registration meeting) had much lower scores than anticipated, compared to Group II; and students in this same group who were called after the third intervention (letter about examinations and vacation) had much higher scores than anticipated. Since the seven group sizes varied, so dramatically, caution must be exercised in interpreting these results.

THE IMPACT OF THE DURATION OF INTERVENTIONS

Table 13 contains a summary of the test statistics and probabilities on all variables for the orthogonal contrast of the two experimental groups. The means and standard deviations for Groups II and III are listed on Tables 1, 7, and 8. Group II received three interventions for one term; and Group III, six interventions for two terms.

As noted in the last column of Table 13, there were no significant differences between the two experimental groups on any of the seven variables. Group II was more persistent in both and winter and spring terms (Variable 1), Group III had higher progress scores in all three terms (Variable 2), and Group II had higher scores on five of the six ASF Advising Outcomes scales (Variable 7). Otherwise no patterns were observed.

FIGURE 1

INTERACTION OF CALL STATUS AND GROUP
ON GOALS STATEMENT FROM ASF

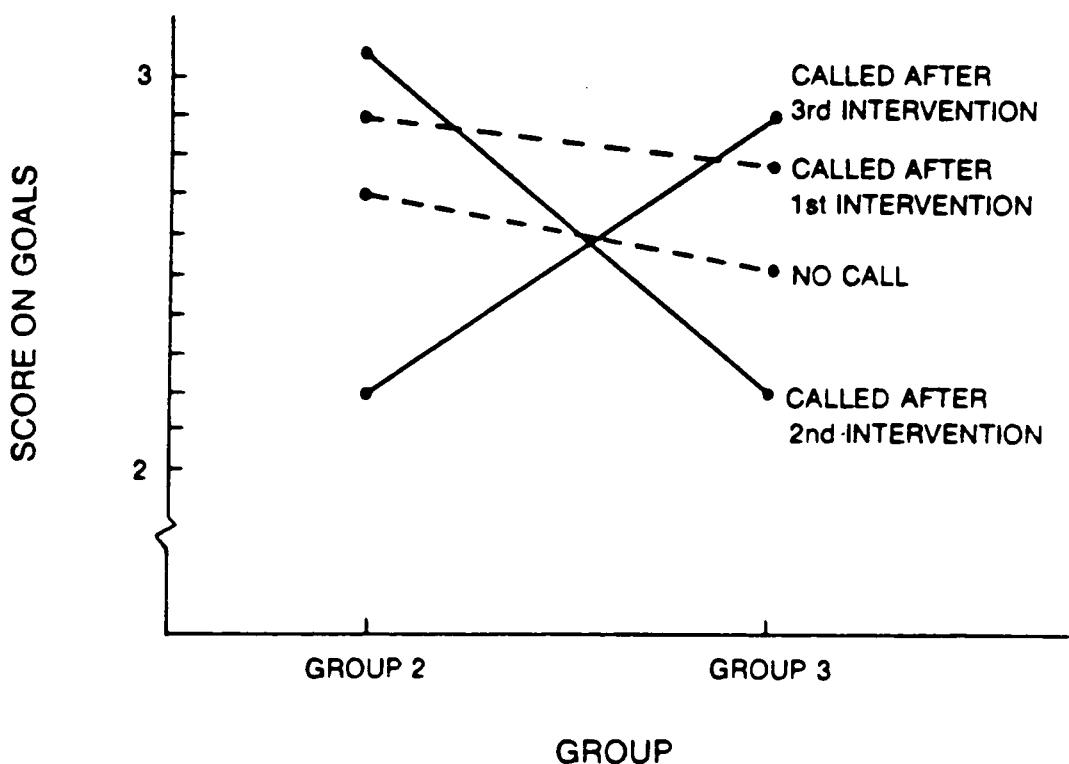


TABLE 13
TEST STATISTICS AND PROBABILITIES OF TEST STATISTICS
CONTRASTS OF GROUPS II AND III
ON ALL VARIABLES AND GPA

Variable	t	pt _{II vs III}
Persistence after Winter	.435	.664
Persistence after Spring	.280	.780
Progress after Fall	-.600	.549
Progress after Winter	-.825	.410
Progress after Spring	-.636	.525
GPA after Fall	-1.585	.114
GPA after Winter	-.446	.656
GPA after Spring	.114	.909
Intellectual Gains	-.660	.510
Personal-Interpersonal Experiences	1.837	.068
Academic Experiences	-.208	.835
Personal-Social Gains	.371	.771
Advising Outcomes		
Confidence	.655	.513
Job Preparation	.151	.880
Personal Problems	.400	.690
Goals	.516	.606
Importance of advising	-.173	.863
Effort into advising	.251	.802

RESPONSE TO THE INTERVENTIONS

Loglinear Analyses

To answer the third research question, telephone calls were made to small groups of students who had received the different interventions (i.e. to 15-20 students in Group II after Interventions 1-3 and to 15-20 students in Group III after Interventions 1-6.) Each set of follow-up questions contained the common question, "Did this [intervention] make you feel someone cared about you?" and three to six additional questions about the effectiveness of the particular intervention. See Attachments I through N for the scripts of each follow-up call.

The data were scored using No = 0 and Yes = 1; each student had a score (0 or 1) on the common question about caring. Each student also had a score of 0 or 1 on the three to six additional effectiveness questions on each intervention. A percentage-yes score was computed for each respondent; for example, a student who answered yes to two of the three questions specific to Intervention 1 would have a percentage-yes score of .67. Since the sample size was small, and since the chi square analyses have a minimum number of cell frequencies less than five, the percentage-yes scores were recalculated into quartiles. Percentage-yes scores of 0 through .25 were in the first quartile; .26 - .50, in the second quartile; .51 - .75, in the third quartile; and .76 - 1.00, in the fourth quartile. As an example, the aforementioned percentage-yes score of .67 would be in the third quartile. Quartiles were the largest

recalculation denomination that would permit the chi square test to be computed.

Because of the categorical nature of the data, a loglinear analysis, specifically the logit model, was used to test whether the six interventions differed appreciably in the responses to the follow-up questions (Kennedy, 1983). The model employs Fisher's L^2 chi statistic, the likelihood ratio chi square, as the test of homogeneity.

Table 14 indicates the results of the loglinear analysis on the caring question common in the follow-up questions to the six interventions. The observed count is the number of yes responses. The expected count was entered on the basis of the row and column totals. For example, in response to Intervention 6, 15 students (two No and 13 Yes) were called and 14.71% of responses to all six interventions to the common caring question were "No". Thus we would expect (15) (.1471) = 2.21 of the responses to Intervention 6 to be "No".

The residual, the difference between observed and expected outcomes, is positive if the intervention had more responses in this category than one would expect and negative if the intervention had fewer responses in this category than one would expect. The standardized residuals (R) permit interpretation of the differences: for example, if the absolute value of the standardized residual (R) is greater than two, this cell is a major contributor to the significant L^2 (Haberman, 1973).

As noted in Table 14, there were significant differences among the interventions on the common caring question ($L^2 = 16.68008$, $p = .005$). The responses to the caring question were high (67% to 100%) for all

TABLE 14
LOGLINEAR ANALYSIS OF COMMON QUESTION ABOUT CARING

Response	Intervention	Observed Count	(%age)	Expected Count	(%age)	Residual	Stand. Residual (R)
No	1	13	(32.5)	5.88	(14.71)	7.1176	2.9347
	2	6	(15.0)	5.88	(14.71)	.1176	.0485
	3	3	(7.5)	5.88	(14.71)	-2.8824	-1.1884
	4	1	(5.0)	2.94	(14.71)	-1.9412	-1.1319
	5	0	(0.0)	2.21	(14.71)	-2.2059	-1.4852
	6	2	(13.33)	2.21	(14.71)	-.2059	-.1386
Yes	1	27	(67.50)	34.12	(85.29)	-7.1176	-1.2186
	2	34	(85.0)	34.12	(85.29)	-.1176	-.0201
	3	37	(92.5)	34.12	(85.29)	2.8824	.4935
	4	19	(95.0)	17.06	(85.29)	1.9412	.4700
	5	15	(99.9)	12.79	(85.29)	2.2059	.6167
	6	13	(86.7)	12.79	(85.29)	.2059	.0576

$$\chi^2 = 16.68008 \quad p = .005$$

interventions. As noted in the last column, Intervention 1 (the introductory phone call) had fewer positive caring responses than anticipated ($R = 2.9347$) and Intervention 5 (the letter about registration) had more positive caring responses than anticipated ($R = -1.4852$).

Table 15 contains the results of the loglinear analyses of responses to the effectiveness questions. Similar to Table 14, the observed count is the percentage-yes response by quartile; and the expected count was entered on the basis of the row and column totals. For example, 40 students (one in the first quartile + seven in the second + 17 in the third + 15 in the fourth) were called after Intervention 1; and 3.53% of the responses to all six interventions were in the first quartile. Thus, one would expect $(40) (.035) = 1.41$ of the responses to Intervention 1 to be in the first quartile. The residual, the difference between observed and expected outcomes, is positive if the intervention had fewer responses in this quartile than one would expect. The standardized residuals (R) are used to interpret the differences, as noted above.

There were significant differences among the effectiveness questions, as noted at the bottom of Table 15 ($L^2 = 72.45918$, $p < .001$). Intervention 1 (introductory call) had more Quartile 3 responses than expected (standardized residual = 3.1820). Intervention 2 (registration meeting) had fewer Quartile 2 and 3 responses than anticipated (standardized residual = -2.2232 and -2.1213 respectively) and far more Quartile 4 responses than anticipated (standardized residual = 2.7392.) Conversely, Intervention 3 (letter about examinations and vacation) had

TABLE 15
LOGLINEAR ANALYSIS OF EFFECTIVENESS QUESTIONS

Quartile	Intervention	Observed Count	(%age)	Expected Count	(%age)	Residual	Stand. Residual (R)
1	1	1	(2.5)	1.41	(3.53)	-4118	-3466
	2	2	(2.5)	1.41	(3.53)	-4118	-3466
	3	1	(2.5)	1.41	(3.53)	2.5882	2.1783
	4	4	(10.0)	.71	(3.53)	-.7059	-.8402
	5	0	(0.0)	.53	(3.53)	-.5294	-.7276
	6	0	(0.0)	.53	(3.53)	-.5294	-.7276
2	1	7	(17.5)	8.47	(21.18)	-1.4706	-.5053
	2	2	(5.0)	8.47	(21.18)	-6.4706	-2.2232
	3	18	(45.0)	8.47	(21.18)	9.5294	3.2742
	4	5	(25.0)	4.24	(21.18)	.7647	.3716
	5	1	(6.7)	3.18	(21.18)	-2.1765	-1.2212
	6	3	(20.0)	3.18	(21.18)	-.1765	-.0990
3	1	17	(42.5)	8	(20.0)	9.0000	3.1820
	2	2	(5.0)	8	(20.0)	-6.0000	-2.1213
	3	0	(0.0)	8	(20.0)	-8.0000	-2.8284
	4	8	(40.0)	4	(20.0)	4.0000	2.0000
	5	2	(13.3)	3	(20.0)	-1.0000	-.5744
	6	5	(33.3)	3	(20.0)	2.0000	1.1547
4	1	15	(37.5)	22.12	(55.29)	-7.1176	-1.5134
	2	35	(87.5)	22.12	(55.29)	12.8824	2.7392
	3	18	(45.0)	22.12	(55.29)	-4.1176	-.8755
	4	7	(35.0)	11.06	(55.29)	-4.0588	-1.2205
	5	12	(80.0)	8.29	(55.29)	3.7059	1.2868
	6	7	(46.7)	8.29	(55.29)	-1.2941	-.4494

$$\chi^2 = 72.45918 \quad p < .001$$

far more Quartile 1 and 2 responses than anticipated (standardized residual = 2.1783 and 3.2742 respectively) and far fewer Quartile 3 responses than expected (standardized residual = -2.8284).

Three different formats were used: Interventions 1 and 4 were calls, 2 and 6 were meetings, and 3 and 5 were letters. There appears to be no trend in perceived caring among formats; although both letters had more yes's than expected, the standardized residuals were relatively small (.4935 for Intervention 3 and .6167 for Intervention 5). In response to the effectiveness questions specific to the Intervention, the two meetings had fewer low-quartile negative standardized residuals; i.e. they had fewer low scores than one would expect. If one adds the two upper quartile scores by format, the most effective were calls and the least, letters.

The second term interventions, 4-6, had higher average standardized residuals on the "Yes" response than first-term interventions 1-3. Similarly, the second term interventions had higher average upper two quartile responses than first-term upper-two quartile responses.

The number of responses in each group is not equal, thus caution must be exercised in interpreting the data. Forty-responses, 25 and 15 each from Groups II and III respectively, were collected following interventions 1, 2, and 3; and 20, 15 and 15 were collected from Group III after interventions 4, 5, and 6 respectively.

Additional Observations

A log was kept of all non-solicited responses to follow-up questions, and the comments were categorized. In the 170 calls, 42 students made comments about the particular intervention or the overall program.

Over 4/5 (35) of these were categorized positive. About half of these unsolicited positive comments (18) addressed the positive impact on their orientation to the university. Typical of this category were comments such as "Yours was the first friendly call I had on campus" and "I was afraid I would be a number, but the letter made me feel someone knew me." Another ten positive comments addressed the positive impact on other students. Examples included "My roommate who's a (non-business) major wishes she had had a registration meeting" and "I gave my friends who's a (non-business) major lots of summer job tips after the meeting." Four of the positive responses mentioned the positive impact on family members. One student said, "My parents read the letter on vacations and really appreciated it;" and another reported, "My brother who's a junior at [a smaller university] couldn't believe you called me to discuss my [poor] grades." The final three positive comments addressed the impact of the timeliness. One student said of the exam hints, "The letter came just when I needed it. I changed my whole study plan and I did better than I thought I would."

Four of the remaining seven comments could be categorized as critical of the intervention or overall program. Examples are "It was just another form letter" and "It's not fair that I got invited to the meeting but (my

business major roommate) did not." The remaining three were questions about the interventions: "Why did I get called by my advisor when (friend who is in business) did not?" "Will you call me every month?" and "Could I help do this for freshmen next year?"

DISCUSSION

SUMMARY OF THE STUDY

Although over one-third of all colleges and universities have advising centers staffed by non-faculty, often with advisor:advisee ratios of 1:300 or more, existing research does not include systematic investigations of the impact of routine interventions of advising centers. Previous studies have focused on student satisfaction with individual advisors, the relative merits of various delivery systems, subgroups of students with special advising needs, and special faculty-sponsored advising programs such as freshman courses in the university. Unlike the existing research, this study centered on advising outcomes, not satisfaction with the process; specific interventions based on developmental theory from an advising center, not the merits of a center vs. traditional advising; an entire white freshman class, not a specialized subgroup; and non-faculty advisor interventions, not programs available only to faculty advisors. The purpose of this study was to assess the impact of academic advising center interventions on freshman academic achievement, involvement in the university, and certain developmental outcomes.

The conceptual framework for the study was developed from a variety of sources. The theories of Murray (1938), Stern (1964) and Paul (1980) emphasized the potential of individual environment interaction; while

Glennen (1976), Pascarella and Terenzini (1977a), and Endo and Harpel (1982), among others, have characterized student-college interactions. The use of interventions as catalysts for promoting such interaction are best noted by Morrill, Oetting, and Hurst (1974) and Tinto (1982); and the developmental theories of Stern (1966), Chickering (1969), and Gordon (1981) point to the freshman year as the pivotal one for the implementation of such theories. Using the concepts of developmental academic advising (Crookston, 1972; O'Banion, 1972; Winston & Sandor, 1984b), Crockett (1984) and Habley and McCauley (1987) operationalized and evaluated the various advising delivery systems. The studies of Astin (1977), Grites (1977), Chickering and Havighurst (1981), and Terenzini, Pascarella, and Lorgan (1982), among others, have identified specific areas of potential impact for advising interventions.

The College Student Experiences Questionnaire (CSEQ) developed by Pace (1979; 1983) was used to measure the involvement in personal-interpersonal experiences, involvement in academic experiences, intellectual gains, and personal-social gains. The Advising Survey Form (ASF) developed by Kramer and Gardner (1979) was used to measure desired student development outcomes. Academic records were obtained for grades, academic persistence, and academic progress (number of required courses passed) toward the degree; and advisor logs were reviewed for recording the number of visits a student initiated to the advisor. Also, following each intervention a small group of students were called for an assessment of that particular intervention, relative to the goals of that intervention.

A random sample of 300 freshmen was selected from 628 freshmen in a college of business; and these 300 were randomly assigned to one of three treatment groups: a traditional advising center (Group I); an additional three interventions during the first term (Group II); and an additional six interventions, three the first term and three the second (Group III). Academic persistence, progress, and grade point averages were collected on the sample. From the 260 students still enrolled at the beginning of the third term, 175 (67.3%) usable responses were collected to the College Student Experiences Questionnaire (CSEQ) and Advising Survey Form (ASF); the response rate ranged from 65.9% to 68.1% for each of the three groups.

FINDINGS AND DISCUSSION

Few significant differences were found among the three groups (I vs. II vs. III), between the no-intervention group and the two groups receiving interventions (I vs. II and III), or between the two groups receiving interventions (II vs. III). This is not entirely surprising since behavioral outcomes are complex in origin and since the measurement of advising outcomes is relatively new and inexact. Moreover, some facets of the evaluation could not be controlled to the extent one might wish. For example, Group I, the "control group," could not ethically be deprived of advising assistance since these students shared the same contract with the university as students in the other groups. Nor could one control all the sharing inherent in the students' living with one another; the

letter interventions or information given in telephone call interventions could easily be shared with residence hall friends, classmates, etc.

Nevertheless, many precautions were taken. The sample size and response rate were sufficient to guarantee the power to detect differences, were they to exist. Further, the pre-existing variable of academic aptitude, as measured by scores on the Scholastic Aptitude Test, was eliminated as a contributing factor through comparisons of the scores of the sample and of the questionnaire respondents.

Two other factors were studied as possible contributors---visits to the advisor and follow-up calls to evaluate the intervention. Could the sheer number of student-initiated contacts with a non-faculty advisor contribute to differences on the variables, as it was suggested with faculty contacts (Astin, 1977)? The number of visits among the three groups did not vary, and the number of visits had a significant correlation with only two of the variables. Not surprisingly, academic progress, grade point averages, and two ASF scales had significant negative correlations with the number of visits. Students who had dropped and failed required courses or were not doing well overall would be expected to see their advisors for revised course selections, approval on forms to eliminate low grades, permission to makeup coursework in summer, and referrals for study skills help.

The follow-up calls to evaluate the six interventions might be perceived as interventions of their own. Therefore, the responses on the non-CSEQ variables were compared three ways---across the interventions after which they were called, by being called vs. not being called, and

by the term in which they were called. Two significant differences were found. Students in Group II who received a call were significantly more persistent after spring than other members of Group II who did not receive a call. This significant result may be explained simply by the fact that those who had left could not be called. Secondly, students in Group III who received a call had significantly higher grades after spring than the students in Group III who did not receive a call. No obvious reason appears for this second significant result. However, only four students were in the group receiving no call.

Further, a two-way analysis of variance was conducted on all non-CSEQ variables using the independent variable, Group (II or III) and the Follow-up Call Category (Category 1 - 4 for Group II, and Category 1 - 7 for Group III.) This analysis yielded one significant result, the interaction between Group and Call Category on the ASF question, "I know how to achieve my goals at Virginia Tech." Among Group III students, those called after the second intervention (registration meeting) had lower scores than expected and those called after the third intervention (letter about exams and vacation) had higher scores than expected. There is no obvious explanation why members of Group III responded differently than their cohorts in Group II who were called at the same time, when both groups received the identical invitations, attended the same meeting, received the same follow-up calls, and responded to the same ASF question about goals.

Research Question 1: Do the interventions have an impact . . . on the Academic Variables?

Analysis of variance yielded no difference among the three groups on academic persistence, academic progress, grade point average, or intellectual gains. There was only one significant difference among all the contrasts of the no-intervention group, Group I, with the two intervention groups, Groups II and III: students in Group I were more persistent at the end of the third term than those in Groups II and III. This finding was not expected since it did not support Enos (1983) who is one of the few researchers who measured retention after just one year and who found improved rates among students in universities where advising was emphasized. Although the available withdrawal interviews of those who did not persist yielded no obvious differences in reasons for leaving, the groups receiving interventions may have been more aware of their options to withdrawal and more comfortable exercising these options.

On the three measures of Academic Progress, the ranking of the groups was the same: Group III had the highest number of courses passed, then Group II, and finally Group I. At the end of all three terms, Groups II and III also had higher grades than Group I. These two patterns are consistent with similar studies on improved academic performance with increased faculty-student contacts (Endo & Harpel, 1982; Glennen, 1976; Pascarella & Terenzini, 1988a) and with increased emphasis on advising in general (Beal & Noel, 1980; Glennen, 1987; Habley, 1981; Hutchins & Miller, 1979).

In the four subscales of Intellectual Skills Gains (Analytic Gains, Quantitative Gains, Synthesizing Gains, and Inquiry Gains), Group I had consistently higher scores than Group III. Although there is no known similar study with which to compare these results, the higher ranking of Group I was curious. Perhaps since the interventions often emphasized preparation for future demands, students in Groups II and III may have acquired a reduced opinion of the gains already made. Conversely, for example, students in Group I who had not had the meetings and conversations about the quantitative courses yet to come might have been more impressed with the quantitative gains already acquired. Perhaps for Group I, ignorance of the demands of the future put a blissfully inflated interpretation on the present progress.

.... on the Involvement Variables?

There were no significant differences between the quality of effort into involvement in personal and interpersonal experiences or into involvement in academic experiences; nor were there any statistical differences between the non-intervention group and the two groups receiving interventions. In both of these variables Group III had the highest scores, then Group I, then Group II. There were no patterns among the subscales of either scale. On one subscale, Personal Experiences, Group III scored significantly higher than Group II. This one statistical finding would support the parallel studies on faculty advising which showed increased involvement in the university with increased contact

with faculty (Glennen, 1976; Terenzini, Pascarella, & Langan, 1982; Stern, 1964).

There were significant differences between the no-intervention group and the two intervention groups on two involvement subscales. Group I was significantly higher than Groups II and III on the Student Acquaintance subscale. Since Groups II and III had more formal contacts with their advisors, they may have used them as their source of information and did not have the need for more student contacts. The finding that Group I was significantly lower on the Library Experience Scale than the other two parallels the previously cited work on involvement in the university when faculty contacts increased. Perhaps the reason the difference appeared on this variable is the emphasis advisors place on using academic resources and the relative newness of other areas such as experiences with faculty.

.... on the Student Development Variables?

There were no significant differences among the three groups on personal and social gains scale, in any of the five subscales, or in the six outcomes scales of the Advising Survey Form. Neither were there any significant differences between the no-intervention group and the two groups receiving interventions. There were no patterns among the subscales of the personal and social gains variable. However, on five of the six outcomes of the ASF, the one instrument designed to measure advising outcomes, Group II had the highest scores, then Group III, then

Group I; and among these six variables there were the greatest mean differences, albeit not significant, between the no-intervention group and the two groups receiving interventions. This pattern supports similar studies on faculty advising which resulted in increased positive self-concept (Grites, 1980) and development (Chickering & Havighurst, 1981), improved decision making (Janis & Mann, 1977) and increased value of such skills (Ender & Winston, 1982). The pattern also supports the critical nature of the first few weeks of the freshmen year (Gordon, 1981; Stern, 1966).

Research Question 2: Does the duration of these interventions affect the impact?

There were no significant differences between Group II who received interventions for one term and Group III who received interventions for two terms. Although other studies did not compare lengths of interventions, some imply that the more contacts, the better (Kramer, Arrington, & Chynoweth, 1985; Pascarella & Terenzini, 1977a). Only Stern (1966) hypothesized that impact beyond the first few weeks was superfluous. These results do not support either of these perspectives.

Research Question 3: Are particular interventions more successful than others?

All six interventions had highly positive responses on perceived caring; at least 2/3 of the respondents to each intervention said the intervention made them feel someone cared for them. In both perceived caring and effectiveness, the number of positive responses increased from first term to second term. These findings are congruent with other studies on the importance of concern and warmth in advising relationships and the importance of a continuous relationship (Borgard, 1981; Drum, 1980; Jurich, 1984; Kramer, Arrington, & Chynoweth, 1985). Since the telephone calls supported the maximum opportunity for behavioral assessment and feedback, they elicited higher levels of perceived effectiveness (Basil & Cook, 1974; Crookston, 1972; Trosen, Fouch, & Mussop, 1985). The comparative effectiveness of the group meetings supports other findings on the successful results of group meetings (Jenkins, 1981; Lewis, 1972); and the particular success of the second intervention, the registration meeting, illustrates the importance of interventions arriving at critical decision points (Chickering, 1969; Tiedeman & O'Harar, 1963).

IMPLICATIONS FOR PRACTICAL APPLICATION

Given the lack of significant differences among the three groups on the seven variables, the practitioner receives no definitive command to

implement such a program of interventions. However, three other findings support such an implementation, if resources permit, at least for one term. First, the one instrument designed to measure advising outcomes, the ASF, demonstrated the largest differences between the no-intervention group and the two groups receiving interventions. Also, the evaluations of the interventions were overwhelmingly positive; both the scored responses and the unsolicited comments would support such a program. Finally, the alternative of the traditional advising approach of waiting for students to initiate visits was not effective either. Student-initiated visits did not correlate significantly with persistence, intellectual gains, the involvement variables, or the student development variables. Merely waiting for the student to come by will generally not be effective, and even when students did initiate visits, there were no predictable, positive consequences.

At least three directions are indicated for implementation in the responses to the third research question. First, the meeting and telephone call formats were better received than letters. These more personal formats should be used whenever possible.

Secondly, both perceived caring and effectiveness had an apparent cumulative effect. These increases occurred despite different formats, content, and goals of the interventions. These findings parallel the importance of the frequency of student-faculty contacts (Astin, 1977). A practitioner, therefore, should implement a series of interventions rather than a single one.

Finally, the practitioner should note again the overwhelmingly positive responses to the perceived caring question. These responses reaffirm the often-found point in retention and advising literature---the pivotal importance of caring (Cunningham, 1975; Grites, 1981; Hardy, 1976; Pascarella & Terenzini, 1977a; Polson & Jurich, 1981). The practitioner must recognize the need to address the "how" one does advising as well as the "what" and "when."

RECOMMENDATIONS FOR FURTHER RESEARCH

More connectedness of theory on advising is needed, especially in role definition of advisor and advisee, expected outcomes, and relationships to other aspects of university life. The current body of knowledge, perhaps best described as a patchwork of borrowings from other fields, includes unarticulated assumptions about advisee expectations; and outcomes are often described in imprecise terms such as achievement, involvement, or growth. With more specific definitions of expectations and outcomes, interventions could be more finely designed at more exact critical decision points. Although needs exist both in faculty and professionally-staffed center advising, there is a particular lack of focus on the centers.

More research is needed on operationalizing advising outcomes and developing instruments sensitive to these outcomes: existing tools need more exploration and new questionnaires and surveys need to be designed. At the time this study was proposed, letters to authors of related studies

often yielded self-designed questionnaires which had not been tested beyond face validity. Unless such instruments are developed and tested further, researchers collect data in vain.

Other factors important to advising outcomes need identification and exploration. Information on students beyond just class, race, and academic aptitude might be helpful in explaining the broad range of advising outcomes as they are currently described. Would it matter if students had declared a major, were living in a special freshmen-support residence hall, had a part-time job, wanted to be at that school/in that major, had educated parents/older siblings, or were enrolled in workshops on career choice or study skills? Including factors such as these might provide clues into a model of the various factors that predict academic achievement, involvement, and student development.

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ATTACHMENT A

DIRECTIONS FOR CALLS

1. Look up phone number on IMS (UNDGADM-Demographic) and write in on list to right of last column. (Please keep lists as neat as possible.)
2. Pull student file so that you have yellow log sheet handy.
3. Script:
This is (Name) from the College of Business Advising Center in Pamplin Hall. How are you this morning/afternoon?

I am calling to check on your progress and remind you of our advising services. How are your classes going? Have you been attending? Is the homework understandable?

If red letter (1) printed next to name: This summer you indicated you were interested in (2). I wanted to let you know that (3)

1 2 3

A Study Abroad Dr. Schuetz in the Cranwell Center has all the information. You can call him at 961-6527 or walk over. The Cranwell Center is behind the trees off Washington Street, near Cassell Coliseum.

C Co-op On Sunday, November 1, the Co-op Office will have a group information session in 113 McBrude at 2 pm. If you can't attend that meeting, please see Mr. Tate, 252 Henderson Hall.

L Lacrosse Professor Joel Nachlas (Nah-clahs) is organizing a club. His office number is 961-5357.

M Majors I could send some info on Business majors or refer you to the Dean's Office in another College.

P Computers Professor Sam Hicks will be happy to talk to you. He is in 222-V Burruss or you can call him at 961-6591.

R Speed Reading The Counseling Center begins a 5-week course Sept. 28th in 151 Henderson Hall. Classes

		meet MWF at 10 or 2. Signup is in 152 Henderson Hall.
S	Study Skills	The Counseling Center classes begin Sept. 22 (or Oct. 8) T, Th at 11 or 2. (October-MW at 1). There will also be a session for studying for midterms October 13 at 4 and one for finals Nov. 3 at 4. For any of these, please sign up in 152 Henderson Hall.
T	Time Management	The Counseling Center has some helpful handouts in 152 Henderson Hall
W	Writing skills	The Writing Center is located in 124 Williams Hall and is open weekdays 9-noon and 1-4. Their number is 961-5436 and you do not need a faculty referral for general help.

The Business Advising Center is open each weekday 9-4 except Tuesday mornings. We're in 28 Pamplin and you don't need an appointment to see an advisor. I hope you'll come in if you have any questions.

(Time to ask anything).

Good luck this fall!!

4. On list, enter date of conversation between first name and in/out columns.
5. Enter notes on log sheet (Ex. 9/15 Called student. Referred to co-op. Worried about chemistry).
6. At end of your shift, please put the list in the wood GTA mailbox in Joan's office.
7. Please give this top priority after walk-ins. The calls must be completed by September 30 which means 25 completed calls/advisor/week.

ATTACHMENT B

THE R. B. PAMPLIN COLLEGE OF BUSINESS



VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

OFFICE OF THE ASSISTANT DEAN 1046 PAMPLIN HALL (703) 961-6602

September 28, 1987

John Doe
123 Main Street
Blacksburg, VA 24060

Dear John,

Although it was just three weeks ago that you began your first quarter, it is already time to plan for your next academic term. October 6-13 is Winter Quarter Registration Week when you need to complete and submit your registration OPSCAN form.

The College of Business Advising Center has scheduled group meetings to assist some of our freshmen with their winter registration. The sessions you should plan to attend are

Thursday, October 1, at 6:30 pm in 129 McBryde

or

Monday, October 5, at 5:30 pm in 100 McBryde.

We will be there to distribute your winter OPSCAN form and Time Table, and we will present information on course alternatives, registration procedures, and university resources. As we discussed this summer at orientation, it is your responsibility to know the curriculum, clarify your personal plans (e.g. attending summer school, adjusting the normal course load), and choose your courses and schedule. There will be plenty of time for individual questions.

We hope to see you on October 1 or 5. If you have anything you wish to discuss in the meantime, please stop by 28 Pamplin weekdays 9-4 or call us at 961-6602.

Sincerely,

ADVISING CENTER STAFF
Fred Drury Melvin Jones
Judy Grover Joan Moore

ATTACHMENT C

**FRESHMEN MEETING AGENDA
10/1 6:30 pm and 10/5 5:30 pm**

Distribute: OPSCANS
 Sign-in sheet
 Curriculum
 Calendar

I. WELCOME - Assistant Dean

Purpose of meeting:
 To share critical registration information
 To reintroduce Advising Center staff

Reminders:

Upcoming deadlines to drop fall courses and to register for winter

Resources on campus

Co-Op Information Session 11/1 2 pm 113 McBryde
Midterm Study Skills Session 10/13 4 pm Signup in 152 Henderson.

Writing Center 124 Williams, 9-noon and 1-4, Walk-in

Introduce Advisors

II. CURRICULUM REVIEW - Advisor

Pace 16 credits/quarter
University Core requirements
Planning for ACCT 1010
Honors English alternatives

III. USING THE TIME TABLE - Advisor

Selecting courses
Planning schedule
Completing forms

IV. QUESTIONS

V. REMINDERS

Form due no later than 4 pm 10/13/87 in 28 Pamplin
Conclude formal. Raise hands for individual questions, advisor will be there

ATTACHMENT D
THE R B PAMPLIN COLLEGE OF BUSINESS



VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

OFFICE OF THE ASSISTANT DEAN 1046 PAMPLIN HALL (703) 961-6602

November 2, 1987

John Doe
123 Main Street
Blacksburg, VA 24060

Dear John

Your first quarter of university life is nearly completed. Congratulations! As an advisor, I want to share with you some information and hints which have proved helpful to other new students as they face their first final exams and their first official break from college studies.

First, the dreaded finals. November 16-20 is examination week. Be sure you know when and where the exam is given, and begin preparing now by planning your study time. Make a study chart allotting needed time to each subject and then stick to it. If you have any questions about the details of the exam, ask the faculty this week. The enclosed hints for preparing your exams should be helpful to you.

Then, your reward. November 21-30 is your well-deserved quarter break and Thanksgiving holiday. Most of you will probably be joining your families, perhaps for the first time since you enrolled in September. Sometimes that first holiday back home is not as joyous as you had hoped. The reasons are varied and understandable. If you think about them. As a student who just completed exams, you arrive home exhausted; your ideas about spending time with old and new friends may conflict with family expectations; friends and family may have changed since you left; just as you have changed.

How can you enjoy and renew yourself as well as enjoy and renew relationships? My advice is similar to that regarding finals—begin preparing now. Discuss with family and friends how you would like to spend your time, anticipate ways your probable increased independence will fit in or clash with previous patterns, talk about all this in order to reduce shocks or conflicts. Everyone usually has the same goal of a good vacation and holiday. It is just the details which need attention.

We advisors are taking a holiday November 21-29, too, but we will be back again Monday, November 30. If you have any questions between now and the 20th, let me know. Good luck on exams and enjoy your vacation! Remember, winter classes begin Tuesday, December 1.

Sincerely

ADVISING CENTER STAFF
Fred Drury Melvin Jones
Judy Grover Joan Moore

chc

PREPARING FOR FINAL EXAMINATIONS

Finding out about the exam

1. Know when and where the exam is given. You would be surprised how many students miss their final because of some kind of mix up on scheduling.
2. Know what's important. Use the syllabus and earlier tests to decide what the instructor wants you to know from the course. Know the overall course outline and typical testing style. Know what the final will cover and with what weight.

Planning your time

3. You only have so much time to learn all of American History, Calculus and Biology. Use the time to your best advantage: make a study chart giving so much time to each subject. Plan early, so time is not your enemy. Allot extra time for subjects or topics in which you are weak.
4. Break up your subjects. Since you can't concentrate on one subject for hours on end, drop it and spend some time on another subject, then return to the original subject.

Studying

5. Subject matter is often organized according to the process of something, the development of something, the history of something or the comparative relationships of several things. Know the organizational system and make your own charts, diagrams or time lines to help you see the structure you are using.
6. If a particular course includes many specific points which you know that you must memorize, keep a card pack (3" x 5") on which you have placed the specific points. Add to this pack as you progress through the semester and eliminate cards from it as you learn the facts. Carry the pack with you and thumb through them off and on during the day rather than to spend an hour or more in one sitting trying to memorize the facts. Review all the cards before the examination.
7. Reward yourself. For every hour of real studying (not including re-reading the same sentence 15 times), give yourself a 10-minute break.
8. Eat well, dress well, sleep as much as possible. On your study breaks take a walk, listen to music--whatever you enjoy doing, as long as it's refreshing. Avoid breaks that turn into distractions, such as TV or phone conversations.
9. Don't depend on study groups unless you and the others have already studied the material.
10. Give yourself a final. Have some organized system for demonstrating to yourself that you know the material and can perform in the required manner (solving problems, answering questions, formulating proofs or

essays). If you don't know it in your room, you won't know it under pressure either.

The day of the test

11. Relax for the half-hour before the test, talk to a friend, eat a sundae, run around the drill field screaming--whatever relaxes you.
12. Panic is contagious. Stay away from the source of contagion--other students. Don't answer questions; if you do, those answers may become temporarily unavailable when you need them.

Prepared by your Advising Center Staff based on materials available in
The Learning Skills Lab, 151-G Henderson Hall.

ATTACHMENT E

DIRECTIONS FOR CALLS
December, 1987

1. Use telephone directory or IMS to obtain current number.
2. Pull student file so that you have fall grades and yellow log sheet handy. Check the fall grades to be sure which of the circumstances below apply.
3. Script:
This is (Name) from the College of Business Advising Center in Pamplin Hall. How are you this morning/afternoon?

I am calling to discuss your academic progress.

If student had a fall QCA of 3.4 or better: Congratulations on your excellent record. Fewer than 3 of our freshmen made Dean's list this year.

If a student has a D+, D, D- or F: I noticed you had some trouble with (subject). The Freshman Rule permits you to drop a D+, D, D- or F from your QCA. Explain procedures. Advise on repeats.

If fewer than 16 hours completed: I noticed you completed 9 hours. Our four-year curriculum plan includes 16 hours each freshman quarter. Are you planning to attend summer school? Explain alternatives, semester conversion implications.

If overall QCA is below 2.0: Later this month the Assistant Dean will mail you an information sheet on the academic eligibility you must meet to avoid being dropped at the end of spring quarter. That letter will include a formula to calculate what QCA's you need winter and spring quarter and provide some suggestions to improve your QCA. Explore weaknesses, needed repeats, semester implications if pace reduced, summer option.

If QCA above 2.0 & the proper 16 credits completed: It appears you are right on track in the curriculum and making progress toward your degree.

Do you have any questions about your courses this quarter?

The Business Advising Center is open each weekday 9-4. We're in 1046 Pamplin. I hope you will drop in if you have any questions.

(Time to ask anything.)

Good luck this quarter.

ATTACHMENT F
THE R. B. PAMPLIN COLLEGE OF BUSINESS



VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

OFFICE OF THE ASSISTANT DEAN 1046 PAMPLIN HALL (703) 961-6602

Blacksburg, Virginia 24061

January 5, 1988

Jane Doe
123 Main Street
Blacksburg, VA 24060

Dear Jane:

Welcome back from your Christmas holiday! Last summer when we met for orientation, we reviewed the responsibilities of an advisee. Do you remember some of them? They included

- Clarifying personal values and goals.
- Gathering all relevant decision-making information.
- Being knowledgeable about university policies, procedures, and requirements, and
- Accepting responsibility for decisions

Registration for spring quarter will be held January 12-19. I am writing to remind you of your responsibilities in this process. First, review your goals for the year and your progress to date. Then, pick up your OPSCAN, Time Table, and Semester Conversion kit in the Pamplin Atrium beginning January 11. Select classes for spring which will bring you closer to your goals. In selecting classes, check the university core requirements (full year of calculus, science, and social science, completion of English) as well as college requirements (48 quarter hours, ACCT 1010). Many of you will have a free elective because of your English placement. Explore! Have you considered a minor or all the different departments and courses available in the Time Table?

By now you are probably feeling quite confident about your freshman curriculum course choices. However, there are many special circumstances and the Advising Center, 1046 Pamplin Hall, is open weekdays 9-4 for you. Please drop in if you have any questions.

Sincerely,

ADVISING CENTER STAFF
Fred Drury Melvin Jones
Judy Grover Joan Moore

chc

ATTACHMENT G

THE R. B. PAMPLIN COLLEGE OF BUSINESS



VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

OFFICE OF THE ASSISTANT DEAN 1040 PAMPLIN HALL (703) 961-6602

January 22, 1988

Jane Doe
123 Main Street
Blacksburg, VA 24060

Dear Jane:

Career planning is a critical part of your college life and there are important steps you as a freshman need to take. As you make plans for summer '88, you should look for opportunities that help your career decisions and boost your credentials as an employee.

The R. B. Pamplin College of Business Advising Center has scheduled two freshmen advising meetings to assist you in your career planning. The sessions you should plan to attend are:

Monday, February 1, 4:00-5:00 pm, 1045 Pamplin Hall

or

Thursday, February 4, 6:30-8:00 pm, 1045 Pamplin Hall

We will have information on internships, summer jobs, and co-op as well as hints on resume-writing and interviewing. Even if you plan to be in summer school or will not be looking for a summer job in business, there are steps you should be taking to prepare for career decisions. We'll have special advice for you.

February 27 - March 6 is Virginia Tech's spring break, the most common time for students to investigate and arrange summer employment. Be sure you are well-prepared by joining us the date or date.

Sincerely,

ADVISING CENTER STAFF
Fred Drury Melvin Jones
Judy Grover Joan Moore

ATTACHMENT H

CAREER AWARENESS & PLANNING MEETING
February 1 and 4, 1988

- I. Intro's and welcome - NBS (5 minutes)
- II. Career planning models, emphasis on initial stages - MG (15-20 minutes)
 - A. Self-Assessment - Exploration - Experience - Placement
 - 1. Uncertainty normal
 - 2. Recycling through model
 - B. Career planning resources and events in The Counseling Center
- III. Getting ready for a summer job - DC (15-20 minutes)
 - A. Skill assessment
 - B. Alternatives of co-op, internships
 - C. Resume writing
 - D. Interviewing
 - E. Resources and events in The Placement Center
- IV. Summer career planning regardless of job - NBS (10 minutes)
 - A. Requesting OTJ assignments
 - B. Volunteer additional hours elsewhere
 - C. Reading and research
 - D. Schedule interviews and visits
 - E. Make contacts
 - F. Plan fall involvement
- V. Advising reminders
- VI. Questions and Answers

Presentors: MG, Counseling Psychologist
DC, Placement Coordinator
NBS, Assistant Dean

ATTACHMENT I

FOLLOWUP EVALUATION
INTERVENTION 1: INTRODUCTION CALLS

I am calling to ask your reaction to the call you received from a College of Business advisor (date).

Would you please answer these questions for me?

1. Are you now more apt to consult an advisor if questions arise in the future than if you had not received a call? Yes No
2. Did the call provide you with information you can use? Yes No
3. As a result of the call, do you plan to followup the referral to the (Co-op, Writing Center, etc.--see sheet)? Yes No
4. Did the call make you feel that someone cared about you? Yes No

ATTACHMENT J

FOLLOWUP EVALUATION
INTERVENTION 2: REGISTRATION MEETING

I am calling to ask your reaction to the September 28 letter from your College of Business advisor inviting you to the registration meetings October 1 and 5.

Would you please answer a few questions for me?

1. Did you receive the letter? Yes No
2. Did you read the letter? Yes No
3. Did the letter prompt you to attend the meeting? Yes No
4. If yes, what was the most compelling reason for attending?
5. Did you attend the meeting Yes No
6. If yes, what part was most helpful?
7. Did the meeting make you feel someone cared about you? Yes No

ATTACHMENT K

FOLLOWUP EVALUATION
INTERVENTION 3: LETTER BEFORE EXAMS

I am calling to ask your reaction to the November 1 letter you received from a College of Business advisor.

Will you please answer a few questions for me?

1. Did the letter provide you with information you used in preparing for your exams? Yes No
2. If yes, what was the most helpful part?
3. Did the letter help you prepare for your vacation? Yes No
4. If yes, what was the most helpful part?
5. Did the letter make you feel that someone cared about you?
Yes No

ATTACHMENT L

FOLLOWUP EVALUATION
INTERVENTION 4: CALL ABOUT GRADES

I am calling to ask your reaction to the call from a College of Business advisor last week. Would you please answer a few questions for me?

1. Did the call provide useful information about your performance or progress fall quarter? Yes No
2. Did the call increase your awareness of the options available to you? Yes No
3. Did the call assist you in setting or readjusting goals for your academic work this quarter? Yes No
4. Did the call make you feel someone cared about you? Yes No

ATTACHMENT M

FOLLOWUP EVALUATION
INTERVENTION 5: WINTER '88 LETTER

I am calling to ask your reaction to the January 5 letter from your College of Business advisor. Would you answer a few questions for me?

1. Did you receive the letter? Yes No
2. Did you read the letter? Yes No
3. Was the letter helpful in reminding you of your responsibilities in registration? Yes No
4. Did you review your curriculum and your course progress on your own? Yes No
5. Did you submit your OPSCAN by January 19? Yes No
6. Did you consult an advisor in 1046 Pamplin? Yes No
For what purpose?
7. Did the letter make you feel that someone cared about you? Yes No

ATTACHMENT N

FOLLOWUP EVALUATION
INTERVENTION 6: CAREER MEETING

I am calling to ask your reaction to the January 22 letter inviting you to the career planning meetings February 1 and 4. Would you please answer a few questions for me?

1. Did you receive the letter? Yes No
2. Did you read the letter? Yes No
3. Did the letter prompt you to attend one of the meetings? Yes No
4. If yes, what was your most compelling reason for attending?
5. Did you attend one of the meetings? Yes No
6. If yes, what part was most helpful?
7. Did the meeting make you feel someone cared about you? Yes No

ATTACHMENT O
THE R. B. PAMPLIN COLLEGE OF BUSINESS



VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

OFFICE OF THE DEAN 1030 PAMPLIN HALL (703) 961-6601

March 7, 1988

John Doe
123 Main Street
Blacksburg, VA 24060

Dear John:

The R. B. Pamplin College of Business has been testing a variety of advising programs this past year as part of a doctoral dissertation in conjunction with our College Undergraduate Advising Center. The results of the study will provide direction for improving our advising services and an understanding of the experiences of our freshmen.

Would you please help us by attending one of the four sessions listed below to complete a questionnaire about your experiences during the past two quarters? The form usually takes less than thirty minutes to complete. In addition to providing valuable information to us, you may find the questions helpful in reflecting on your first year of college. Your responses will be kept strictly confidential.

Please attend one of the following four sessions:

Monday, March 14	4:00 p.m.	1045 Pamplin
Tuesday, March 15	4:00 p.m.	1045 Pamplin
Wednesday, March 16	4:00 p.m.	1045 Pamplin
Thursday, March 17	4:00 p.m.	1045 Pamplin

Any student attending one of these four sessions and completing a questionnaire will be eligible for a drawing. Five winners will each receive a \$10 gift certificate for Domino's Pizza.

Only a subgroup of freshmen are being asked to complete the questionnaire. Your participation is critical if the results are to be meaningful. I hope you will assist us by contributing thirty minutes at one of the four sessions. Thank you in advance for your cooperation and time.

Sincerely,

Richard L. Sorenson
Dean

chc

ATTACHMENT P
THE R. B. PAMPLIN COLLEGE OF BUSINESS



VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

OFFICE OF THE ASSISTANT DEAN 1046 PAMPLIN HALL (703) 961-6602

March 22, 1988

Dear

As indicated in Dean Soransen's letter of March 7, 1988, The R. B. Pamplin College of Business is currently conducting a survey of our freshmen. I am sorry you were unable to attend any of the survey collection meetings last week, but we still would like your opinion.

Would you please complete the enclosed questionnaires and return them to 1046 Pamplin Hall by Wednesday, March 30? Please drop them off at the office or return them via campus mail in this envelope addressed to me? The questionnaires take a total of 30 minutes or less to complete. Because we want as much feedback as possible, it is important to hear from you.

Thank you in advance for your valuable assistance with this project. If you have any questions, please do not hesitate to call me.

Sincerely,

Norrine Bailey Spencer
Assistant Dean

chc

ATTACHMENT Q

August 25, 1987

Norrine Bailey Spencer
Assistant Dean
Virginia Polytechnic Institute
and State University
116 Pamplin Hall
Blacksburg, VA 24061

Dear Norrine:

This is to respond to your letter of August 19, 1987. On behalf of the Center and Drs. Kramer and Gardner, you are hereby given permission to use copyrighted items from our Advising Survey Form (3rd edition). In your dissertation you should indicate this Center and Kansas State University as their source, and who the copyright holders are.

It was very good talking with you. One drawback of my present job is that I have very few ongoing relationships with professionals, which I miss more and more.

Good luck on the dissertation! We would appreciate receiving a copy (unbound is fine) of your dissertation when it is completed.

Best regards,

William E. Cashin
Director

WEC:kmb

1623 Anderson Avenue, Manhattan, KS 66502—4098

Toll-Free 800-255-2757
or 813-532-5870

KANSAS STATE UNIVERSITY

center for
**FACULTY
EVALUATION &
DEVELOPMENT**

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the scanned document**