

**The Relationship Between Selected Mentor Behaviors
and Supervisory Approach Between Faculty
and Their Graduate Student Assistants**

by

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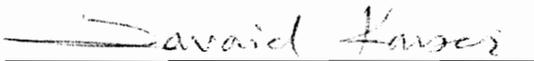
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(ABSTRACT)

Faculty mentorship is considered an important component of graduate education. Faculty supervisors of graduate student assistants are in a unique position to enhance the personal and career development of their supervisees. Yet, little is known about the relationship between supervision and mentorship in graduate education.

The purpose of this study was to explore the relationship between mentoring behavior and supervisory approach as reported by faculty supervisors of graduate student assistants at Virginia Tech. Data were collected using the Mentor Behaviors Questionnaire and Supervisory Approach Inventory and analyzed using analysis of variance.

The findings suggested that faculty provided career mentoring behaviors as a result of academic culture and the perceived role of faculty rather than the influence of gender, prior mentoring experience, or length of relationship. However, faculty with no prior mentoring experience, might be unaware of the value of psychosocial mentoring in promoting personal development of their

their assistants, especially in male-male relationships. A positive relationship between synergistic supervision and mentoring was established which suggested that productive supervisory practices and mentoring behavior were similar. Faculty who had more contact with students reported higher levels of career mentoring. Reward and recognition were suggested as incentives for increasing student contact which might foster career mentoring. Surprisingly, graduate assistant supervisors reported higher rates of mentoring behaviors than teaching or research assistant supervisors, thus challenging the commonly held perception that research assistants were more likely to receive mentoring support from faculty than other types of assistants.

The information generated by this study is useful in identifying faculty behaviors associated with mentorship and establishing the link between assistantship supervision and mentorship opportunity. Student affairs and graduate education professionals may find that the implementation of faculty mentor training programs is a useful tool in promoting the psychosocial and career development of students.

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CHAPTER ONE

The Relationship Between Mentoring and Supervision

Introduction

Mentoring relationships are the topic of numerous studies in business and academe. Mentoring was ranked as the highest and most complex level of interpersonal functioning in the work place in the Dictionary of Occupational Titles (U.S. Department of Labor, 1991). A mentor is typically defined as an experienced member of an organization who acts as coach, sponsor, protector, teacher, guide, counselor, and advisor to a less experienced member for the purpose of personal development and career advancement of the less experienced party (Cronan-Hillix, Gensheimer, Cronan-Hillix & Davidson, 1986; Kram, 1988; Levinson, Darrow, Klein, Levinson & McKee, 1978; Noe, 1988a; Roche, 1979; Schmidt & Wolfe, 1980; Zey, 1984). Variations in the definition of mentor focused more on degree and depth of involvement than on the roles and functions mentors provide.

Mentorship was identified as a developmental stage in the life cycle. Erikson (1959) hypothesized that becoming a mentor was a successful strategy for resolving the developmental crisis in the stagnation versus generativity stage of later life. Levinson et al. (1978)

described mentoring as a developmental task at two points in the life cycle -- as a mentee in young adulthood, and as a mentor in midlife.

It was commonly assumed that benefits accrued to all parties involved in the mentorship. Mentors provided career and psychosocial support to their mentees which in turn enhanced the mentee's career and personal development (Kram, 1988). Career benefits accrued to the mentee (Roche, 1979) and mentor (Keele & DeLaMare-Schaefer, 1984). However, organizational benefits while intuitively perceived (Gerstein, 1985, Bernstein, Kaye & Kaye, 1986; Moore, 1982; Zey, 1985), were not clearly supported by quantitative research (Alleman, Cochran, Doverspike & Newman, 1984; Bullis & Wackernagel Bach, 1989).

In spite of a wealth of mentoring studies, minimal exploration had been conducted regarding the relationship between supervision and mentoring. Mentor and supervisor were discussed as if they were mutually exclusive functions. In academe, the term faculty mentor was often used in conjunction with graduate studies, graduate students (Aguilar-Gaxiola & Norris, 1984; Cesa & Fraser, 1989 Cronan-Hillix et al., 1986; Lyons, Scroggins & Bonham Rule, 1990; Phillips, 1979), and graduate student assistants (Minkel &

Richards, 1983). Yet, little empirical research had been conducted to ascertain whether faculty supervisors reported mentoring behaviors with their graduate student assistants.

Purpose of the Study

There were two purposes for the current study. The first purpose was to develop and pilot the Mentor Behaviors Questionnaire (MBQ), an instrument designed to measure the mentoring behaviors reported by faculty supervisors of graduate student assistants. The study also explored the relationship between supervisory approach as measured by The Supervisory Approach Inventory or SAI (Creamer & Winston, 1993) and mentoring behaviors as measured by the MBQ reported by faculty supervisors of graduate student assistants at Virginia Tech. The effects and interactions of gender mix of the pair, previous faculty mentoring experience, and length of relationship on MBQ and SAI scores were analyzed.

A review of mentorship literature revealed many qualitative studies, and some quantitative studies from the mentee perspective, but few from the mentor's perspective. No study exploring the relationship between mentorship and supervision was located, although, supervisors, like mentors, could have tremendous impact on their supervisees' careers. Studies were limited to simple descriptions of percent of mentors identified as supervisors. This study

provides empirical information about the relationship between mentoring behaviors and supervisory approach reported by faculty supervisors of graduate student assistants at Virginia Tech. The information generated by this study may be useful in providing the groundwork for a more comprehensive replicable study.

Research Questions

The research questions were:

1. What types of psychosocial and career mentoring behaviors, as assessed by the MBQ, are reported by faculty who supervise graduate student assistants at Virginia Tech?
 - a) How do gender mix of the pair, previous faculty mentorship experience, length of relationship, and their corresponding interactions affect MBQ psychosocial and career mean scores?
2. What supervisory approaches, as assessed by the SAI, are reported by faculty who supervise graduate student assistants at Virginia Tech?
 - a) How do gender mix of the pair, previous faculty mentorship experience, length of relationship, and their corresponding interactions affect SAI mean scores?

3. Is there a significant relationship between supervisory approach and mentoring behaviors reported by faculty who supervise graduate student assistants at Virginia Tech?

a) How does preferred supervisory approach as determined from SAI scores relate to MBQ psychosocial and career mean scores?

Significance of the Study

There was little empirical data describing the relationship between supervision and mentorship; yet, there was considerable literature on the benefits of good supervision and good mentoring for personal and professional staff development. This study increased knowledge about the mentorship-supervision connection in graduate education.

Graduate student assistantships provide the primary means of experiential learning in graduate study. Empirically based information about the nature of faculty supervisor-graduate student assistant relationships was generated which may be useful in enhancing the assistantship experience for both supervisor and assistant.

Previous empirical research on mentors focused on character traits (Alleman et al., 1984; Cronan-Hillix, et al., 1986; Olian, Carroll, Giannantonio & Feren, 1988). By contrast, this study focused on specific psychosocial and career developmental behaviors. Faculty interested in

mentoring as a means of enhancing assistantship experiences may be more receptive to learning and implementing specific behaviors than assessing and modifying personality traits.

The SAI and MBQ could be used as a professional development tool to encourage mentoring behavior among faculty supervisors, and to underscore the experiential learning component of graduate education. The information also may be useful in the development of formal mentoring programs at Virginia Tech.

Definition of Terms

The following terms are defined for the purpose of this study:

Faculty Supervisor: A Virginia Tech faculty member listed as principal investigator of an externally sponsored research program by the Office of Sponsored Programs, who oversees the activities of one or more graduate student assistants.

Graduate Student Assistant: A generic term used for any of the three types of assistantships -- graduate assistant, graduate research assistant, or graduate teaching assistant.

Graduate Teaching Assistant: A Virginia Tech graduate student teaching lower level credit courses and labs (Virginia Tech Office of the Provost, 1994).

Graduate Research Assistant: A Virginia Tech graduate student conducting academically significant research under the direction of a regular faculty member who is a principal investigator on an external grant or contract (Virginia Tech Office of the Provost, 1994).

Graduate Assistant: A Virginia Tech graduate student providing academic program support under the direction of a regular faculty member. A Graduate Assistant does not typically have full teaching responsibility for a credit class, and may perform both teaching and administrative support duties (Virginia Tech Office of the Provost, 1994).

Mentee or Protege: The less experienced member in a mentoring relationship (Kram, 1988, Levinson et al., 1978; Roche, 1979; Zey, 1984).

Mentor: An experienced member of an organization who acts as coach, sponsor, protector, teacher, guide, counselor, and advisor to a less experienced member for the purpose of personal development and career advancement of the less experienced party (Cronan-Hillix et al., 1986; Kram, 1988; Levinson et al., 1978; Noe, 1988b; Roche, 1979; Schmidt & Wolfe, 1980; Zey, 1984).

Mentoring Behavior/Mentor Behavior: The act of engaging in psychosocial and/or career mentoring functions as described by Kram (1988).

Career Functions: Mentor behaviors that demonstrate sponsorship, exposure and visibility, coaching, protection, and challenging assignments (Kram, 1988).

Psychosocial Functions: Mentor behaviors that demonstrate role modeling, acceptance and confirmation, counseling, and friendship (Kram, 1988).

Supervisory Approach: A descriptive profile of four general preferences of supervisory style which includes companionable, authoritarian, laissez faire, and synergistic supervision as measured by the Supervisory Approach Inventory (Creamer & Winston, 1993).

Companionable Supervision: Supervision based primarily on a friendship relationship characterized by confrontation avoidance, relationship maintenance, and high personal/social interaction (Creamer & Winston, 1993).

Authoritarian Supervision: Supervision based upon the idea that staff are undependable or immature, and require continuous attention to ensure proper task completion (Creamer & Winston, 1993)

Laissez Faire Supervision: Supervision characterized by allowance of near or complete staff freedom in implementation of organizational goals. Staff/supervisor interactions are generally limited to supervisory crisis intervention (Creamer & Winston, 1993).

Synergistic Supervision: Supervision characterized by cooperative effort between supervisor and staff such that joint efforts exceed the sum of individual contributions. Supervision has dual goals of accomplishing organizational goals and personal/professional development of staff (Creamer & Winston, 1993).

Limitations of Study

There were several limitations in this study. The most significant limitations related to reliability and validity of the instruments. Reliability data were not available for either instrument at the onset of the research. This was a pilot study for the MBQ. The SAI was first used in a national study of student affairs administrative practices which ran concurrent to this study. Construct validity was not established for either instrument, and was beyond the scope of this project. Face validity was established for the MBQ.

As with any study based on self-reported behaviors, response error was likely to occur because respondents gave answers reflecting perceptions which might not accurately portray actual behavior. This risk could be reduced by corroborating faculty scores with reports from graduate student assistants; however, this verification was outside the scope of the study.

The results of the study were not generalizable to other types of supervisory relationships or other academic institutions. Random sampling was not employed, and data from only one institution were collected for one type of supervisory relationship.

Ethnicity was not included as a variable. Alleman, Newman, Huggin and Carr (1987), reported that mentoring relationships were similar, regardless of race with the exception that black mentees rated career benefits significantly higher than their white mentee counterparts. Further study is called for; however, it was outside the scope of this thesis.

The research design limited the study to one-on-one relationships between a faculty supervisor and a graduate student assistant, even though several graduate student assistants might be supervised by one faculty member. Faculty who supervised multiple assistants were directed to respond to the instruments based on their relationship with their one best assistant. Faculty were directed to choose the assistant with the best career potential because mentors choose mentees who successfully executed some visible and risky task (Moore, 1982; Kelly, 1984) or otherwise demonstrated career potential (Bellflower, 1982; Kram, 1988; Kram, 1983). Faculty who supervised only one assistant had

no opportunity for comparative evaluation. It was also possible that the supervisor did not view any of his/her assistants as having good career potential.

Lastly, no empirical data were readily available to confirm the percentage of principal investigators of externally sponsored programs who supervised an assistant. Therefore, it was unclear as to how many members of the population met the survey criterion.

Organization of the Paper

The Thesis consists of five chapters. The first chapter is an introduction to the topic of study. Chapter two includes a literature review of related research. Research methodology is outlined in chapter three. Chapter four presents an analysis of results, and chapter five includes discussion, implications, conclusions derived from the analysis of data and suggestions for further research.

CHAPTER TWO

Literature Review

Introduction

Qualitative and quantitative research on mentorships in business and academe was reviewed. The relationship between supervision and mentorship was explored. Areas of review included mentor definitions, mentorship models, gender differences, benefits and risks accrued to the mentee, mentor, and organization, the supervision-mentorship connection, and mentoring in graduate studies.

Mentoring: Definition, Function, and Behavior

The construct of mentoring was not clearly defined. Disagreement over degree and depth of emotional involvement was noted. For some, mentoring was rare and best defined in spiritual terms (Lyons, Scroggins & Rule, 1990). Levinson et al. (1978), citing mentoring's similarity to love relationships, said, "no word currently in use is adequate to convey the nature of the relationship" (1978, p. 97). Gehrke (1988) suggested mentoring could not be defined objectively or with precision, and its worth incalculable in a market economy. Mentoring was more appropriately evaluated as a transmission of culture and knowledge in a gift economy.

There is, however, agreement over what mentors do. Alleman et al. (1984) determined that mentoring was a behavioral phenomena independent of personality traits. Defined in functional terms, mentors were experienced members of an organization who acted as coach, sponsor, protector, teacher, guide, counselor, and advisor to less experienced members for the purpose of personal development and career advancement of the less experienced party (Cronan-Hillix et al., 1986; Kram, 1988; Levinson et al., 1978; Noe, 1988a; Roche, 1979; Schmidt & Wolfe, 1980; Zey, 1984). Mentors promoted cognitive and psychosocial development of upwardly mobile proteges (Burlew, 1991; Chao, Walz, & Gardner, 1992; Kram, 1988; Levinson et al., 1978; Noe, 1988a; Roche, 1979; Zey, 1984), facilitated socialization of new entrants to the organization (Bragg, 1976; Eberspacher and Sisler, 1988), and provided access to information networks (Kram, 1988; Olian et al., 1988).

Kram (1988) proposed two functional dimensions of mentoring: career functions and psychosocial functions. Career functions included sponsorship, exposure and visibility, coaching, protection, and provision of challenging assignments. Psychosocial functions included role modeling, reciprocal acceptance and confirmation, counseling, and friendship. Noe (1988a), using exploratory factor analysis, provided quantitative support for Kram's

dual mentoring functions. Aguilar-Gaxiola and Norris (1984), using factor analysis, identified similar multiple mentor roles including role modeling, professional socialization, sponsorship, advocacy, emotional support, and active encouragement.

Mentorship: Developmental Models

Several similar developmental models were proposed. Levinson et al. (1978) developed a theory of mentoring from in-depth interviews with 40 males. They identified finding a mentor, initiating a relationship, and terminating the relationship as developmental tasks of young adulthood (mid twenties to mid thirties). Becoming a mentor was identified as a task in middle adulthood (forty to sixty years old). Weathersby and Tarule (1980) suggested a similar three-phase mentoring model including initiation, termination, and becoming a mentor.

Zey (1984) interviewed male and female senior and middle managers in Fortune 500 companies to develop a four-tier sequential hierarchy of mentoring. The sequential levels were teaching, psychological counseling and personal support, organizational intervention on the protege's behalf, and sponsorship.

Kram (1983, 1988) conducted several different interview studies of up to 25 mentor-protégé pairs from various businesses. Her analysis led to the development of a four-phase mentorship model. The phases identified were initiation, cultivation, separation, and redefinition. During the initiation phase (lasting 6 to 12 months), mentees developed admiration and respect toward mentors for their competence, support, and guidance. During cultivation (lasting 2 to 5 years), career and psychosocial support peaked. The separation phase (lasting 6 months to 2 years) included structural and psychological changes in the relationship analogous to a fledgling leaving the nest. Separation might or might not be followed by a redefinition phase (indefinite length) dependent on the degree of acrimony in the separation phase. Redefinition was characterized by friendship and peer relations.

Moore (1982) identified three distinct phases in the beginning of a mentoring relationship by surveying 300 higher education administrators. She found the relationship was generally initiated by the mentor, after the mentee had performed some visible and somewhat risky task. This finding was corroborated by Kelly's (1984) study of student affairs administrators. The second phase included a series of tests and observations of the mentee's performance.

The next progression was a specific recruitment of the mentee to work closely and directly with the mentor, often with the mentee directly under the mentor's supervision.

Gender and the Mentor-Mentee Dyad

Research indicated that female mentees experience similar quality of mentoring, and were as likely as males to have mentors. However, opportunity for same-sex mentorships was lower for females than males (Alleman et al., 1987; Aguilar-Gaxiola & Norris, 1984; Ragins & McFarlin, 1990). Shortage of women mentors, lack of access to information networks, tokenism, stereotyping, and socialization practices were cited as potential barriers to women's access to mentors (Kram, 1988; Noe, 1988b; Zey, 1984). A shortage of potential female mentors existed because of low representation in the highest levels of management (Noe, 1988b; Ragins & McFarlin, 1990; Swoboda & Millar, 1986) and academic administration (Blackburn, Chapman & Cameron, 1981; Eberspacher & Sisler, 1988).

Kram (1988) suggested that the role modeling function was not provided to the satisfaction of the male mentor or female mentee in cross-gender dyads. Counseling and friendship functions might not be provided to the same degree as in same-gender dyads because of concern over the development of intimacy. Intense public scrutiny of cross-gender mentorships might discourage their formation (Kram,

1988; Noe, 1988b). Sexual innuendo, gossip, sexual involvement, and spousal jealousy were cited as common risks. These risks appeared to be more damaging to female mentees than their male mentors (Swoboda & Millar, 1986; Zey, 1984). For this reason, informal social encounters, an important part of mentorships were often curtailed in male mentor-female mentee dyads (Ragins & McFarlin, 1990).

There was evidence that women perceive having a mentor as more important to career progress than men (Alleman et al., 1984; Roche, 1979). Women mentees in cross-gender dyads were rated higher in effective utilization of mentors than mentees in same-sex dyads in academe (Blackburn, et al., 1981; Noe 1988a). In graduate study, Cronan-Hillix et al. (1986) found female graduate psychology students were as likely as males to have mentors. Lyons, et al. (1990) obtained similar results in a study of doctoral students across all disciplines at the University of Tennessee. Kelly (1984) reported that women student affairs administrators were just as likely as men to have mentors.

However, these findings did not contradict lack of availability of potential women mentors. The studies indicated relatively small pools of female faculty and upper level staff at the institutions surveyed. Women tended to

mentor other women. Female mentor-male mentee dyads were extremely rare or non-existent (Blackburn, et al., 1981; Cronan-Hillix et al., 1985; Kelly, 1984; Ragins & McFarlin, 1990).

Mentee: Benefits and Risks

Mentoring literature tended to focus on benefits accrued to mentees. In comparison with unmentored individuals, proteges earned higher salaries at a younger age, were more active as mentors in midlife (Roche, 1979), held higher positions of authority, were more optimistic about future success, had clearer career goals, were able to identify requirements to reach upper management, and had a better understanding of functional organizational structure than nonmentored counterparts (Roche, 1979; Zey, 1984). Mentees reported higher levels of job satisfaction (Chao et al., 1992; Roche, 1979; Zey, 1985).

Academic administrators with mentors experienced increased awareness of cultural norms and performance requirements, more clearly defined personal ethics, and expanded collegial contacts (Moore, 1982). Graduate students perceived greater integration with their discipline and had a heightened awareness of the research process and benefits of research (Lyons et al., 1990). Mentors played a

key role in helping graduates locate jobs. Having a mentor was positively correlated with student scholarly output (Blackburn et al., 1981).

While there are many benefits of having a mentor, the relationship was not risk free. Exploitation of the relationship resulting in inappropriate emotional ties, sexual harassment, and mentor assumption of credit for mentees' original work occurred (Johnsrud, 1990). The mentee's reputation, and recognition factor often suffered if the mentor fell out of favor, was forced to resign, retired, or left for a promotion. The mentor might "sacrifice" the mentee under political, financial, or personal pressures (Kram, 1988; Zey, 1984).

Mentor: Benefits and Risks

In addition to providing an outlet for successful resolution of developmental tasks (Erikson, 1959; Levinson et al., 1978), acting as a mentor provided career benefits. Benefits included assistance in job performance, building a loyal power base, expanded information sources, prestige resulting from association with successful proteges, ego satisfaction, and sense of continuity in work (Zey, 1984). Mentor knowledge was enhanced through teaching (Lawrie, 1987).

In academe, development of mentees resulted in better control of the work environment, increased accessibility to organizational resources, increased career advancement, a reputation for task completion, and personal satisfaction (Keele & DeLaMare-Schaefer, 1984). Successful mentees increased the mentor's status, provided a source of career enhancing information links, and freed mentors from routine tasks allowing more time for creative academic pursuits (Blackburn et al., 1981; Schmidt & Wolfe, 1980; Lyons et al., 1990).

Accusations of favoritism were a common risk to mentors. Mentors might be held responsible for their mentees' failures (Johnsrud, 1990; Zey, 1984).

Organizational Benefits

Organizational benefits derived from mentorships were identified through interviews with executives and many organizations actively promoted development of the relationship (Zey, 1984; Zey, 1985). Mentorships were perceived to facilitate better integration of mentees into the organization, reduce turnover, enhance organizational communication because proteges became communication "linking pins," individualize management development, create smoother transfers of power, increase productivity through enhanced management skills, and socialize potential leaders to power

(Zey, 1984). The development and subsequent promotion of women and minorities through mentoring assisted organizations in meeting affirmative action goals and in improved organizational effectiveness (Noe, 1988b; Zey, 1985).

Bernstein et al. (1986) asserted that mentorships aided in the retention of high performers, prevented stagnation among senior employees, and ensured management succession. However, research by Bullis and Wackernagel Bach (1989) suggested that identification of the protege with the mentor might not lead to closer identification with the organization, especially if conflicts occurred in the mentor-protege relationship. Mentorships were perceived to foster collaborative effort and team building (Keele & DeLaMare-Schaefer, 1984; Lawrie, 1987). Mentors acted as recruiters and trainers (Moore, 1982) and protected the organization's recruitment and training investment in new employees (Lawrie, 1987).

The Supervision-Mentorship Connection

Supervision and mentorship are often treated as mutually exclusive activities, yet demonstrations of good supervision are similar to good mentoring behavior. Hogarty (1988) compared mentoring and supervision by defining mentoring as jointly undertaken supervision which was not hierarchal. While leadership theory provided a broad base

for principles of good supervision and human resource development, mentoring represented a one-on-one, personalized plan for human resource development.

Team administration characterized by trust, collaborative effort, interdependence between supervisor and staff, high concern for individual development, and high concern for task completion (Blake, Mouton and Williams, 1981) were similar to the trust, support, reciprocity, and task achievement which characterized mentorships (Kram, 1988).

McGregor (1960) cited the importance of intentional human development, and opportunity for self-actualization as a means for achieving organizational effectiveness. Interviews with executives showed a belief that mentorships promoted organizational effectiveness through self-actualization (Keele & DeLaMare-Schaefer, 1984; Kram, 1988; Zey, 1984) and resolution of developmental tasks (Levinson et al., 1978).

Transformational leadership theory suggested leaders had the ability to initiate major changes in organization cultural norms and build commitment for organizational mission (Yukl, 1989). Mentors socialized mentees in the norms and philosophy of their professions (Bragg, 1976; Eberspacher & Sisler, 1988; Kram, 1988; Philips, 1979; Zey, 1984).

Roche (1979) found that 48 percent of surveyed executives reported immediate supervisors as their mentors. In academe, research also supported a mentor-supervisor connection. Administrators in higher education reported career benefits from mentor-like relationships with supervisors (Keele & DeLaMare-Schaefer, 1984). In Moore's (1982) survey, college and university administrators cited supervisors of their first administrative post as mentors more frequently than any other source. Fifty-eight percent of student affairs administrators claimed a former or current supervisor as their mentor (Kelly, 1984).

Johnsrud (1990) theorized that supervisors were in the best position to provide career development because of proximity. They were able to provide assessment of skills, feedback, and creation of opportunities for staff.

How Common is Mentoring in Graduate Study?

In general, it has been suggested that mentorships are rare. Burlew (1991) reported that most average working adults never participated in, or did not perceive participation in, a mentor relationship. Roche (1979) found that two thirds of surveyed executives mentioned in "Who's News" in the Wall Street Journal had at least one mentor in their career, but that the sample was not representative of the average worker.

It is commonly believed that mentoring is more prevalent in academic settings. Having an academic mentor has been cited as the core of graduate study (Lyons et al., 1990; Phillips, 1979), yet recent empirical studies suggested that at least one third of graduate students report having no mentor. Thirty-eight percent of 527 doctoral students at the University of Tennessee indicated they did not currently have a mentor (Lyons et al., 1990). Forty-seven percent of 90 psychology graduate students surveyed at a large midwestern university did not have a mentor. In contrast, only 17 percent reported not needing or wanting a mentor (Cronan-Hillix et al., 1986). A faculty-mentor evaluation program administered in the Department of Psychology at the University of Southern California garnered only a 30 percent participation rate from graduate students (Cesa & Fraser, 1989). It was speculated that the low response could be attributable to a lack of mentors.

The terms graduate supervisor, faculty supervisor, graduate assistant supervisor, and mentor were sometimes used interchangeably (Lyons et al., 1990; Minkel & Richards, 1983). While there was evidence that some graduate academic advisors, and dissertation/thesis chairs behaved as mentors

(Aguilar-Gaxiola & Norris, 1984; Blackburn et al., 1981; Cronan-Hillix et al., 1986; Lyons et al., 1990), there was no empirical evidence that indicated whether faculty graduate assistantship supervisors behaved as mentors.

Summary

Mentorship was often perceived as a complex, mystical relationship for the lucky few that ensured succession within the organization or profession, and benefited the mentor-mentee pairs in personal development, career advancement, and professional reputation. Most of the available literature on mentoring was from the mentee's perspective. The major sources of information were case studies and interviews. There was little evidence that any empirical studies conducted had been replicated.

In spite of the predominant mentee focus, the literature reviewed shed some light on who mentors are, what they do, and why they do it. Studies in higher education indicated administrative supervisors as a frequent source of mentors for professionals. Phillips (1979) speculated that in graduate study, "a peculiar intimacy" was necessary between student and faculty to pass on the traditions of academe. However, it was unclear whether faculty supervisors of graduate student assistants acted as mentors.

CHAPTER THREE

Methodology

Purpose of the Study

The purpose of this study was to describe (a) the self-reported mentoring behaviors of faculty supervisors of graduate student assistants, (b) the self-reported supervisory approaches employed by faculty supervisors of graduate student assistants, and (c) the relationship between faculty supervisors' mentoring behaviors and their preferred supervisory approach. The effects of gender mix of the dyad, prior faculty mentoring experience, and length of relationship on mentoring behaviors and supervisory approach were explored.

Hypotheses

The following hypotheses were tested:

1. The gender mix of the dyads, prior mentoring experience, length of relationship, and their corresponding interactions have no significant impact on psychosocial or career MBQ mean scores.
2. The gender mix of the dyads, prior mentoring experience, length of relationship, and their corresponding interactions have no significant impact on SAI mean scores.
3. Preferred supervisory approach has no significant impact on psychosocial or career MBQ mean scores.

Design of the Study

Analysis of variance was used to test for group differences on MBQ and SAI scores by the factors, gender mix of dyad, prior mentoring experience, and length of relationship. Data were collected using the Mentoring Behaviors Questionnaire and Supervisory Approach Inventory from the population composed of the principal investigators of externally sponsored programs with project start dates between July 1, 1992, and October 31, 1993, at Virginia Tech.

Population

The survey population was determined after discussions with Dr. Martha Johnson, Assistant Dean of the Graduate School at Virginia Tech. Dr. Johnson coordinates activities associated with graduate student assistantships for the Graduate School. She suggested that outside of thesis or dissertation committee contact, supervisors of graduate research assistants were likely to have the most contact and opportunity for development of mentoring relationships with graduate students.

A complete list of all graduate student assistant supervisors was not readily available. However, graduate research assistants were most likely employed on externally sponsored projects (see definitions, graduate research assistant) and a list of principal investigators for

externally sponsored projects was readily available from the Office of Sponsored Programs. Therefore, the decision was made to target supervisors of graduate research assistants using the data from the Office of Sponsored Programs.

The survey population was defined as all faculty principal investigators of externally sponsored projects with project start dates between July 1, 1992, and October 31, 1993. Six hundred forty principal investigators involved in 1564 projects were identified. The project start date range was chosen based on the following criteria: inclusion of recently or currently active projects and allowance of adequate time for relationship development between faculty supervisor and graduate student assistant.

Sample and Response Rate

Random sampling was not conducted for two reasons. The researcher was unable to adequately predict what percentage of principal investigators of externally sponsored programs actually supervised graduate student assistants because no empirical data were readily available. Response rate was unpredictable for this pilot study.

The list of 640 principal investigators of externally sponsored projects with start dates between July 1, 1992, and October 31, 1993, was carefully reviewed and addresses were compiled using the University Directory (Virginia Tech, 1994). After duplicate names, names with off-campus

addresses (satellite centers such as the Northern Virginia Graduate Center), and names for which no address could be found were eliminated, 543 names from 63 different departments remained.

Of the 543 subjects who received questionnaires, 7 were no longer with the University, and 75 returned notice that they did not supervise a graduate student assistant in the designated period. The number of eligible participants was reduced to 461. Twenty-one declined participation in the study (4.6%) and 181 questionnaires were returned (39.3%). Two hundred fifty nine subjects did not respond (56.1%) after four mailings. No additional attempts were made to contact nonrespondents.

Of the 181 returned questionnaires, 167 were usable for hypothesis testing. Fourteen questionnaires had incomplete or uninterpretable demographic and supervisory approach information, although the MBQ portion of the questionnaire was complete.

Instrumentation and Scoring

A three-part, paper-and-pencil, self-report questionnaire was utilized (See Appendix 1). The MBQ was developed specifically by the researcher for this study. It was comprised of forty-five questions related to specific mentoring behaviors derived from Kram's (1988) qualitative research and adapted to an academic setting. The instrument

had 2 scales. Twenty questions measured psychosocial mentoring behaviors and twenty-five questions measured career mentoring behaviors. Two scores were obtained in each case, one psychosocial and one career. Supervisors were requested to respond to each statement using a Likert-type scale (0 = no opportunity; 1 = rarely; 2 = occasionally; 3 = frequently; and 4 = regularly). The potential range for psychosocial scores was 0 (no reported psychosocial mentor behaviors) to 80 (high reported psychosocial mentor behaviors), and 0 (no reported career related mentor behaviors) to 100 (high reported career related mentor behaviors) for MBQ career scores.

The Supervisory Approach Inventory (Creamer & Winston, 1993) was utilized to measure supervisory approach. The forced-choice questionnaire (See Appendix 1) required respondents to choose 1 of 4 possible responses to 23 statements related to supervisory approach. Each of the four possible responses was designed to measure one supervisory "style" including synergistic, laissez faire, authoritarian, and companionable supervisory approaches. Four scores were obtained from each respondent, one for each supervisory approach. Scores for each approach could range from 0 (no preference) to 23 (high preference). The summation of all four "type" scores could not exceed 23.

Additional information collected for analysis included faculty supervisor sex, graduate student assistant sex, length of time supervisor knew assistant prior to supervisory relationship, length of faculty/assistant supervisory relationship, average number of hours per month spent in direct contact with assistant, familiarity with the concept of mentoring, previous faculty mentorship experience (as a mentor or mentee), and whether the respondent considered herself/himself to be a mentor to the assistant referred to in the questionnaire.

Reliability

Reliability for both instruments was computed using Cronbach's alpha to measure internal consistency with data collected in the study. The calculated alpha for the psychosocial and career MBQ scales was .84 (20 items, 165 cases) and .88 (25 items, 165 cases), respectively. All cases with missing responses were excluded from the calculation. Both scales had acceptable levels of internal consistency for a psychometric instrument.

SAI reliability results from a national study of student affairs professionals conducted by Creamer & Winston (1993) are reported in Table 1. Reliability for the four Supervisory Approach Inventory scales was also calculated with data from the current study (23 items, 123 cases). The

Table 1

Reliability Coefficients for Supervisory Approach Inventory Scales Reported in Creamer and Winston's Research

Type of Supervisor	Scales			
	S	L	A	C
Vice President, Student Affairs				
(N = 122)				
supervising professionals	.71	.49	.33	.54
supervising support staff	.77	.44	.65	.67
supervising paraprofessionals	.93	.72	.80	.81
Other Student Affairs Administrators				
(N = 453)				
supervising professionals	.95	.79	.65	.72
supervising support staff	.89	.65	.69	.71
supervising paraprofessionals	.94	.70	.79	.77

Note. S = Synergistic Approach, L = Laissez Faire Approach, A = Authoritarian Approach, and C = Companionable Approach.

calculated alphas were: Synergistic Approach scale = .52, Laissez Faire Approach scale = .55, Authoritarian Approach scale = .46, and Companionable Approach scale = .31. The low number of items in the survey combined with the low number of complete cases used in the calculation may have contributed to poor reliability of the scales for this study. While these reliability coefficients were unacceptable by statistical standards, the decision to continue analysis with the instrument was made because it was a pilot study. Creamer and Winston (1993) reported higher, but widely varied reliability coefficients in their study.

Validity

Construct validity was not established for either instrument, and was outside the scope of the study. However, some quantitative evidence supported two mentoring dimensions as measured by the MBQ. Noe (1988a) developed an instrument measuring mentee perspectives related to mentoring functions. Using exploratory factor analysis, Noe found quantitative support for the two dimensions of mentor behaviors identified in Kram's (1988) qualitative study. The MBQ was reviewed by Dr. Kathy Kram, whose qualitative research was the source for the instrument. She deemed the MBQ to have face validity (See Appendix 2).

Administration and Procedures

Steps involved in administering the instruments included (a) obtaining a list of principal investigators from the Office of Sponsored Programs, (b) locating campus addresses of the principal investigators, (c) obtaining approval from Dr. Kram to develop an instrument based on her research, (d) obtaining approvals from the authors of the SAI for use in the study, (e) obtaining approval to conduct research on human subjects from Virginia Tech's Institutional Review Board, (f) mailing questionnaires, (g) collecting completed questionnaires, and (h) following up on non responses.

The Office of Sponsored Programs provided a listing of principal investigators, department codes, project names, project start dates, and project end dates. Addresses and phone numbers of principal investigators were not available through the Sponsored Programs Office; therefore, campus addresses were obtained from the University Directory (Virginia Tech, 1994). During this process the list was reduced to 543 names. Principal investigators who had off-campus addresses (satellite graduate centers) were deleted from the mailing list. Two factors played into this decision: satellite faculty were unlikely to supervise graduate student assistants for any extended period, if at all, and off-campus mailing would increase the costs of the

study. In a few cases, names were deleted because no address or phone number could be located. Duplicate names were also eliminated from the list.

Approval was obtained in writing from Dr. Kram for development and use of the MBQ which was based on her qualitative work (See Appendix 2). Approval was obtained verbally for the use of the SAI from one of its authors, Dr. Don Creamer. The University Institutional Review Board sent written notice of approval for conducting the study (See Appendix 3).

The questionnaire was mailed along with a cover letter through campus mail (See Appendix 1). The cover letter which also served as an informed consent form outlined a brief description of the study, assurance of anonymity, and instructions. Principal investigators who did not supervise a graduate student assistant in the prescribed period were instructed to return the entire survey packet. Principal investigators who supervised a graduate student assistant in the prescribed period were instructed to return the cover letter separately from the completed questionnaire to protect anonymity. An opscan answer sheet, return mailing labels, return envelope, and sharpened number 2 pencil was included in each packet. Nonresponses were monitored

through a simple coding system on the cover letter. Respondents who returned cover letters as instructed were marked off the master mailing list.

The first mailing took place on December 7, 1994. A reminder notice was mailed to nonrespondents on January 9, 1995 (See Appendix 1). The University's winter break began on December 16, so reminder notices were held until after the holidays since it was unlikely that faculty would be on campus until after the holiday season ended.

The response rate was disappointing, so a second full mailing was made on January 24, 1995. On February 8, 1995, reminder notices were once again mailed to nonrespondents. No additional attempts were made to contact nonrespondents.

Statistical Analyses

Hypotheses were tested using analysis of variance run on SPSS for Windows. All hypotheses were tested using an alpha of .05. Hypothesis one, was tested using a 2 x 2 x 3 analysis of variance (three-way ANOVA). The independent variables were gender of dyad (two levels: "same-sex" or "different-sex"), previous mentorship experience (two levels: "yes" or "no"), and length of relationship (three levels: "knew prior < 12 months and supervised < 12 months", "knew prior < 12 months but supervised > 12 months or knew prior > 12 months but supervised < 12 months", or "knew prior > 12 months and supervised > 12 months").

The dependent variables were psychosocial and career MBQ scores. Separate analysis was conducted for each dependent variable.

Hypothesis two was tested using a 2 x 2 x 3 multivariate analysis of variance (three-way MANOVA). The factors were gender of dyad, prior mentoring experience, and length of relationship (same levels as previously mentioned). The dependent variables were the four SAI scores: synergistic, laissez faire, authoritarian, and companionable.

Hypothesis three was tested using two one-way analysis of variance (one-way ANOVA). The independent variable was preferred supervisory approach (four levels: "synergistic", "laissez faire", "authoritarian", or "companionable"). Preferred supervisory approach was computed by identifying the highest scoring supervisory approach for each respondent. Cases with tie scores between two or more approaches were eliminated from the computation. There were four tie cases (two had tie scores on synergistic and laissez faire approach scores and two had tie scores on synergistic and authoritarian approach scores). The dependent variables were psychosocial and career MBQ scores. A separate analysis was done for each dependent variable.

CHAPTER FOUR

Results

Gender

One hundred forty male and 27 female principal investigators responded. These supervisors reported that 109 male and 51 female assistants were referenced in the study. One hundred fifteen of the pairs were same-sex, and 45 pairs were different-sex. The gender pairs were as follows: 99 male supervisor-male assistant pairs, 16 female supervisor-female assistant pairs, 10 female supervisor-male assistant pairs, and 35 male supervisor-female assistant pairs. See Table 2.

Familiarity with Mentoring

An overwhelming majority of supervisors were familiar with the concept of mentoring with 161 reporting familiarity with the concept (97.0%). Five supervisors were not familiar with the concept. One hundred seventeen supervisors reported having had a mentor in the past compared with 47 who had never had a mentor. One hundred forty one supervisors reported having acted as a mentor in the past. In total, 149 respondents had some first-hand experience with mentoring as a mentee, a mentor, or both.

Table 2

Supervisor-Assistant Pairs by Sex
(N = 160)

Supervisor-Assistant Pairs	Number	Percentage of Total N
Male-Male	99	61.9
Female-Female	16	10.0
Female-Male	10	6.3
Male-Female	35	21.9
Same-Sex	115	71.9
Different-Sex	45	28.1

One hundred thirty nine supervisors reported acting as a mentor to the assistant they referenced in the survey as shown in Table 3. Twenty-six supervisors reported they were not a mentor to assistant.

Assistantship Type, Number Supervised, and Contact

The population, principal investigators of externally sponsored programs, was selected because a high number of supervisors of graduate research assistants was anticipated. This proved to be the case. Respondents reported supervising 110 research assistants, 24 graduate assistants, and 24 teaching assistants. One hundred fifty five supervisors reported supervising more than one assistant during the designated period which indicated that the majority of respondents were able to select "the most upwardly mobile" supervisee as their reference point according to questionnaire instructions. See Table 4.

Forty-five percent of supervisors (N= 76) reported more than 9 hours of contact time with the assistant per month. Twenty supervisors (12.4%) reported spending 4 hours or less in direct contact with the assistant per month, and seventy one supervisors (42.6%) reported spending between four to eight hours of direct contact per month. The mean response for this question was 7.27 (where 7 represented 6 to 7 hours of contact per month) with a standard deviation of 2.4 as shown in Table 5.

Table 3

Number of Supervisors Reporting Mentorship Experience

Mentoring Experience	Yes		No	
	n	%	n	%
Are Mentor to Assistant	139	84.2	26	15.8
Had a Mentor Before	117	71.3	47	28.7
Was a Mentor Before	141	86.5	22	13.5
Has Some Experience with Mentorship as Mentor and/or Mentee	149	91.4	14	8.6
Familiar with Concept of Mentoring	161	97.0	5	3.0

Table 4

Number and Percentage of Total Graduate Student Assistants Supervised by Type of Assistantship and Number of Assistants Supervised

Type of Assistantship	Number	Percentage
Graduate Research Assistant (GRA)	110	69.6
Graduate Assistant (GA)	24	15.2
Graduate Teaching Assistant (GTA)	24	15.2
One Assistant Supervised	12	7.2
More Than 1 Assistant Supervised	155	92.8

Note. Total number of graduate student assistants reported by type = 158.

Table 5

Amount of Supervisor Contact with Graduate Student Assistants per Month

Amount of Contact	Number	Percentage
0 - 1 hours per month	3	1.8
1 - 2 hours per month	4	2.4
2 - 3 hours per month	4	2.4
3 - 4 hours per month	9	5.4
4 - 5 hours per month	18	10.8
5 - 6 hours per month	17	10.2
6 - 7 hours per month	9	5.4
7 - 8 hours per month	27	16.2
more than 9 hours per month	76	45.5

Note. Total number of faculty supervisors reporting contact time with graduate student assistant = 167.

One hundred twelve supervisors reported they knew the assistant less than twelve months prior to the start of the supervisory relationship. Fifty five reported knowing the assistant greater than twelve months prior to the start of their supervisory relationship. The majority (146 or 89.0%) reported that the duration of the supervisory relationship was greater than twelve months.

MBQ and SAI Scores

Descriptive data were computed for psychosocial and career MBQ scales. Psychosocial MBQ scores ranged from 24 to 77 with a maximum possible score of 80. Career MBQ scores ranged from 22 to 94, with a maximum possible score of 100. The mean psychosocial score was 52.00 with a standard deviation of 10.80 and the career score mean was 58.83 with a standard deviation of 14.06. The Likert-type scale used to calculate scores was 0 = no opportunity, 1 = never, 2 = rarely, 3 = frequently, and 4 = regularly. The total score equalled the summation of the Likert values chosen for each response. The mean scores which were calculated for the 167 cases used in hypotheses testing are shown in Table 6.

Descriptive data were computed for SAI scores, and preferred supervisory approach. Synergistic Approach scores ranged from 2 to 19, Laissez Faire Approach scores ranged from 0 to 12, Authoritarian Approach scores ranged from 0 to

Table 6

Mean Scores and Standard Deviations for the Mentor Behaviors Questionnaire and Supervisory Approach Inventory

Scales	<u>M</u>	<u>SD</u>
Psychosocial Mentor Behaviors	51.95	10.82
Career Mentor Behaviors	58.95	14.06
Synergistic Approach	11.50	3.20
Laissez Faire Approach	5.23	2.63
Authoritarian Approach	3.02	1.92
Companionable Approach	2.58	1.71

Note. Number of cases = 167. Possible score ranges: psychosocial 0 - 80, career 0 - 100, synergistic, laissez faire, authoritarian, and companionable 0 - 23 each where the sum of the four scores could not exceed 23.

10, and Companionable Approach scores ranged from 0 to 8. There was a maximum possible score of 23 for the instrument. Mean scores and standard deviations are reported in Table 6.

Preferred Supervisory Approach was identified by determining the individuals' highest score in one of the four approaches. There were four cases with tie scores between two approaches which were excluded from further analysis. The synergistic approach was preferred by 144 supervisors (88.3%), laissez faire approach was preferred by 18 supervisors (11.0%), authoritarian approach was preferred by 1 supervisor (.6%). No one preferred the companionable approach. Mean scores for each preferred supervisory approach are reported in Table 7.

Hypothesis One: The Relationship Between MBQ Scales, Gender Mix of Pair, Previous Faculty Mentoring Experience, and Length of Relationship

Two three-way ANOVAs were performed to determine if there were significant differences between psychosocial and career MBQ mean scores by the factors gender mix of pair, previous faculty mentoring experience, and length of relationship. The results of the three-way analysis of variance on psychosocial scores are summarized in Table 8 showing significant main effects on mentor experience and length of relationship and a significant interaction between gender mix of the pair and mentoring experience.

Table 7

Mean Scores and Standard Deviations for Preferred Supervisory Approach

Preferred Approach	Number	<u>M</u>	<u>SD</u>
Synergistic	144	12.29	2.56
Laissez Faire	18	9.50	1.58
Authoritarian	1	10.00	.

Note. The companionable approach was not preferred in any case. Highest possible score was 23 for any approach.

Table 8

Results of Three-Way Analysis of Variance: Psychosocial Mentoring Behavior Scores by Gender Mix Of Pair, Previous Faculty Mentoring Experience, and Length of Relationship

Source of Variation	SS	df	MS	F
Main Effects				
pair gender mix	259.86	1	259.86	2.51
mentoring experience	605.80	1	605.80	5.86**
length of relationship	706.90	2	353.45	3.41*
2-Way Interactions				
gender mix/mentor experience	587.08	1	587.08	5.68**
gender mix/length of relationship	291.37	2	145.69	1.41
mentor experience/length of relationship	38.20	2	19.10	.19
Explained	2593.91	9	288.21	
Residual	14575.96	141	103.38	
Total	17169.89	150	114.47	

Note. * $p < .05$. ** $p < .02$. Higher order interactions were suppressed due to empty cells.

The main effect for mentoring experience was disregarded since there was a significant interaction with another variable. However, since there was no interaction on length of relationship, a post hoc Neuman Keuls test was calculated. A harmonic mean was utilized due to unequal cell sizes ($n = 14$, $n = 91$, and $n = 46$, harmonic mean = 28.81). There were no significant differences indicated in the Neuman Keuls test. Unequal cell sizes and the small number of cases in each cell might have contributed to the different significance readings in post hoc testing. The null hypothesis that length of relationship had no effect on mean psychosocial MBQ scores was not rejected.

The interaction of gender mix and mentoring experience was examined using one-way ANOVAS calculated for same-sex and different-sex pair psychosocial scores by the mentoring experience variable. F values were computed using the mean square between groups from the one-way ANOVA computation, and the residual term from the original three-way ANOVA computation for a more accurate and conservative measure. Supervisors in same-sex pairs who had previous mentoring experience reported significantly higher mean psychosocial MBQ scores than supervisors in same-sex pairs with no prior mentoring experience ($F = 5.65$, $df 1/141$, $p < .05$). However, there was no significant difference in mean scores

for different-sex pairs on the mentoring experience variable ($F = .25$, $df 1/141$). The null hypothesis that the interaction of gender mix and mentoring experience had no impact on psychosocial scores was rejected.

The results of the three-way analysis of variance on career MBQ scores are summarized in Table 9. A significant main effect on length of relationship was indicated. However, a post hoc Neuman Keuls test using the harmonic mean (28.81) indicated no significant differences in career score means on the relationship variable. There were no significant interactions. The different test and post hoc test results were likely due to unequal cell sizes and small sample size ($n = 14$, $n = 91$, and $n = 46$). The null hypothesis that there were no mean career score differences on the factors gender mix, prior mentoring experience, and length of relationship was not rejected.

Hypothesis Two: Multivariate Analysis of Variance on Supervisory Approach Scores

Multivariate analysis of variance (MANOVA) was utilized to determine if significant group differences in SAI scores occurred by the factor variables gender mix of pair, mentoring experience, and length of relationship. Because of error terms related to linearity of the four dependent variables that occurred in early stages of analysis (all

Table 9

Results of Three-Way Analysis of Variance: Career Mentoring Behavior Scores by Gender Mix of Pair, Previous Faculty Mentoring Experience, and Length of Relationship

Source of Variation	SS	df	MS	F
Main Effects				
pair gender mix	586.60	1	586.60	3.29
mentoring experience	606.82	1	606.82	3.40
length of relationship	1516.48	2	758.24	4.25**
Two-Way Interactions				
gender mix/mentor experience	1.99	1	1.99	.01
gender mix/length of relationship	207.17	2	103.59	.58
mentor experience length of relationship	297.35	2	148.67	.83
Explained	3397.97	9	377.55	
Residual	25141.26	141	178.31	
Total	28539.23	150	190.26	

Note. ** $p < .02$. Higher order interactions were suppressed due to empty cells.

scores sum to 23 in complete response cases), only three scores, synergistic, laissez faire, and authoritarian scores, were used as dependent variables. The companionable score could be predicted based on the sum of the remaining scores.

Multivariate F tests were computed for the variables. There were no significant main effects, three-way interactions, or two-way interactions between length of relationship and mentoring experience. However, a significant interaction between gender mix of pair and mentoring experience was indicated by the Wilks Lambda multivariate test (Wilks lambda = .92, $F = 4.01$, $df = 3$, $p < .01$) as shown in Table 10. A significant interaction between gender mix and mentoring experience also was noted in testing hypothesis one.

A follow up one-way analysis of variance was computed for each of the three supervisory approach scores for same-sex pairs and different-sex pairs by mentoring experience as shown in Table 11. No significant differences were detected. Therefore, the null hypothesis was not rejected.

Hypothesis Three: The Relationship Between Psychosocial and Career Mentoring Behaviors, and Preferred Supervisory Approach.

Two one-way analyses of variance were computed for the dependent variables, psychosocial and career MBQ scores, by the factor preferred supervisory approach. The results

Table 10

Results of Wilks Lambda Multivariate Analysis of Variance
for Synergistic, Laissez Faire, and Authoritarian
Supervisory Approaches by Gender Mix of the Pair, Previous
Faculty Mentoring Experience, and Length of Relationship

Source of Variation	Wilks Lambda	F	Sig. of F
Length of Relationship by Mentoring Experience	.94	1.35	.24
Gender Mix of Pair by Mentoring Experience	.92	4.01	.01
Gender Mix of Pair by Length of Relationship	.98	.35	.91
Mentoring Experience	.97	1.62	.19
Length of Relationship	.92	1.86	.08
Gender Mix of Pair	.97	1.60	.19

Table 11

Results of One-Way Analysis of Variance for SAI Scores for Same-Sex and Different-Sex Pairs by the Factor Previous Mentoring Experience

Source of Variation	SS	df	MS	F
Same-Sex Pairs - Synergistic Scores				
Between Groups	19.46	1	19.46	1.72
Within Groups	1230.97	109	11.29	
Total	1250.43	110		
Different-Sex Pairs - Synergistic Scores				
Between Groups	3.18	1	3.18	.37
Within Groups	368.73	43	8.58	
Total	371.91	44		
Same-Sex Pairs - Laissez Faire Scores				
Between Groups	2.68	1	2.68	.38
Within Groups	770.24	109	7.07	
Total	772.92	110		
Different-Sex Pairs - Laissez Faire Scores				
Between Groups	10.15	1	10.15	1.52
Within Groups	286.42	43	6.66	
Total	296.58	44		

table continues

Source of Variation	SS	df	MS	F
Same-Sex Pairs - Authoritarian Scores				
Between Groups	5.26	1	5.26	1.65
Within Groups	346.70	109	3.18	
Total	351.96			
Different-Sex Pairs - Authoritarian Scores				
Between Groups	14.66	1	14.66	2.87
Within Groups	219.24	43	5.10	
Total	233.91	44		

Note. No significant group differences detected at the .05 level.

are summarized in Table 12. Significant differences were indicated on the variables psychosocial mentoring behavior and preferred supervisory approach at the .05 level. A post hoc Neuman Keuls test revealed that the synergistic approach group reported significantly higher rates of psychosocial mentoring behaviors than the authoritarian approach group ($M = 52.87$ and $M = 41.00$ respectively). However, these results must be viewed cautiously as there was only one case of preferred authoritarian approach. No significant differences between groups were indicated in the one-way analysis of career mentoring behavior scores and preferred supervisory approach.

Additional Analysis: MBQ Scores by Assistantship Type and Contact per Month

The testing of an additional hypothesis was appropriate, because the choice of population was based on the idea that outside of the dissertation/thesis committee, the faculty supervisor-graduate research assistant relationship was most likely to have a high degree of mentoring. The hypothesis, graduate assistantship type, contact per month, and their corresponding interactions have no significant impact on psychosocial and career MBQ scores, was tested using a two-way analysis of variance. Each independent variable had three levels. Assistantship

Table 12

Results Of One-Way Analysis of Variance for Psychosocial and Career Mentoring Behavior Scores by Preferred Supervisory Approach

Source of Variation	SS	df	MS	F
Psychosocial Mentoring				
Between	707.30	2	353.65	3.22*
Within	17594.99	160	109.97	
Total	18302.29	162		
Career Mentoring				
Between	423.80	2	211.90	1.08
Within	31275.75	160	195.47	
Total	31699.55	162		

Note. * $p < .05$

type levels were graduate research assistant, graduate assistant, or graduate teaching assistant. Contact per month was collapsed from 9 categories to the following three categories: 0 - 4 hours per month, 4 - 8 hours per month, and more than 9 hours per month.

There were no significant main effects for assistantship type ($F = 4.51, df = 2$), contact per month ($F = 3.66, df = 2$), or interactions ($F = 2.24, df = 4$) for psychosocial MBQ mean scores at the .05 level; therefore, the null hypothesis was not rejected. However, main effects on assistantship type and contact per month were indicated for MBQ career scores. There was no interaction of type and contact. The results are displayed in Table 13.

Post hoc Neuman Keuls tests were calculated for each of the independent variables. Mean career MBQ scores were significantly higher for supervisors of graduate assistants ($\underline{M} = 66.71, N = 24$) than for supervisors of graduate research assistants ($\underline{M} = 57.80, N = 109$) or graduate teaching assistants ($\underline{M} = 55.79, N = 24$). Mean career MBQ scores were significantly higher for supervisors who were in direct contact with assistants more than 9 hours per month ($\underline{M} = 62.25, N = 72$) than supervisors who were in contact between 0 and 4 hours per month ($\underline{M} = 54.78, N = 18$).

Table 13

Results of Two-Way Analysis of Variance: Career MBQ Scores
by Assistantship Type and Contact per Month

Source of Variation	SS	df	MS	F
Main Effects				
Assistantship Type	1589.50	2	794.75	4.51**
Contact per Month	1291.32	2	645.66	3.66*
Two-Way Interactions				
Type by Contact	1580.48	4	395.12	2.24
Explained	4671.98	8	584.00	3.31
Residual	26093.38	148	176.31	
Total	30765.36	156	197.21	

Note. * $p < .05$, ** $p < .02$

The hypothesis that there were no significant differences in career MBQ scores on the factors assistantship type and contact per month was rejected.

Summary of Results

One hundred eighty one out of 543 principal investigators of externally sponsored programs responded to the request for information about their mentoring behaviors and supervisory approach in supervising graduate student assistants. There were 167 usable surveys for analysis. Analysis of variance was computed to determine if significant differences in MBQ and SAI mean scores by the factors gender mix of the pair, previous faculty mentoring experience, and length of relationship between faculty supervisor and graduate student assistant occurred. MBQ scores were also analyzed for group differences by the factor preferred supervisory approach.

Supervisors with prior mentoring experience reported higher MBQ psychosocial scores in same-sex pairs than same-sex pairs with no prior mentoring experience. There were no significant differences in psychosocial MBQ scores for different-sex pairs regardless of prior mentoring experience. No significant differences were indicated for psychosocial MBQ scores by length of relationship or career MBQ scores by any of the three factors.

Multivariate analysis of variance was used to analyze supervisory approach by gender mix of pair, mentoring experience, and length of relationship. There were no significant interactions or main effects for any group.

The relationship between MBQ psychosocial scores, career scores, and preferred supervisory approach was examined using analysis of variance. The synergistic approach group reported significantly higher psychosocial MBQ scores than the authoritarian group. There were no significant group differences on career MBQ scores.

MBQ scores were examined in conjunction with assistantship type, and number of hours of supervisor contact per month using analysis of variance. There were no significant interactions of the factor variables for either MBQ score. There were no significant differences in psychosocial MBQ scores by either factor. Supervisors of graduate assistants reported significantly higher MBQ career scores than supervisors of graduate research assistants or graduate teaching assistants. Supervisors who were in direct contact with their assistant more than 9 hours per month reported higher career MBQ scores than supervisors reporting 4 or less hours of contact per month.

CHAPTER FIVE

Discussion, Implications, Future Research, and Conclusions

Summary of the Study

The purpose of the study was to describe the mentoring behaviors and supervisory approaches reported by faculty supervisors of graduate student assistants at Virginia Tech. The effects of gender mix of the pair, prior faculty mentoring experience, and length of relationship on mentoring behaviors, and supervisory approach were explored. The relationship between mentoring behaviors and preferred supervisory approach was examined. Lastly, the relationship between mentoring behaviors, type of graduate student assistant supervised, and amount of contact with student per month were explored. Analysis of variance and multivariate analysis of variance were used to analyze the data.

Data were collected from faculty who were identified as principal investigators of externally sponsored programs between July 1, 1992, and October 31, 1993, using the Mentor Behaviors Questionnaire (MBQ) and Supervisory Approach Inventory (SAI).

Discussion: Descriptive Data

Ninety seven percent of the respondents reported being familiar with the concept of mentoring. More faculty reported having acted as a mentor (87 percent) than as having had a mentor (71 percent) which could indicate a

growth in the presence of mentoring in graduate education or an institutional environment which fostered the formation of mentorships. The high level of familiarity with the topic indicated that mentoring continued to be perceived as important to graduate study (Blackburn et al., 1981; Cesa & Fraser, 1989; Lyons, et al., 1990; Philips, 1979) and graduate assistantships (Minkel & Richards, 1983). Faculty supervisors learned how to mentor through first-hand experience as a mentee, their own initiative, or institutional culture.

Eighty-four percent of respondents reported that they were currently mentoring at least one graduate student assistant. However, the degree of reported mentoring behaviors as measured by the MBQ was not as strong. The mean scores for psychosocial and career MBQ scales represented sixty-five and fifty-nine percent of total possible points, respectively. This might indicate that mentoring behaviors occurred which were not measured. It supported the thesis that the construct "mentor" was not well defined, and that mentoring was esoterically defined (Gehrke, 1988; Levinson et. al, 1978, Lyons et al., 1990).

Only seventeen percent of the faculty respondents were female which supported the common observation of a shortage of potential female mentors (Kram, 1988; Noe, 1988b; Zey, 1984). Thirty-two percent of the graduate student

assistants referenced in the study and chosen for their high career potential were female which compared favorably with the proportion of female graduate students in the total assistantship population (32.8% reported by Institutional Research and Planning Analysis at Virginia Tech for the fall 1994 semester). Female-female pairs comprised 13.9% of total same-sex pairs. In contrast, 86.1% of same-sex pairs were male. This lent support to observations that women were as likely as men to have access to mentors, but had less access to same-sex mentors (Alleman et al., 1987; Aguilar-Gaxiola & Norris, 1984; Ragins & McFarlin, 1990). Six percent of the total relationships reported were female supervisor-male assistant which suggested some opportunity for female mentor/male mentee, a model that was rare or nonexistent in the past (Blackburn, et al., 1981; Cronan-Hillix et al., 1985; Kelly, 1984; Ragins & McFarlin, 1990).

Hypothesis One: Discussion of Results

Mean psychosocial and career MBQ scores were compared along the factors, gender mix of dyad, previous faculty mentoring experience, and length of relationship. An interaction between gender mix of dyad and mentoring experience on psychosocial mentor behavior scores was noted. Supervisors in same-sex pairs who had previous experience as a mentee or mentor reported more frequent engagement in behaviors labeled as psychosocial mentoring (counseling,

reciprocal affirmation and confirmation, role modeling, and friendship) than their counterparts who had no prior mentoring experience. Faculty with prior mentoring experience, might place higher value on psychosocial support, know how and what psychosocial support to offer, or be more inclined to provide psychosocial support than their counterparts with no prior mentoring experience. This finding was consistent with the literature that mentees tended to become mentors later in life (Kram, 1988; Levinson et al., 1978; Roche, 1979) and that certain psychosocial functions such as role modeling and friendship were more likely to be demonstrated in same-sex pairs than cross-gender pairs (Kram, 1988; Noe, 1988b).

Psychosocial mentoring scores were lowest for same-sex pairs where the supervisor had no prior mentoring experience. This was an interesting finding since the majority of same-sex pairs were male. One might speculate that faculty without prior mentoring experience did not understand the value of psychosocial mentoring support for their male assistants in keeping with the stereotype of the strong, silent, independent male in American society. There is nothing in the literature that indicated male graduate students did not need, or needed less, psychosocial support

than women graduate students. Hodgson and Simoni (1995) reported no significant differences among 529 graduate students on perceptions of faculty social support by sex or discipline.

In contrast, there were no significant differences in psychosocial mentoring behaviors for different-sex pairs by the mentoring experience variable. This finding suggested that other influences were at work. Seventy-seven percent of different-sex pairs were male supervisor-female assistant. Blackburn et al. (1981) and Noe (1988a) suggested that female mentees in cross-gender mentorships utilized mentoring functions better than male mentees. It is possible that women mentees were more willing to request and encourage psychosocial support from their supervisors. In contrast, Kram (1988) identified two areas of psychosocial mentoring, role modeling and friendship, which occurred less frequently in male mentor-female mentee pairs. Another possibility is that mentor socialization, paternalism, or stereo typing of female needs might encourage more "warm and fuzzy" support for women mentees regardless of prior faculty mentoring experience.

There were no significant differences in post hoc testing of MBQ psychosocial or career behavior scores by the variable length of relationship. This result was somewhat surprising given that thirty percent of respondents reported

both knowing the assistant more than 12 months prior to the supervisory relationship, and supervising the assistant greater than 12 months. Kram (1988) noted that career mentoring emerged first and that psychosocial and career support peaked between the start of the second year up until the sixth year of the relationship.

Since the majority of the faculty respondents had some prior mentoring experience, they may have been ready to "jump in" from the start of the relationship with helpful mentoring behaviors. The nature and degree of involvement in the "pre" supervisory relationship was unknown. Additionally, the variable may not have been structured specifically enough to ferret out any differences if they occurred. It is important to note that Kram's (1988) observations were made in a corporate setting; whereas, the current mentoring study was conducted in an academic setting.

There were no significant differences in career behavior scores by the variables gender mix of the pair or mentoring experience. The respondents were instructed to select the assistant with the greatest career potential. It is likely that the assistants' competencies overrode any potential gender bias in the delivery of career mentoring. Lack of significant differences by gender mix might also be

attributable to awareness and enforcement of sexual discrimination and affirmative action policies encouraging same treatment of different-sex assistants.

A possible explanation for the lack of significant differences in career mentoring scores on the mentoring experience variable may be attributed to the culture of academe and collegiality. Part of the role of faculty is to train new professionals for career success (Blackburn et al., 1981; Moore, 1982; Philips, 1979). The positive achievement of a faculty member's student reflected favorably on his or her teaching ability. Therefore, incentive for career mentoring behaviors was provided (Blackburn et al., 1981; Keele & DeLaMare-Schaefer, 1984).

Hypotheses Two: Discussion of Results

Multivariate analysis of variance was used to analyze three supervisory approaches, synergistic, laissez faire, and authoritarian by the factors gender mix of the dyad, previous mentoring experience, and length of relationship. There were no significant interactions between any of the factor variables except gender mix of the pair and previous mentoring experience. However, subsequent analysis with one-way ANOVAs for each supervisory approach for same-sex pairs and different-sex pairs by mentoring experience were not significant. While no differences in SAI mean scores were anticipated for gender mix of the dyad, it was somewhat

surprising that differences did not occur on the length of relationship or mentoring experience variables. The unsatisfactory reliability readings for the instrument made interpretation of results difficult at best.

The synergistic approach was preferred by eighty eight percent of respondents. This overwhelming majority preference for a synergistic approach might indicate that the other approaches were not appropriately defined supervisory styles in academe. Another factor was the element of self-report as an accurate measure of supervisory style. Blake, Mouton, and Williams (1981) found that when education administrators evaluated themselves, they tended to rate themselves in a more positive light than the ratings awarded by their subordinates.

Hypothesis Three: Discussion of Results

The relationship of psychosocial and career mentoring behaviors by the factor preferred supervisory approach was explored using one-way ANOVAs. Faculty supervisors who preferred a synergistic approach reported significantly higher psychosocial mentoring behaviors than those preferring the authoritarian approach. The synergistic approach, characterized by personal and professional staff development, was similar to the two function mentoring model in this study. The synergistic supervisor viewed psychosocial support as integral to staff development. In

contrast, the authoritarian supervisor placed little value on personal growth of subordinates, and was therefore unlikely to report psychosocial mentoring.

No significant differences were indicated between preferred supervisory approach and career mentoring behaviors. As discussed earlier, faculty viewed career development as part of their teaching role and consistent with the cultural expectation of higher education. Therefore, in graduate education, career mentoring behavior was unaffected by personal supervisory style.

MBQ Scores by Assistantship Type and Contact per Month: Discussion of Results

MBQ psychosocial and career scores were analyzed by the factors assistantship type and number of contact hours using a two-way ANOVA. There were no significant interactions of factors for either MBQ scale.

There were no significant main effects for the two factors on psychosocial scores indicating that psychosocial support was provided without regard to assistantship type or amount of contact.

Significant main effects were indicated for career mentoring behaviors by both factors. Faculty who were in direct contact with their graduate student assistants more than nine hours per month reported significantly higher rates of career mentoring behaviors than their counterparts

who spent between zero and four hours per month with their assistants. These data supported Kram's (1988) observation that career mentoring involved significant time and commitment on the mentors part and tended to emerge before psychosocial mentoring.

Surprisingly, faculty supervisors of graduate assistants reported significantly higher career mentoring behaviors than supervisors of graduate research assistants or graduate teaching assistants. It was anticipated that faculty supervising graduate research assistants would report more career mentoring behaviors because of the high value placed on research in obtaining tenure and the importance of research in Virginia Tech's overall mission. Perhaps, faculty perceived graduate assistants who often performed multiple tasks of teaching, and/or administration as needing more career support. Blackburn et al. (1981) found that faculty who identified with their graduate students were more likely to provide career support. Faculty might have viewed graduate assistants as more like themselves and therefore, provided more career support. Faculty might perceive graduate assistants as more likely to succeed in administrative and leadership posts such as director, department head, or dean. Therefore, they demonstrated more career mentoring behaviors.

Limitations

There were several limitations to the study which must be considered when interpreting results.

Unsatisfactory SAI reliability readings were computed from the data collected for this study. While Creamer and Winston (1993) reported higher rates of internal consistency in their larger sample, some levels were still unacceptable for a psychometric instrument.

Construct validity was not established for either of the instruments. While research by Noe (1988a) and Aguilar-Gaxiola and Norris (1984) provided empirical support for two functional roles of mentoring, their research did not directly apply to the MBQ. Likewise, management literature supported the notion of multiple supervisory styles (Blake, Mouton & Williams, 1981; McGregor, 1960; Yukl, 1989), but those results could not be directly applied to the SAI. An overwhelming majority of respondents reported preferred synergistic approach, but only one faculty member reported authoritarian as preferred and no one reported preferring the companionable approach suggesting that the measures need refinement as applied in an academic setting.

The Likert-type scale used in the MBQ might have caused some interpretation problems for respondents. The five point scale was designed to measure the frequency of the stated behavior from a range of no opportunity to engage in

the activity (0) to engaging in the activity at every opportunity (4). The end point label "regularly" might not have clearly conveyed this idea when compared to the previous level labeled as "frequently." Optimally, a scale could be devised with specific frequency ranges for the stated behavior such as "once a month," "two or three times per month" and so on. Additional research is required to determine what specific rates of activity make sense. Another option is to label only the beginning and end points on the scale.

Random sampling was not conducted for this pilot study. Data were collected from one institution and from one group type which compounded the inappropriateness of generalizing the results to other populations.

The response rate was low. After four mailings, fifty six percent of the selected population failed to respond. This might indicate lack of interest or value placed in mentoring and supervision of graduate student assistants, lack of experience or understanding of mentoring, an absence of mentoring to graduate student assistants, aversion to the instrumentation (of the twenty one respondents declining the study, some aspect of instrumentation, or lack of time were indicated as a reason for nonparticipation), or that no

graduate student assistant was supervised in the prescribed period. In future studies, nonrespondents should be queried as to why they declined participation in the study.

Some respondents did not follow the survey instructions. They were directed to select one high career potential graduate student assistant for reference in the study. Some faculty checked multiple graduate assistantship types and assistant sex in the demographic portion of the questionnaire indicating they had attempted a "composite" response. It is unclear how "composite" responses effect the interpretation of results.

Implications for Practice and Policy

Information gathered in this study is useful for the development of formal mentor training for faculty who supervise graduate student assistants. Familiarity with the concept of mentoring did not guarantee a full understanding of, or engagement in the two types of mentoring behaviors. Instruction in psychosocial and career mentoring functions, specific mentoring behaviors, and benefits accrued to mentors and mentees may be helpful in encouraging faculty mentorship. A faculty mentor training program could easily be adapted to other types of student-faculty relationships such as for at-risk students, students in non-traditional majors, first-year students, non-traditional students, international students and so on.

The importance of psychosocial mentoring behaviors for both female and male graduate students should be stressed. Hodgson and Simoni (1995) discovered no differences in reported graduate social support in 529 male and female graduate students. Students who reported low levels of graduate social support reported higher levels of psychological distress which was associated with higher rates of attrition and longer time to degree. In a climate of criticism for the increasing time to degree, informed mentoring practices by faculty may help keep all students on task. Student affairs professionals need to investigate ways of encouraging and implementing such training programs across all academic disciplines in a joint effort to enhance personal and career developmental growth in students.

The MBQ and SAI may be useful as self-assessment and professional development tools. The MBQ may also be used as a pretest/posttest measure to determine the effectiveness of mentor training programs. The SAI may be useful in screening potential mentors for formal mentoring programs.

Amount of contact with graduate student assistants was related to higher career helping behaviors on the part of faculty supervisors. Reward systems that recognize time commitment and excellence in assistantship supervision should be considered. Cesa and Fraser (1989) found that recognition of outstanding faculty mentors in department or

college awards ceremonies had a positive impact on the rate of graduate student mentoring. Lastly, faculty supervisors should be encouraged to provide career development support to all types of assistants, even when career needs are not apparent as in more independent assistantships such as graduate research or graduate teaching.

Recommendations for Future Research

There are several recommendations for future research that could improve the current study, should it be replicated. Factor analysis should be computed for both instruments to determine if the multiple dimensions are appropriate. This analysis would add to the limited empirical data defining the constructs of mentoring and supervision.

It might be advisable to remove the labels mentor and mentoring from the MBQ. It is possible that use of the terms encourage respondents to report what they ought to be doing and not what they actually do. Because of the difficulty in reaching consensus on the definition of mentor, the terms advisor and advising might be more appropriate.

Random and large scale sampling of a variety of institutions should be employed to obtain more generalizable results. Faculty self-reported behaviors could be corroborated using a parallel instrument for graduate

student assistants to verify the results. The length of relationship variable should be more carefully defined and a measure of the nature of the presupervisory relationship developed. Empirical and qualitative data collected from the same sample would add depth to the study.

Further research into same-sex pairs and differences between male-male and female-female pairs would be of interest on the psychosocial MBQ scale. The female supervisor-male assistant relationship should be studied in comparison with the reverse relationship to see if the same cross-gender problems apply.

Another area for research is investigation into environmental and cultural conditions as they relate to the formation of mentorships. Institutional and personal reward systems for mentoring should be explored. It would be interesting to find out how faculty with no prior mentoring experience learned to become mentors, and what motivated them to do so in comparison with their cohorts who did not become mentors.

Conclusion

Education promotes a climate for personal development and self-actualization. Traditionally, the thesis or dissertation chair was considered the graduate student's mentor. However, faculty supervisors of graduate student assistants are in an excellent position to provide

personalized mentoring guidance in the development of psychosocial and career functioning of their graduate student assistants. Both parties benefit from the enriched experience. Faculty supervisors may be unaware of the types of support and the specific behaviors associated with mentoring. They may be unaware that a synergistic supervisory approach goes hand-in-hand with positive mentoring support which in turn optimizes the success of their graduate student assistants. Mentor training programs that focus on the actions of mentors instead of the characteristics of mentorship provide practical information for the encouragement and expansion of faculty mentorship in graduate education.

REFERENCE LIST

- Aguilar-Gaxiola, S. & Norris, R.C. (April, 1984). The roles of mentors in the lives of graduate students. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Alleman, E. (1987). Alleman mentoring scales questionnaire. Mentor, OH: Leadership Development Consultants.
- Alleman, E., Cochran, J., Doverspike, J. & Newman, I. (1984). Enriching mentoring relationships. Personnel and Guidance Journal, 62, 329-332.
- Alleman, E., Newman, I., Huggin, H. & Carr, L. (1987). The impact of race on mentoring relationships. International Journal of Mentoring, 1(2), 20-23.
- Bellflower, D.K. (1982). Developing a mentor relationship. Roeper Review, 5(2), 45-46.
- Bernstein, B.J. & Kaye, B.L. Kaye (1986). Teacher, tutor, colleague, coach. Personnel Journal, 65(11), 44-51.
- Blackburn, R.T., Chapman, D.W. & Cameron, S.M. (1981). "Cloning" in academe: Mentorship and academic careers. Research in Higher Education, 15(4), 315-327.
- Blake, R.R., Mouton, J.S. & Williams, M.S. (1981). The academic administrator grid. San Francisco: Jossey-Bass.

- Bragg, A.K. (1976). The socialization process in higher education (higher education research report no. 7). Washington D.C.: The American Association for Higher Education.
- Bullis, C. & Wackernagel Bach, B. (1989). Are mentor relationships helping organizations? An exploration of developing mentee-mentor-organizational identifications using turning point analysis. Communication Quarterly, 37(3), 199-213.
- Burlew, L.D. (1991). Multiple mentor model: A conceptual framework. Journal of Career Development, 17(3), 213-221.
- Cesa, I.L. & Fraser, S.C. (1989). A method for encouraging the development of good mentor-protégé relationships. Teaching of Psychology, 16(3), 125-128.
- Chao, G.T., Walz, P.M. & Gardner, P.D. (1992). Formal and informal mentorships: A comparison on mentoring functions and contrast with nonmentored counterparts. Personnel Psychology, 45(3), 619-636.
- Creamer, D.G. & Winston, R. (1993). Supervisory Approach Instrument. Unpublished manuscript.
- Cronan-Hillix, T, Gensheimer, L.K., Cronan-Hillix, W.A. & Davidson, W.S. (1986). Students' views of mentors in psychology graduate training. Teaching of Psychology, 13(3), 123-127.

- Eberspacher, J. & Sisler, G. (1988). Mentor relationships in academic administration. Initiatives, 51(4), 27-32.
- Erikson, E.H. (1959). Identity and the life cycle. Psychological Issues, 1, 50-100.
- Gehrke, N. (1988). Toward a definition of mentoring. Theory Into Practice, 27(3), 190-194.
- Gerstein, M. (1985). Mentoring: An age old practice in a knowledge-based society. Journal of Counseling and Development, 64, 156-157.
- Hodgson, C.S. & Simoni, J.M. (1995). Graduate student academic and psychological functioning. Journal of College Student Development, 36(3), 244-253.
- Hogarty, K. (1988). Name dropping: The mentor system and altering the community of scholars. Teacher Education Quarterly, 15(3), 39-47.
- Johnsrud, L.K. (1990). Mentor relationships: Those that help and those that hinder. In K.M. Moore & S.B. Twombly (Eds.), Administrative careers and the marketplace. New directions for Higher Education no. 72, (pp 57-66). San Francisco: Jossey-Bass.
- Keele, R. L. & DeLaMare-Schaefer, M. (1984). So what do you do now that you didn't have a mentor? Journal of the National Association of Women Deans, Administrators and Counselors, 47(3), 38-40.

- Kelly, K. E. (1984). Initiating a relationship with a mentor in student affairs. NASPA Journal, 21(3), 49-54.
- Kram, K.E. (1983). Phases of the mentor relationship. Academy of Management Journal, 26(4), 608-625.
- Kram, K.E. (1988). Mentoring at work: Developmental relationships in organizational life. Lanham, MD: University Press of America.
- Lawrie, J. (1987). How to establish a mentoring program. Training and Development Journal, 41(3), 25-27.
- Levinson, D.J., Darrow, C.N., Klein, E.B., Levinson, M.H. & McKee, B. (1978). The season's of a man's life. New York: Ballantine Books.
- Lyons, W., Scroggins, D. & Bonham Rule, P. (1990). The mentor in graduate education. Studies in Higher Education. 15(3), 277-285.
- McGregor, D. (1960). The human side of enterprise. New York: McGraw-Hill.
- Minkel, C.W. & Richards, M.P. (September, 1983). A model policy for graduate assistantship administration. Paper presented at the Tennessee Conference of Graduate Schools, Knoxville, TN.
- Moore, K. M. (1982). The role of mentors in developing leaders of academe. Educational Record, 63(1), 23-28.

- Noe, R.A. (1988a). An investigation of the determinants of successful assigned mentoring relationships. Personnel Psychology, 41, 457-479.
- Noe, R.A. (1988b). Women and mentoring: A review and research agenda. Academy of Management Review, 13(1), 65-78.
- Olian, J.D., Carroll, S.J., Giannantonio, C.M. & Feren, D.B. (1988). What do proteges look for in a mentor? Results of three experimental studies. Journal of Vocational Behavior, 33, 15-37.
- Phillips, G.M. (1979). The peculiar intimacy of graduate study: A conservative view. Communication Education, 28, 339-345.
- Ragins, B.R. & McFarlin, D.B. (1990). Perceptions of mentor roles in cross-gender mentoring relationships. Journal of Vocational Behavior, 37, 321-339.
- Roche, G.R. (1979). Much ado about mentors. Harvard Business Review, January, 14-16, 20, 24-28.
- Schmidt, J.A. & Wolfe, J.S. (1980). The mentor partnership: Discovery of professionalism. NASPA Journal, 17(1), 45-51.
- Swoboda, M.J. & Millar, S.B. (1986). Networking-mentoring: Career strategy of women in academic administration. Journal of National Association of Women Deans, Administrators and Counselors, , Fall, 8-13.

- Virginia Tech (1994). University Directory 1994-1995.
Blacksburg, VA: Virginia Tech.
- Virginia Tech Office of the Provost (1994). Virginia Polytechnic and State Institution Faculty Handbook.
Blacksburg, VA: Virginia Tech.
- U.S. Department of Labor, Employment & Training (1991).
Dictionary of Occupational Titles. Lanham, MD: Bernan.
- Weathersby, R.P. & Tarule, J.M. (1980). Adult development: Implications for higher education (higher education report no. 4). Washington D.C.: American Association for Higher Education.
- Yukl, G. (1989). Managerial leadership: A review of theory and research. Journal of Management, 15(2), 251-289.
- Zey, M.G. (1984). The mentor connection. New Brunswick, New Jersey: Transaction Publishers.
- Zey, M.G. (1985). Mentor programs: Making the right moves. Personnel Journal, 4(2), 53-57.

APPENDIX 1

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
Informed Consent for Participants of Investigative Projects

Title of Project: The Relationship Between Selected Mentor Behaviors and Supervisory Approach Between Faculty and Their Graduate Assistants
Principal Investigator: Melinda Crowder

PURPOSE OF RESEARCH

You are invited to participate in thesis research about mentoring and supervision in graduate assistant \ faculty supervisor relationships. This study involves analysis of responses to the attached questionnaire to determine if a relationship exists between selected behaviors associated with mentoring and supervisory style reported by faculty supervisors of graduate assistants.

PROCEDURES

A three part questionnaire will be used to collect data for this research. Estimated time for questionnaire completion is 20 minutes or less. If you supervised any type of graduate assistant(s) from July 1, 1992 to the present , please fill out and return the enclosed questionnaire. An opscan form and No. 2 pencil are provided for your responses. The information requested in the questionnaire is not sensitive, and should not cause you any discomfort. See the section titled **EXTENT OF ANONYMITY** for mailing instructions of the completed forms. If you did not supervise at least one type of graduate assistant (GA, GRA, GTA) in the applicable period, please return the entire survey packet through campus mail in the envelope provided.

BENEFITS OF THIS PROJECT

Your participation will provide information which may be helpful in determining the relationship between mentoring behaviors and supervisory approach in graduate studies. No guarantee of benefits has been made to encourage you to participate. You may receive a summary of this research when completed by contacting Melinda Crowder at 231 - 3853, or via e-mail at melindac@vt.edu.

EXTENT OF ANONYMITY AND CONFIDENTIALITY / MAILING INSTRUCTIONS

The results of this study will be kept strictly confidential. At no time will the researcher release information which identifies individuals with their response. Your completed questionnaire should be mailed under separate cover from this form in the envelope provided. The questionnaire will not have your name, or any other information that identifies you. Non responses will be followed up using this coded consent form. Your consent form should be mailed via campus mail under separate cover by folding this page in half so that the mailing label appears on the outside, and stapling shut.

FREEDOM TO WITHDRAW

You are free to withdraw from this study at any time without penalty.

APPROVAL OF RESEARCH

This research project has been approved, as required, by the Institutional Review Board for projects involving human subjects at Virginia Polytechnic Institute and State University, and by the Division of Administrative and Educational Services in the College of Education.

SUBJECT'S RESPONSIBILITIES

I know of no reason I cannot participate in this study.

Signature

***FOLD FORM IN HALF AND STAPLE WITH MAILING LABEL ON OUTSIDE.
RETURN VIA CAMPUS MAIL.***

SUBJECT'S PERMISSION

I have read and understand the informed consent and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent for participation in this project.

If I participate, I may withdraw at anytime without penalty. I agree to abide by the rules of this project.

Should I have any questions about this research or its conduct, I will contact:

Melinda Crowder, Principal Investigator 231 - 3853

Dr. Don G. Creamer, Thesis Committee Chair 231 - 9705
College of Education

Dr. Ernest R. Stout, Chair, IRB 231 - 6077
Research Division

KEEP THIS PAGE FOR YOUR RECORDS

PART I: MENTOR BEHAVIORS QUESTIONNAIRE

Respond to the following statements based upon your working relationship with one graduate assistant (GRA - graduate research assistant, GA - graduate assistant, or GTA - graduate teaching assistant) under your supervision during the period 7/1/92 - to the present. *If you supervised more than one graduate assistant select the one who has the greatest potential for career success in your view.* Select one of the response choices below which best describes the frequency of the behavior stated. An opscan form is provided for your response. GA in the text refers to any of the three types of assistants.

0 = no opportunity/not applicable	1 = rarely	2 = occasionally	3 = frequently	4 = regularly
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1. Introduced GA to influential colleagues.
2. Acted as GA's confidant on personal matters related to work and home life.
3. Assigned tasks which presented specific learning opportunities for development of technical competencies.
4. Provided feedback regarding GA's approach to completion of work objectives.
5. Provided performance feedback to GA and solicited their evaluation of my performance.
6. Placed GA in tasks that increased interaction with influential colleagues.
7. Demonstrated empathy and empathic listening in dealings with GA concerns about career, education, and personal life.
8. Encouraged GA to talk openly about fears, anxieties and ambivalent feelings that impacted work productivity.
9. Provided both challenge and support in assigning specific tasks for skill development.
10. Defended GA's performance on task(s) to others who criticized the GA's work.
11. Intervened to reduce GA's risk of academic failure or damaged reputation.
12. Suggested specific strategies to enhance GA achievement and recognition.
13. Shielded GA from unpleasant or low recognition assignments.
14. Thought of GA as a friend.
15. Praised GA's performance at staff, departmental or project meetings.
16. Assisted GA in locating intern, or employment opportunities.
17. Set a positive example for GA to emulate.
18. Recommended or assigned GA to special ad hoc project.
19. Assigned technical tasks which enhanced GA's competencies for career progression.
20. Exposed GA to career opportunities in the discipline.
21. Allowed GA to freely discuss work and non work related thoughts and feelings.
22. Wrote unsolicited letters of reference for GA.
23. Developed professional interest in the GA which impacted my work behaviors with GA.
24. Taught GA specific technical skills for execution of assigned tasks.
25. Tolerated differences in approach and personality between GA and self.
26. Coached GA on internal political processes within the University community.
27. Helped GA complete tasks by deadline date when it appeared GA would be unable to complete.
28. Let GA know how much I liked them.
29. Called colleagues on behalf of GA.
30. Provided feedback on oral and written communications.
31. Nominated or assigned GA to highly visible University, College or department committee(s).
32. Openly invited disagreement and debate of my personal views.
33. Acted as a role model.
34. Deliberately assigned tasks which stretched GA's capabilities.
35. Endeavored to create an environment of mutual respect and trust.
36. Discussed GA's accomplishments with colleagues at conferences and/or other institutions.
37. Was consciously aware that GA was learning from my behavior and acted accordingly.
38. Used GA as a sounding board for my ideas.
39. Showed GA proper way to conduct self in various situations by modeling specific behaviors.
40. Provided accurate inside information of departmental activities and personalities.
41. Initiated informal social encounters with GA.
42. Advised GA in regard to their personal concerns about self, career and family.
43. Accepted GA's invitations to informal social activities outside of work.
44. Took blame for controversial or negative situation GA was involved in.
45. Disclosed personal work and non work related experiences with GA.

PART II: SUPERVISORY APPROACH INSTRUMENT

Based on your experience in supervising the graduate assistant from part I of this survey, select the response (1, 2, 3, or 4) that best describes your approach to supervision. If more than one response describes your approach to supervision, select the single response that you take most frequently. Please note when filing out the opscan form, 0 is not a response choice.

46. The fundamental principal upon which I based supervision was:

1. sharing responsibility with GA
2. providing freedom for GA to work
3. maintaining attentive oversight of GA
4. sustaining warm personal relation with GA

47. The most important goal of supervision was to

1. establish a shared commitment to goals
2. establish rapport between people
3. respect individual abilities
4. honor organizational authority

48. As a supervisor, I strived to

1. keep a watchful eye on all actions of the GA
2. support friendly relations among staff
3. collaborate with GA on important work related matters
4. provide adequate leeway for GA to conduct their work

49. My supervisory actions

1. advocated collaborative generation of information for decision making
2. allowed GA autonomy to generate information for decision making
3. provided information for decision making
4. discussed with GA the use of information in decision making

50. My supervision was most concerned with achieving goals of

1. department cohesion
2. the institution
3. individual researchers
4. upper level administrators and faculty

51. My supervision occurred

1. frequently, as a part of everyday interactions
2. irregularly, on an as needed schedule
3. regularly and systematically
4. infrequently, when requested

52. I view supervision in the context of my own work as interactions to

1. enhance productivity
2. solidify relationships
3. encourage professional autonomy
4. maintain clear work instructions

53. I felt most successful as a supervisor when the GA was fully knowledgeable about

1. the relationships among faculty and staff
2. the organization and its goals
3. the work related concerns of the staff
4. the instructions I provided about work expectations

54. My relationship with the GA I supervise is based primarily on

1. shared commitment to excellence
2. desire to allow maximum individual autonomy of action and style
3. institutional definitions of responsibilities
4. camaraderie and esprit de corps

55. A central focus of my supervisory sessions with the GA was

1. encouraging both personal and professional growth
2. sharing personal and job related experiences
3. solving job related problems
4. auditing job performance

56. Conflicts between the GA and me were handled by my
1. assuming responsibility and directing compliance
 2. seeking consensus
 3. finding common ground for achieving agreed upon goals
 4. yielding liberty to GA with accountability
57. In my experience, poor GA performance resulted in
1. failure to achieve goals
 2. jeopardizing my authority to get the necessary work done
 3. endangering of personal relationships within the department
 4. creating disequilibrium in productivity among individual staff
58. I handled poor GA performance by
1. helping GA design better strategies
 2. encouraging GA to find solutions to problems
 3. instructing GA about how to avoid the problem or handle the situation
 4. showing personal support for continued effort at improved performance
59. In my supervision, I held to the belief that the single most important attribute of my relationship with the GRA/GA was
1. respect for authority
 2. harmony among people
 3. commitment to mutually derived goals
 4. independence of action
60. My communications with the GA during supervision sessions were typified by
1. deliberation about duties and assignments
 2. dialogue about personal concerns
 3. discussions about how our goals/responsibilities might be better accomplished
 4. exchanges about equivalent responsibilities
61. When the "system" or organizational structure got in the way of accomplishing goals, I acted to
1. join in devising ways to overcome the barriers
 2. allow methods to get around the organizational barriers
 3. explain how the organization works and what accommodations are required of GA
 4. help GA to understand the limits of the organization and commended them to continued effort
62. When conflicts occurred between GA whom I supervised and other units in the organization, I
1. intervened to achieve compliance with institutional policies and procedures
 2. supported and defended GA
 3. mediated the dissension
 4. allowed the GA to deal with the matter
63. My values as a supervisor are most attuned to the principles of
1. respect for authority
 2. humanism
 3. democratic decision making
 4. professional autonomy
64. When making difficult personnel decisions as a supervisor, I found it most helpful when
1. commitment to goals was mutually shared
 2. institutional policies and procedures were fairly administered
 3. relations among staff were cordial
 4. respect for independence among professionals was honored
65. Personal and professional development needs of GA were determined by
1. establishing discrepancies between institutional requirements and current GA attributes
 2. supervisor and GA collaboratively
 3. GA preferences for future growth
 4. GA personal interests
66. The context of planning for future growth of GA was
1. combined institutional and individual need
 2. individual self assessed interests
 3. individual need
 4. institutional need

67. In my supervision of GA, individual fit with the institutional culture was viewed as
1. a significant determinant for success
 2. a matter of GA choice
 3. irrelevant, so long as the work is performed
 4. optional, so long as a sense of community is achieved

68. When things went wrong for GA, I tended to
1. look for an explanation jointly between the organization and the GA
 2. offer direct advice for corrective action
 3. champion the GA to bolster confidence
 4. expect the GA to find a solution or ask for help

PART III

Respond to the following questions by choosing one of the answers provided. Answer graduate assistant related questions for the GA referred to in this questionnaire. Please note when filling out the opscan form, 0 is not a response choice.

69. your gender:

1. Male
2. Female

70. GA's gender:

1. Male
2. Female

71. Length of time you knew GA prior to supervisory relationship:

1. less than 12 months
2. more than 12 months

72. Length of time GA was supervised by you:

1. less than 12 months
2. more than 12 months

73. Average number of hours per month spent in direct contact with GA:

- | | |
|---------------------------|--------------------------------|
| 1. 0 to 1 hour per month | 6. 5 to 6 hours per month |
| 2. 1 to 2 hours per month | 7. 6 to 7 hours per month |
| 3. 2 to 3 hours per month | 8. 7 to 8 hours per month |
| 4. 3 to 4 hours per month | 9. more than 8 hours per month |
| 5. 4 to 5 hours per month | |

74. Are you familiar with the concept of mentor?

1. Yes
2. No

75. Have you ever acted as a mentor to a GA (may or may not include individual referred to in this questionnaire)?

1. Yes
2. No

76. Have you ever had a mentor?

1. Yes
2. No

77. Do you consider yourself to be a mentor to the graduate student you referred to in this questionnaire?

1. Yes
2. No

78. Number of GAs supervised between July 1, 1992 and the present

1. one
2. more than one

79. The graduate student you referred to in this questionnaire is (was) a

1. Graduate Research Assistant (GRA)
2. Graduate Assistant (GA)
3. Graduate Teaching Assistant (GTA)

THANK YOU FOR THE TIME AND ENERGY DEVOTED TO FILLING OUT THIS QUESTIONNAIRE

APPENDIX 2

July 11, 1994

Dear Melinda,

Your questionnaire items look very good to me. You have captured the career and psychosocial functions well. I will be interested to see what you come up with in your analysis,

I am particularly interested in any gender differences that you find; my work suggests that cross-gender relationships systematically differ from same-gender relationships (particularly on the role modeling, counselling and friendship functions).

I have one concern about the instrument: it is possible that respondents will rate themselves as they would "like to be" (or "desire to be") rather than as they actually are (or "desire to be");

rather than as they are. Is there any chance of getting the GRA's to fill out a parallel questionnaire (as another source of data)?

I will not comment on specific items as I am not an expert in questionnaire design. They generally look like they have face validity to me.

Please keep me informed of your results. It looks like you are on your way to some publishable work!

Best of luck to you,

Sincerely,

Kathy Kram

.S. - I could have my recent papers sent to you if that would be helpful (when I return from I don't know.

APPENDIX 3

CERTIFICATION OF EXEMPTION OF PROJECTS INVOLVING HUMAN SUBJECTS

3

Principal Investigator(s): Melinda Crowder

Department(s): Master's Candidate COSP, College of Education

Project Title: Selective Attention Behaviors and Their Relationship to Supervisory Approval

Source of Support: Departmental Research Sponsored Research Proposal No. 101-21/94

The criteria for "exemption" from review by the IRB for a project involving the use of human subjects and with no risk to the subject is listed below. Please initial all applicable conditions and provide the substantiating statement of protocol.

- a. The research will be conducted in established or commonly established educational settings, involving normal education practices. For example:
 - 1) Research on regular and special education instructional strategies;
 - 2) Research on effectiveness of instructional techniques, curricula or classroom management techniques.
- b. The research involves use of education tests (cognitive, diagnostic, aptitude, achievement), and the subject cannot be identified directly or through identifiers with the information.
- c. The research involves survey or interview procedures, in which:
 - 1) Subjects cannot be identified directly or through identifiers with the information;
 - 2) Subject's responses, if known, will not place the subject at risk of criminal or civil liability or be damaging to the subject's financial standing or employability;
 - 3) The research does not deal with sensitive aspects of subject's own behavior (illegal conduct, drug use, sexual behavior or alcohol use);
 - 4) The research involves survey or interview procedures with elected or appointed public officials, or candidates for public office.
- d. The research involves the observation of public behavior, in which:
 - 1) The subjects cannot be identified directly or through identifiers;
 - 2) The observations recorded about an individual could not put the subject at risk of criminal or civil liability or be damaging to the subject's financial standing or employability;
 - 3) The research does not deal with sensitive aspects of the subject's behavior (illegal conduct, drug use, sexual behavior or use of alcohol).
- e. The research involves collection or study of existing data, documents, recording pathological specimens or diagnostic specimens, of which:
 - 1) The sources are publicly available; or
 - 2) The information is recorded such that the subject cannot be identified directly or indirectly through identifiers.

2. I further certify that the project will not be changed to increase the risk or exceed exempt condition(s) without filing an additional certification or application for use by the Human Subjects Review Board.

Note: If children are in any way at risk while this project is underway, the chairman of IRB should be notified immediately in order to take corrective action.

Melinda Crowder 10/21/94
 Principal Investigator(s) Date
M. Crowder 10/21/94

[Signature] 11/21/94
 Principal Investigator(s) Date
[Signature] 11/21/94
 Chair, Institutional Review Board Date

MEMORANDUM

TO: Melinda Crowder
EDSP

FROM: Ernest R. Stout *ERS*
Associate Provost for Research

DATE: November 21, 1994

SUBJECT: IRB EXEMPTION/"Selected Mentor Behaviors and Their
Relationship to Supervisory Approach"
Ref. 94-276

I have reviewed your request to the IRB for exemption for the above referenced project. I concur with Dr. Alexander that the research fall within the exempt status.

Best wishes.

ERS/php

c: Dr. Alexander

MELINDA VANN CROWDER
540 Cherokee Trail
Blacksburg, VA 24060
(540) 961 - 6304

EDUCATION

Master of Arts in Education
Student Personnel Services and Counseling
Virginia Polytechnic Institute and State University
(Virginia Tech), Blacksburg, VA
December 1995

Bachelor of Science in Business Administration
Minor in Economics
Old Dominion University, Norfolk, VA
May 1980

STUDENT AFFAIRS EXPERIENCE

Graduate Student Advisor and Budget Consultant
University Unions and Student Activities, Virginia Tech
August 1994 - present

- * Liaison between Student Affairs, Graduate School, Graduate Student Assembly and other administrative offices communicating issues of graduate student concern, facilitating problem resolution and service delivery.
- * Advise graduate student representative to the Board of Visitors.
- * Advise Graduate Student Assembly.
- * Advise graduate and undergraduate student run funding boards in the disbursement of \$800,000 in student activities fees to student organizations which promote diverse educational and cultural programming.
- * Develop student organization funding policies and procedures.
- * Conduct fiscal management workshops for student organization leaders.
- * Act as consultant to the Commission on Student Affairs regarding organization funding.
- * Supervise the development of accounting software for student organization funding.
- * Supervise practicum graduate student from student personnel program.

- * Supervise practicum graduate student from student personnel program.

Graduate Assistant

University Unions and Student Activities, Virginia Tech

September 1993 - May 1994

- * Advised the Student Government Association Budget Board in their first year of operation.
- * Advised L.E.A.D., an SGA leadership program targeting first and second year students.
- * Advised SGA programming committee in planning and executing a multicultural awareness conference with grant monies from the State Council of Higher Education in Virginia.
- * Recording Secretary for the Student Budget Board Task Force, an ad hoc committee appointed by the Vice President for Student Affairs to evaluate the disbursement process of student activities fees.

Practicum Student

Residence Life, Roanoke College, Salem, Virginia

September 1993 - December 1993

- * Intern at private liberal arts college (1600 students, 950 residents).
- * Advised 40 member Peers Educating Peers (PEP) program.
- * Advised the Resident Advisor Council (6 appointed members).
- * Participated in orientation, hall openings and closings, and room inspections.

Practicum Student

University Unions and Student Activities, Virginia Tech

January 1993 - May 1993

- * Prepared analysis for the development of a new student organization classification and funding model for disbursement of student activities fees.
- * Liaison between the Student Budget Board, Central Accounting Office, Corps of Cadets, Extramural Sports Federation and Honor System in developing and implementing accounting procedures in accordance with new university policy.

OTHER STUDENT AFFAIRS PROFESSIONAL ACTIVITIES

Editorial Staff Member for The Interchange

Quarterly newsletter published by the Virginia Association of Student Personnel Administrators
September 1995 to the present

Steering Committee Member -- The Women's Mentor Program

Virginia Tech, Blacksburg, Virginia
September 1994 to present

- * Assisted in development of formal mentoring program for classified staff women with an affirmative action grant.
- * Developed and presented two mentor-protege training workshops titled, "What Mentors Do" and "How to Get the Most From Your Mentorship Experience".

Conference Steering Committee Member -- Graduate Student/Faculty Forum at Virginia Tech

March 1993 - March 1994

- * Developed budget, implemented financial management procedures, and prepared financial reports for a three day regional conference attended by 120 participants.
- * Managed conference operation center during conference.
- * Prepared conference summary report.

Membership in Professional Organizations:

- * National Association of Student Personnel Administrators (NASPA) member since 1992
- * American College Personnel Association (ACPA) member since 1992.
- * Virginia Association of Student Personnel Administrators (VASPA) since 1994.
- * American Association of University Women (AAUW) since 1994.

BUSINESS EXPERIENCE

Customer Service Agent
University Bookstore, Blacksburg, VA
August 1992 - January 1993

- * Responsible for order entry, book returns, special orders, mailorders and customer service. Part time employment while working on Masters degree.

Financial Consultant
The Orvis Company, Roanoke, VA
September 1991 - January 1992

- * Prepared year end standard cost work papers including foreign inventory cost analysis.
- * Prepared 1099 income tax filing. Assisted in development and testing of software for magnetic media filing with the IRS.
- * Reviewed Accounts Payable procedures and recommended operating efficiencies.
- * Evaluated candidates for accounting staff positions and made hiring recommendations.

English Teacher
Hewlett-Packard, Barcelona, Spain
September 1990 - August 1991

- * Designed and taught Intermediate and Advanced Conversational English courses to HP employees. Part time.

Internal Audit Manager, Cash Manager, and Inventory Control Supervisor
Tweeds, Salem, VA
March 1988 - July 1990

- * Two promotions in two years.
- * Performed cross departmental financial and operations audits. Implemented cost controls and operating efficiencies.
- * Coordinated development and publication of procedures manuals for seven departments. Supervised preparations for external audits.

- * Developed fraud loss prevention program which reduced losses by \$88,000 in first 6 months of operation.
- * Conducted comprehensive testing for new and existing financial software.
- * Planned and executed biannual physical inventories including training and supervision of 70 employees.
- * Managed Accounts Payable staff of 8.
- * Negotiated contracts with state and private agencies.
- * Implemented inventory control and sales audit procedures for start up of Roanoke Distribution Center
- * Recruited, trained, evaluated and supervised staff of 11 inventory and audit clerks and accountants.

Inventory Control Supervisor

Kroger Mid-Atlantic Distribution Center, Salem, VA

August 1987 - March 1988

- * Supervised 20 union employees engaged in stocking operation.

**Inventory Control Team Leader, Operations Control Manager,
Customer Service Manager**

People Express Airlines, Newark, NJ

March 1982 - March 1987

- * One of first 100 employees hired in a company that grew to 5000. Promoted twice in five years.
- * Conducted market research and analysis. Forecasted reservation demand and set pricing using yield management software. Made recommendations for aircraft scheduling and capacity in various markets.
- * Managed ticket counter operations. Assigned landing gates. Coordinated fueling and catering services under tight deadlines. Resolved a broad range of customer concerns.
- * Team member of start up crew for Portland, ME station operations.

Store Manager

Ole Jewelry, Norfolk, VA

Teri's Bath Shop, Charlottesville, VA

July 1980 - March 1982

- * Supervised sales staff of up to 15. Responsible for bookkeeping, purchasing and payroll.

WV Crowder