

**THE EFFECTS OF ETHICAL CLIMATE AND
FACULTY- STUDENT
RELATIONSHIPS ON GRADUATE STUDENT STRESS**

A Dissertation

by

KIMBERLY PRUITT KEMPNER

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2007

Major Subject: Counseling Psychology

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Approved by:

Chair of Committee, Linda Castillo
Committee Members, Timothy Elliott
Robert Hall
Edward Murguia
Head of Department, Michael Benz

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ABSTRACT

The Effects of Ethical Climate and Faculty-Student Relationships on Graduate Student Stress. (August 2007)

Kimberly Pruitt Kempner, B.A., University of St. Thomas;
M.A., University of Houston

Chair of Advisory Committee: Dr. Linda Castillo

The purpose of this study was to empirically investigate the impact of departmental ethical climate (climate) and primary student-faculty relationship (support) on graduate student stress (stress). Participants included 231 full-time doctoral-level counseling and clinical psychology graduate students who were recruited via email. It was hypothesized that climate and support would predict stress, with each of these variables having an inverse relationship with stress. It was also predicted that support would moderate the relationship between climate and stress. A model was constructed representing these hypotheses and structural equation modeling was utilized to analyze the data.

Initial analyses indicated that the hypothesized model did not adequately represent the data; however, these analyses did render a reduced model that offered a better fit to the data. Analysis of the hypothesized model did not confirm the moderation effect of support. Analysis of the reduced model suggested that climate and support, together, accounted for a significant amount of variance (25%) in stress. Further examination indicated that, when considered individually, only the relationship between

climate and stress was significant. The limitations and implications of these results are discussed.

DEDICATION

To my husband, Branch Kempner, who persevered with me throughout the graduate school journey. I am exceedingly thankful for the support, motivation, and editorial assistance you provided. I am especially grateful for you, my partner in this project and in life.

To my parents, Larry and Sherry Pruitt, whose unconditional and inexhaustible love, support, and faith have always been a mainstay for me in all that I have done. Thank you for being the parents that you are.

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As is the case with most accomplishments in life, completing my doctoral degree is not a process that occurred in isolation, and is not simply a product of my own motivation and hard work – there are many individuals who have contributed to this process. I am very grateful for all of the people in my life who have offered me encouragement, support, and guidance along the way. Although it is not realistic to list all of those who have contributed, there are some to whom I am especially grateful.

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INTRODUCTION: ETHICS IN TRAINING

Training future professionals and promoting ethically responsible conduct of professional psychologists are two of the most fundamental duties of professional psychology. The importance of these is evident in the evolution of the field and in the basic tenets of virtually every organization associated with the profession. In fact, almost every recognized professional organization and regulatory board associated with professional psychology in North America has developed a code of ethics designed to promote ethical conduct not only when engaging in clinical and research activities, but also when engaging in training activities such as teaching and supervising students (i.e. American Psychological Association [APA], 2002; American Counseling Association [ACA], 1995; Canadian Psychological Association [CPA], 2000 Pryzwansky & Wendt, 1999). Over last several decades, the APA has adopted a progressively stringent prohibition against sexual relationships with students and reiterated the need for professionals to be cognizant of the potential ethical problems that can arise in training relationships (APA, 1981, 1992, 2002; Knapp & VandeCreek, 2003). Not surprisingly, educating future professionals about ethical standards and ethical decision making is considered a basic component of training in psychology and has been the focus of a moderate amount of scholarly discussion, along with a limited amount of empirical investigation (i.e. ACA, 1995, APA, 2002; CPA, 2000; Mathews, 1991; Vasquez, 1992;

This dissertation follows the style of the *Journal of Counseling Psychology*.

Welfel, 1992). Despite several calls by scholars and professionals (i.e. Biaggio, Paget, & Chenoweth, 1997; Blevins-Knabe, 1992; Kitchener, 1992, 2000; Matthews, 1991; Needels, 1998; Sullivan & Ogloff, 1998; Vasquez, 1992, Welfel, 1992), literature addressing the broader issues associated with ethical conduct of psychologists engaged in training future professionals is relatively sparse - literature focusing on how students are impacted by the ethical conduct of those training them is nearly nonexistent.

The Training Relationship

Given the increased emphasis over the last few decades on ethical management of potential dual relationships and power differentials inherent in the clinical setting (i.e. Bersoff, 2003; Kitchener, 2000; Moleski & Kiselica, 2005), it is not surprising that several scholars have urged professionals to also consider the complex issues associated with ethical conduct in their relationships with students (i.e. Biaggio, Paget, & Chenoweth, 1997; Blevins-Knabe, 1992; Kitchener, 1988, 1992, 2000; Needels, 1998; Sullivan & Ogloff, 1998). These scholars have noted the many similarities between therapy (i.e. client-therapist) and training (i.e. student-faculty/supervisor) relationships. At the forefront of these similarities is the fact that both types of relationships are inherently unequal with students and clients being in a position of diminished power and seeking services from professionals (therapist/educator) who hold various types of power. As Biaggio et al. (1997) summarize, the types of power faculty and supervisors can exercise over students are numerous and include reward power (dispensing grades/approval), coercive power (disapproving or devaluing actions), referent power

(serving as role models), information/expert power (possessing and dispensing knowledge), and legitimate power (implicit in the contract to provide a service).

Although students are not necessarily as psychologically vulnerable as therapy clients, the power differential in their relationships with those who are training them increases their vulnerability to exploitation and the risk that they will be intentionally or unintentionally compromised in these relationships.

The potential risks associated with dual relationships in therapy settings have been widely acknowledged over the past few decades and professional psychology has taken numerous steps to help professionals recognize, minimize, and ethically manage issues of dual relationships in their practice. Although the occurrence of many dual relationships with clients can be avoided, this is not the case with many of the relationships between graduate students and educators. Unlike client-therapist relationships, training relationships are intrinsically multifaceted and by their nature consist of overlapping roles with various expectations, responsibilities, and obligations. For instance, faculty members are not only responsible for imparting knowledge and evaluating students on that knowledge, but also they typically serve as advisors, supervisors, and mentors for students. Faculty members also tend to play a role in hiring students for assistantships and in selecting students for awards, scholarships, grants, and professional opportunities. Additionally, it is not uncommon for faculty members and students to work together on research projects, co-author articles/presentations, and interact in professional and social settings outside of the immediate training

environment. Each of these roles entails various obligations and responsibilities that have the potential to be in competition with one another. For example, faculty members are obligated to enhance the welfare and development of students and to protect the public from incompetent or unethical professionals. In the case of responsible and ethical students who are developing appropriate skills, these obligations are likely compatible. However, in the case of students who are not developing the skills needed to practice responsibly and competently, the welfare of the student and that of the public diverges. As the disparity between expectations and obligations associated with the various roles increase, the risk for harm and the burden placed on academic psychologists to make ethically responsible decisions also increases. Moreover, as Kitchener (2000) notes balancing and managing the overlapping roles inherent in these relationships is not only taxing for those in positions of training students, but also can create distress and confusion for students who must respond congruently to shifting roles with faculty.

The responsibility of professionals to ethically manage the training relationship is accentuated by the fact that the unequal power structure and nature of the overlapping roles intrinsic to these relationships may make it especially difficult for students to assert their rights and protect themselves from exploitation (i.e. Biaggio, Paget, & Chenoweth, 1997; Blevins-Knabe, 1992; Kitchener, 1988, 1992, 2000; Needels, 1998; Sullivan & Ogloff, 1998). Given the fact that students are dependent on faculty for a long list of activities and support (as is evidenced by the various roles faculty members play), students are especially vulnerable to damage in assorted areas when any aspect of the

training relationship is disrupted. For example, a disagreement between a student and faculty member about grading or authorship may undermine other aspects of their relationship, including the basic trust and respect necessary for the success of countless aspects of the training relationship. Moreover, some scholars (i.e. Cormier & Bernard, 1982; Sullivan & Ogloff, 1998) argue that because students are in a position of diminished power, they are unable to fully and voluntarily consent to participate in any type of relationship or activity suggested by those in more powerful positions. Because of the power differential and dependence on faculty, some students may feel unable to turn down slight suggestions - even when those suggestions are not related to academically relevant areas of their lives. For instance, a student may feel obligated to see a particular movie because a professor mentioned it in class.

Similarly, Sherry (1991) points out that students enjoy very little freedom regarding decisions about relationships with faculty, and they frequently do not have the option of withdrawing from relationships that are harmful without fear of retribution or serious consequences such as not receiving credit for required courses. Ultimately, the nature of the training relationship places students in a very tenuous position in which they are prone to being vulnerable to intentional and unintentional exploitation and harm and are limited in their ability to protect themselves— as Sullivan and Ogloff (1998) explain, graduate students simply “cannot risk alienating their supervisors, on whom they are dependent for grades, recommendations, committee memberships, and financial and research opportunities” (p. 231).

Despite the myriad complications posed by overlapping relationships, there is evidence that many of the less defined roles faculty and supervisors play can have a powerfully positive influence on students. For example, Pascarella and Terenzini (1979; 1980; 1991) have conducted and discussed a number of studies demonstrating that informal contacts (outside of the classroom) between college students and faculty are associated with positive intellectual and personal growth of students. Similarly, numerous scholars have noted the role of socialization and modeling in helping students learn and assimilate into their own identities, the knowledge, skills, and values of the psychology profession. Socialization and modeling appear to be important in not only teaching students how to behave ethically but also in motivating them to apply that knowledge in an appropriate fashion.

The Literature: Ethics and Training Relationships

Given the significance of training relationships in preparing future professionals and the potential risks to students inherent in these relationships, it is somewhat surprising that beyond scholarly discussions, there are very few empirically based investigations related to ethical conduct in training relationships. Sexual contact between students and educators is one area that has received a modicum of empirical investigation (i.e. Glaser & Thorpe, 1986; Hammel, Olkin, & Taube, 1996; Keith-Spiegel, Tabachnick, & Allen, 1993; Pope, Levenson, & Schrover, 1979; Quatrella & Wentworth, 1995; Robinson & Reid, 1985; Schneider, 1987). Generally, estimates of sexual contact between students and those who educate them range between 11% and 20%, with sexual contact between a student and an educator being much more common

for female students. Perceptions about this type of contact have generally been negative (coercive and harmful) over time with the common perception being that these types of relationships have negative effects on one or both persons involved. Despite increased attention to the dangers of these types of contacts and increasingly explicit prohibitions against sexual relations with students by the APA (APA, 1981, 1992, 2002), studies indicate that the sexual contact between students and educators continues to occur “with disturbing frequency “(Hammel et. al., 1996, p.96) and warrants further investigation.

A few researchers have investigated the ethicality of a broader range of behaviors in which professors might engage. In a widely cited study, Tabachnick, Keith-Spiegel, and Pope (1991) collected data concerning the beliefs and behaviors of academic psychologists in several different areas that include those related to course content, evaluation of students, educational environment, disrespectful behavior, research/publication issues, financial/material transactions, social relationships with students, sexual relationships with students, and sexual relationships with other faculty. The degree to which respondents reported engaging in the behaviors varied. More than 90% of the respondents acknowledged having taught when not adequately prepared and having taught their own ethics or values to their students. On the other hand, only 1% of the respondents acknowledge engaging in activities involving sexual harassment and less than 1% reported having taught while under the influence of alcohol or illegal drugs. Although 11% acknowledged becoming sexually involved with a student, only 7% reported disclosing sexual attraction toward a student. Two-thirds of the respondents rated behaviors such as allowing a student’s likeability to influence grades as

unquestionably unethical; however two-thirds of the respondents acknowledged having done so on at least rare occasions. More than half of the respondents viewed omitting significant information when writing a letter of recommendation for a student as unethical, but two-thirds of the respondents acknowledge having done so. Similarly 20% of the respondents reported having ignored strong evidence of a student cheating and 79% acknowledged having ignored unethical behavior of colleagues. This groundbreaking study offers a sample of ethically questionable behaviors in which academic psychologist may engage as well as some insight into how these psychologists judge the ethicality of such behaviors.

A closely related area of research involves studies assessing students' perceptions of the ethical conduct and responsibilities of educators (i.e. Keith-Spiegel, Tabachnick, & Allen, 1993; Kuther, 2003; Morgan & Korschgen, 2001). The types of behaviors evaluated in these studies were largely based on the behaviors assessed by Tabachnick et al. (1991). With few exceptions, these studies found a good amount of congruence in how faculty and students rated the ethicality of potential behaviors by educators. Generally, students expected professors to treat students with respect, be concerned with students' welfare, grade honestly, present material objectively, and not tolerate cheating. Students' reported that they viewed behaving in ways that embarrasses, emotionally distresses, or insults a student as highly unethical. They also reported that behaviors that give some students unearned advantages as very unethical. While these studies are largely limited to undergraduate students, they offer a glimpse of how students perceive the ethical nature of educators' behaviors and offer support for the notion that students

expect educators, as role models, to be “exemplars of scholarship and professional behavior” (Kuther, 2003, p. 153).

Anderson, Louis, and Earle (1994) conducted a study in which they examined department climate across several disciplines (chemistry, microbiology, civil engineering, sociology). In this study, they investigated graduate students’ observations of misconduct within graduate departments by looking at socialization and various aspects of the academic environment. Department climate (including the ethical aspects of the department) emerged as a primary predictor of reported misconduct with lower ratings of department climate predicting increased student reports of faculty ethical misconduct in the anonymous survey. Perhaps more interesting, they found that the average graduate student had been exposed to misconduct by his/her peers or faculty members between two and four times during their graduate training. Of the 1,261 graduate students who responded to their survey, 53% indicated that they did not feel they could report faculty misconduct without fear of retaliation and 77% reported that they did not believe that their departments were active in preparing graduate students to recognize and deal with ethical issues relevant to their fields.

In one of the few studies addressing ethical conduct within the psychology training relationship, Ladany, Lehrman-Waterman, Molinaro, and Wolgast (1999) investigated the ethical practices of psychology supervisors and the impact of these practices on graduate student supervisees. They found that 51% of supervisees reported that their supervisors committed at least one ethical violation, with 33% of those violations having to do with evaluation of supervisees. Only 35% discussed their

concerns regarding ethical violations with their supervisors but 84% discussed these concerns with someone else (i.e., peer, other supervisor, therapist). In 14% of the cases, students reported that someone in a position of power (i.e. director, department head) knew about the violation but did not act on this knowledge. In general, supervisees reported that they believed the ethical misconduct of their supervisors had a negative impact on the quality of their client care. Eighty percent of the supervisees reported that their supervisor did not appropriately model and respond to ethical concerns. Moreover, the data demonstrated a significant relationship among higher levels of supervisor non-adherence to ethical guidelines, weaker supervisory alliance, and lower supervisee satisfaction. Ladany et al.'s study demonstrates the importance of ethical practices in the training relationship and suggests the need for further study in this area.

A notable portion of the existing literature dedicated to ethics in training relationships has offered suggestions to academic professionals about how to navigate these relationships in an ethically responsible manner (i.e. Biaggio, Paget, Chenoweth, 1997; Blevins-Knabe, 1992; Goodyear, Crego, & Johnston, 1992; Hogan and Kimmel, 1992; Johnson & Huwe, 2002; Johnson & Nelson, 2000; Kitchener, 2000; Matthews, 1991; Needels, 1998; Sullivan & Ogloff, 1998). Some of these have discussed how to use existing ethical standards such as those posed by the APA and other professional organizations. For instance, Needels (1998) illustrated how the 1992 version of the APA Ethics Code can be utilized to guide behavior and make decisions in several scenarios that may occur in the training environment. Needels paid particular attention to standards relevant to fiduciary responsibilities of educators, creating undue risk, and the

potential for unclear boundaries and boundary erosion in training relationships. She also stressed the importance of being aware of one's own beliefs and values when facing a difficult ethical challenge.

Although most professionals and scholars discussing the ethical management of training relationships acknowledge the obvious importance of ethical standards to this end, many of these also assert that such standards, rules, and guidelines alone are not sufficient for guiding interactions and behaviors in complex relationships such as those inherent to the training environment (i.e. Kitchener, 1984, 1988, 1996, 2000; Meara, Schmidt, & Day, 1996; Tjeltveit, 2000). Kitchener (1992) illustrated how the basic principles of doing no harm, benefiting others, acting faithfully, and respecting others' autonomy can be utilized to guide educators in training relationships. These principles are similar to the aspirational principles discussed in the 2002 APA Ethics Code and those adapted to psychology by Kitchener (1984). Meara et al. (1996) asserted that in addition to utilizing these principles, psychologists should strive to develop--in themselves and their students--a stronger understanding of virtue or character ethics, with the goal of becoming a virtuous agent. Meara et al. argued that developing a greater understanding of the moral domain and virtue ethics can complement the ethical principles and standards that are often limited by the context in which they were intended to be used. She proposes that educators not only employ virtue ethics in managing training relationships but also incorporate virtue ethics into the ethics curriculum.

THE CURRENT STUDY

There is little doubt that the training relationship is a complex relationship that plays a vital role in training future psychology professionals. Despite the potential for training relationships to have a profoundly positive impact on students, these relationships also have the potential to seriously harm students. Unequal power structures (with students in a position of diminished power) and overlapping roles are inherent features of training relationships. These features place students in a very tenuous position in which they are at risk for harm and exploitation; and furthermore, students are limited in their abilities to assert their rights. With the aforementioned literature as a foundation, the overarching goal of this study was to empirically address some issues relevant to the ethical conduct of psychologists engaged in training future professionals, and the impact this conduct has on those being trained. More specifically, the current study was designed to empirically investigate the impact of departmental ethical climate (climate) and primary student-faculty relationship (support) on graduate student stress (stress).

Departmental Ethical Climate

Although many scholars and researchers have discussed the importance of ethical behavior and of an overall ethically acceptable climate in graduate and professional school departments (i.e. Bersoff, 2003; Folse, 1991; Matthews, 1991), few empirical studies have focused on these concepts. The concept of departmental ethical climate refers to the ethical aspects of a department's (or program's) climate. A useful definition of this factor is predominantly derived from the work of Anderson, Louis, and Earle

(1994) and Victor and Cullen (1988). Anderson et al. (1994) defined departmental climate as the perceptions of the psychologically important aspects of a department's environment as shared among organizational participants over time. Victor and Cullen (1988) described the ethical work climate as the "prevailing perceptions of typical organizational practices and procedures that have ethical content" (p. 102). From these definitions, departmental ethical climate will be defined as the perceptions of the psychologically important aspects of a psychology program department's organizational practices and procedures that have ethical content. More specifically, for the purposes of this study, the term "departmental ethical climate" will be referred to as "climate" and will reflect graduate students' perceptions of the ethically important aspects of graduate departments' environments that are shared among departmental participants over time.

Schulte (1990) developed a very useful perceptual instrument designed to measure ethical climate in graduate and professional school programs. The items were designed to assess five key ethical principles within three major environments of graduate and professional school programs. The major environments include those related to peers, classrooms, and advisors. The ethical principles were derived from the work of Brown and Krager (1985) and Kitchener (1984). These include respect for autonomy, nonmaleficence, beneficence, justice, and fidelity. As Schulte, Brown, and Wise (1991, p. 482) describe:

Respect for autonomy means respecting another person's freedom of thought, choice, and/or actions. Nonmaleficence refers to not harming others, either physically or psychologically. Beneficence requires one to

contribute to another individual's welfare. Justice involves treating others fairly. Fidelity refers to being loyal and trustworthy.

These five principles are similar to those commonly referenced by Beauchamp and Childress (1994) in discussions of principle-based ethics and to those described in the APA Ethics Code (2002) as general moral principles that are aspirational in nature (Bersoff, 2003; Knapp & VandeCreek, 2003).

Schulte (2002) found that a positive ethical climate is related to graduate student retention. In this study, she used the Ethical Climate Inventory (ECI) to study the relationship between retention in academic programs and students' perceptions of ethical climate in cohort and non-cohort graduate students. Nineteen cohort and seventeen non-cohort educational administration graduate students from a Midwestern university completed the ECI and questions related to retention. Schulte found that cohort students rated ethical climate significantly higher than did non-cohort students on ECI subscales related to peers and advisors. Both cohort and non-cohort students perceived ethical climate as an important factor in retention.

In a similar study, Schulte and Carter (2004) administered the ECI and questions related to retention in academic programs to 18 faculty and 90 business administration graduate students from a Midwestern university. In this study, they found that both faculty and students perceived ethical climate as an important factor in retention. Additionally, they found that faculty rated the aspects of the ethical climate that are related to the advisor subscale of the ECI significantly more positively than did the students.

A Model of Stress

One theory of stress that has been afforded a good deal of attention is the theory based on the works of Lazarus (1966, 1977, 1991, 1999) and his colleagues (i.e. Lazarus & Folkman, 1984). At the base of this theory, which is often referred to as the cognitive-motivational-relational or the cognitive-relational theory of stress, is the assertion that a person's perceptions of an event is integral to whether that event results in the experience of stress for that person. According to Lazarus and his colleagues, stress (strain) results when a person is confronted with an event (a particular relationship between the person and the environment) that the person appraises as taxing and/or exceeding his or her resources, thereby threatening or challenging his or her well-being. Lazarus described this process as a complex cognitive process consisting of three principle components: primary appraisal, secondary appraisal, and coping resources.

Primary (demand) appraisal is the process in which a person assesses the potential impact of an event on his or her physical or psychological well-being. During this process, a person determines whether an event is irrelevant, benign, positive, controllable, or stressful. The secondary (resource) appraisal process involves evaluating one's coping resources and options for dealing with the stressful event. During this process, a person considers factors such as his or her competence, social support, and other resources to cope with the situation. This process usually, but not always, takes place after the primary appraisal is made; in fact, these processes are intertwined and can occur simultaneously. The coping resources component involves the implementation of the actual coping efforts. (Hammermeister & Burton, 2002; Lazarus,

1991; Lazarus & Folkman, 1984; Schwarzer, 2000; 2004). As Schwarzer (2004) summarizes “stress appraisals result from perceived situation demands in relation to perceived personal coping resources” (§10).

Various facets of the event and the person influence the appraisal that an individual makes. As Schwarzer (2004; §12) explains, “formal properties, such as novelty, event uncertainty, ambiguity and temporal aspects of the stressing condition” are important in how the person appraises an event. Similarly, an individual’s beliefs are integral in his/her appraisal of a situation. A person’s beliefs about locus of control, self-efficacy, and self-esteem influence his or her appraisal of a situation. For instance, a person’s beliefs or expectations about being able to meet the demands of an event impact that person’s appraisal of the event. Accordingly, people are less likely to experience stress in situations or environments that foster a sense of stability, predictability, and self-worth. Furthermore, they are also less likely to experience stress in situations or environments in which appropriate resources are consistently available, and in which they are encouraged to utilize them. On the other hand, stress is more likely in environments characterized by lack of value for members of the environment, instability, unpredictability, and unavailability of coping resources.

Stress and Climate

Hypothetically, many of the factors that impact a person’s appraisals are similar to factors associated with the environment’s ethical climate. Environments characterized by ethically positive behaviors are commonly those in which people strive to respect others’ autonomy, do no harm, benefit others, be fair, and act faithfully in relationships

(i.e. Beauchamp & Childress, 1994; Kitchener, 1984). In these types of environments, individuals not only tend to share a common set of values and/or principles guiding their conduct, but also tend to behave in manners which foster a sense of stability, predictability, self-worth, and availability of resources. These factors lead to a decreased tendency for a person to appraise potential stressors as stressful. This, in turn, results in lower levels of stress in more ethical environments. In environments characterized by less ethical behaviors, this impact would be decreased or even reversed with lower ethical environments being associated with higher levels of stress. For example, a student operating in an ethically positive environment may experience his environment as more predictable, less ambiguous, and more controllable; accordingly, he might feel more able to handle the demands of his environment – resulting in less strain and stress for that student.

Graduate Student Stress

Although stress is a topic that has received a great deal of attention in psychology and numerous tools for assessing stress have been developed, relatively few studies have focused on assessing stress in graduate school. Few individuals who have attended graduate school would deny that graduate school is associated with numerous stressors. The types of stressors associated with graduate school in the literature include those related to time constraints, competition, academic responsibilities, financial strains, interpersonal relationships (family, peers, and faculty), and professional job searches (Cahir & Morris, 1991; Dowdy, 2001; Rocha-Singh, 1990). Moreover, as Dowdy (2001) summarizes, “stress, loneliness, anxiety, fear of failure, role confusion, and health

problems are common emotional and physical experiences of graduate students” (p. 21). Some studies suggest that perceptions of stress may vary by gender and/or ethnic group (i.e. Cahir & Morris, 1991; Gillespie & Eisler, 1992; Mallinckrodt & Leong, 1992; Rocha-Singh, 1990, 1994). For example, Mallinckrodt and Leong (1992) surveyed 440 graduate students residing in graduate school housing at a large eastern university. They found that female graduate students reported significantly more feelings of stress and stress symptoms related to graduate school than did male graduate students. Moreover, stress has been associated with a variety of negative emotional, physical, cognitive, and behavioral reactions in college students (for a review see Robotham & Julian, 2006). Some of these include increased alcohol consumption (Morgan, 1997), increased tendency to consider suicide (Hirsch & Ellis, 1996), reduced academic performance (Struthers, Perry, & Menec, 2000), and increased attrition (Daugherty & Lane, 1999).

Despite the impact stress can have on students, few measures have been designed to specifically assess graduate students’ perceptions of stress during graduate school. One of the few examples of such a scale is the Graduate Student Stress Inventory-Revised (GSIR; Rocha-Singh, 1994). This scale was developed to assess graduate students’ perceptions of stress across the four major areas (academic, environmental, familial, and monetary obligations) identified by Mendoza (1981) in a study of stress in students. Items for each of these categories were developed to assess students’ perceptions of internal stress levels related to external events relevant to graduate student life. For the purpose of the current study, graduate student stress referred to stress as

assessed by the GSI-R and reflected graduate students' perceptions regarding stress during graduate school.

Stress and Support

Social support is a commonly discussed aspect of stress theories. Numerous empirical studies have documented the association of social support, stress, and well-being (for reviews and discussions see Broadhead, 1983; Cohen & Wills, 1985; House, 1987; Schwarzer & Leppin, 1991). Cohen and Wills (1985) elucidated the role of support in the stress process and reviewed 58 studies addressing the effects of social support in stress. In their review, they confirm the assertion that support can have both a direct effect and a buffering effect in the stress process. Theoretically, support operates in much the same way as ethical climate does. Social support is associated with factors that tend to foster a sense of stability, predictability, and self-worth, along with availability of coping resources. As Cohen and Wills elucidate, these factors may directly impact the stress process by decreasing the likelihood that a potential stressor will be appraised as stressful or may moderate the stress process by buffering the individual from potentially negative effects of a stressful event in terms of the perceived availability of interpersonal resources that can be utilized to meet the needs elicited by the stressful event.

Even though there is a good deal of literature demonstrating the importance of social support in the stress process, there is some variance in how social support is defined and assessed. As Rocha-Singh (1990) explains, social support has been discussed in terms of social bonds, social contact, availability of confidants, and

community involvement. Regardless of the approach, the perception or experience of being supported is central to the concept of social support (House, 1987). House (1987) identified four types of support that are important in conceptualizing social support. These include emotional support (involving love, empathy, and trust), instrumental support (involving provision of material and/or financial support), informational support (involving provision of information that is helpful in coping with environment), and appraisal support (involving self-evaluation and feedback support). While each of these types of support appears to be important, emotional support seems to be a central element in most conceptualizations (House, 1987).

There is relatively little research focusing on the role of social support in graduate student stress; however, there is some literature suggesting that the student-faculty relationship and the social support provided by that relationship is especially important in the graduate school experience (i.e. Goplerud, 1980; Harnett, 1976; Mallinckrodt & Leong, 1992). Harnett (1976) conducted several studies examining the graduate school experience and found that the student-faculty relationship was the most salient factor in graduate students' perceptions of the graduate school experience. Bargar and Mayo-Chamberlain (1983) noted that the advising relationship is especially important in the graduate school experience. In one of the few studies focusing on social support in graduate student stress, Goplerud (1980) studied the effects of social support on stressful life events and students' health (physical and emotional) problems in the first year of graduate school. He demonstrated that the frequency of social interactions with peers and faculty was inversely related to stressful life events and the number of

health problems. He also found that the quality of student-faculty interactions moderated the “negative consequences of unavoidable life changes that occur during the students’ first year of graduate work” (p.288). Studies demonstrating the importance of student-faculty relationships in graduate school are consistent with numerous studies demonstrating the importance of these relationships to undergraduate students (for reviews see Lamport, 1993; Pascarella & Terenzini, 1980). Similar to Goplerud’s study, many of these demonstrated the importance of the quality of student-faculty relationships and/or the frequency of informal contacts between students and faculty (i.e. Anaya & Cole; 2001; Endo & Harpel, 1982; Pascarella, Terenzini, & Hibel, 1978; Thompson, 2001).

Given the importance of student-faculty relationships (especially advising relationships) in the graduate school experience, this study focused on social support related to the relationship between a student and his/her primary student-faculty advisor [member who advises/chairs that student’s committee]. Following Goplerud’s example, students’ perceptions regarding support related to this relationship was assessed in terms of the quality of the relationship and the frequency of informal contact in the relationship. The measure used to assess the quality of the student-faculty relationship was based on scales employed in previous studies to assess similar constructs (i.e. Boyd, 1996; Pascarella & Terenzini, 1979; 1980). Likewise, the measure utilized to assess frequency of informal contact was based on those used in numerous other studies to quantify the frequency of informal contact between students and faculty members (i.e.

Endo & Harpel, 1982; Lamport, 1993; Pascarella & Terenzini, 1979, 1980; Pascarella, Terenzini, & Hibel, 1978; Schroeder & Mynatt, 1993; Thompson, 2001).

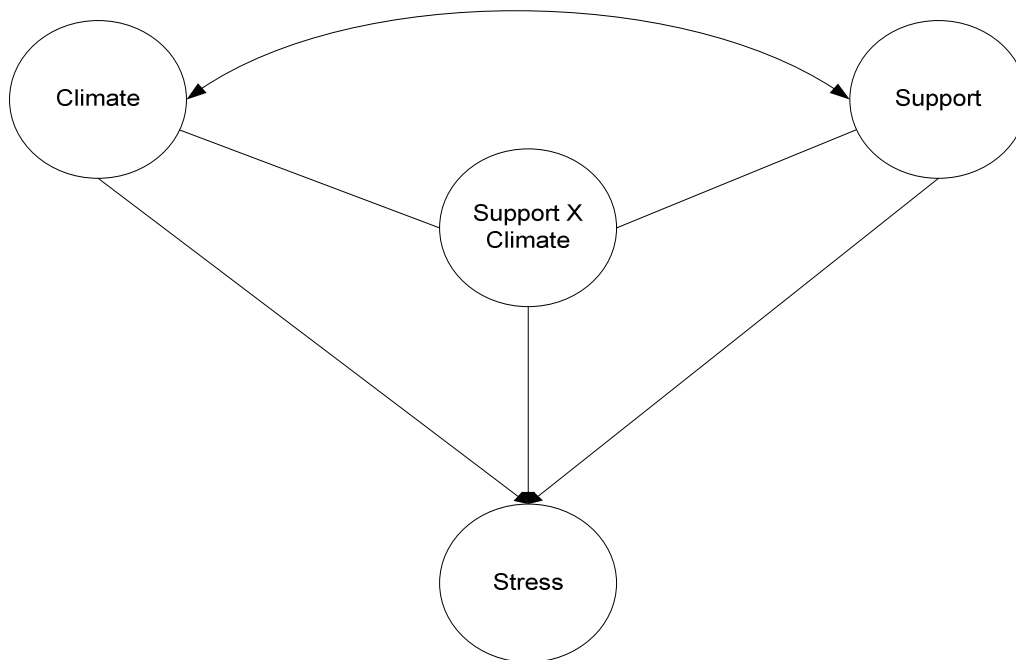
Hypotheses

The hypotheses for this study are derived from the theory of stress discussed above (Lazarus 1966, 1977, 1991; Lazarus & Folkman, 1984). This theory asserts that the experience of stress results from a cognitive appraisal process; a person experiences stress when he or she is confronted with an event that the person perceives as taxing and/or exceeding his or her resources, and thus threatening or challenging to his or her well-being. As Lazarus and his colleagues have discussed, several factors appear to influence the likelihood that a person will perceive an event as stressful – for example, situations that are unpredictable or that render an individual feeling out of control are more likely to be appraised as stressful. Theoretically, environments characterized by ethically positive behaviors and strong social support are associated with factors that reduce stress. Similarly, several studies have shown that social support can have a direct and buffering effect on stress. As a type of social support, faculty-student relationships have the potential to serve as a buffer against factors that impact stress.

Following this reasoning, several hypotheses about the relationships among climate, support, and stress were formulated. It was hypothesized that climate and support would predict stress, with each of these having an inverse relationship with stress. It was also predicted that support would moderate the relationship between climate and stress. The proposed relationships among the variables are illustrated in Figure 1. According to this diagram, climate and support were predicted to have direct

effects on stress. Support was also predicted to have a moderating effect on the relationship between climate and stress.

Figure 1
Diagram of Hypothesized Model



In summary the hypotheses for this study were the following:

Hypothesis 1: Climate would predict stress with higher ratings of climate being associated with lower levels of stress and lower ratings of climate being associated with higher levels of stress.

Hypothesis 2: Support would predict stress with higher ratings of support being associated with lower levels of stress and lower ratings of support being associated with higher levels of stress.

Hypothesis 3: Support would moderate the relationship between climate and stress.

METHODS

Participants and Procedures

A program representative from each of the 238 APA approved doctoral (PhD) counseling and clinical psychology programs listed on the APA website (<http://www.apa.org/ed/accreditation/doctoral.html>) was contacted via email (Appendix A) and asked to forward an invitation (Appendix B) to participate to all full-time doctoral counseling and clinical psychology students enrolled in their programs. Representatives from 66 of those programs indicated that they forwarded the request to their students. Representatives from 6 programs indicated that university, department, and/or program restrictions prevented them from forwarding such requests. Of those invited, 314 students from 62 programs agreed to participate and completed at least one question on the survey (38 respondents did not indicate their university affiliation). Forty-five respondents did not meet participation requirements, with 14 indicating part-time enrollment and 31 indicating fewer than 2 consecutive full-time fall/spring semesters enrolled in the doctoral program. Thirty-four (15.5%) respondents did not adequately complete the survey. The final data set consisted of 231 participants (184 women, 45 men, and 2 unspecified) who ranged in age from 21 to 57 years ($M = 28.67$, $SD = 5.45$). Of the 231 participants, 191 (82.7%) identified their ethnicity as White, Caucasian, European-American or Jewish-American. Thirteen (5.6%) identified their ethnicity as Latino/a, Chicano/a, Caribbean-American, or Hispanic. Eight (3.4%) identified themselves as African or African-American and 7 (3%) as Asian, Asian-American or Taiwanese. Four (1.7%) participants identified themselves as Native-

American or American Indian and 1 (0.4%) as Afghan-American. Five (2.1%) identified themselves as Bi-racial or Mixed-Race. One participant indicated “other” for ethnicity, and one did not indicate his/her ethnicity. Participants represented 32 clinical and 29 counseling programs with the number of semesters enrolled ranging from 2 to 18 full-time semesters ($M = 6.5$, $SD = 3.14$).

The survey was conducted via the internet and consisted of a student demographic questionnaire, the Ethical Climate Index - Revised (ECI-R), the Graduate Student Stress Inventory – R (GSI-R), S-Anxiety scale of the State-Trait Anxiety Inventory Form Y (STAS), a faculty demographic questionnaire, Quality of Student-Faculty Relationship Scale (Quality Scale), and the Frequency of Student-Faculty Contact Scale (Contact Scale). After signing onto the password-protected website, potential participants were asked to review an introductory statement about the study including a statement of purpose, steps taken to ensure their anonymity, lack of foreseen risks or benefits associated with participation, and the voluntary nature of the study (Appendix C). Each respondent was required to give informed consent (by clicking “I Agree”) before beginning the survey. All respondents (regardless of whether they gave informed consent and participated) were given the opportunity to enter a drawing for one of two \$50 Amazon.com gift certificates. Before entering the drawing, respondents were asked to review a statement (Appendix D) regarding the drawing. In this statement they were informed that even though the information they provide to enter the drawing would not be associated with their responses on the survey and would not jeopardize the anonymity of their responses, their participation in the drawing might not remain

confidential. After agreeing to participate, students were presented with the survey measures in the order described above. After completing each measure, participants were required to click “submit” before proceeding to the next measure. After completing the survey, participants were thanked for their participation and given the opportunity to enter the drawing as described above.

Constructs

Stress

This construct referred to graduate student perceptions of stress in their lives. It was measured using the Graduate Student Stress Inventory – Revised (GSI-R; Rocha-Singh, 1994) and S-Anxiety scale of the State-Trait Anxiety Inventory Form Y (STAS; Spielberger, 1983).

Graduate Student Stress Inventory (GSI). The 21-item revised version of the GSI-R (Appendix E) was used to measure perceived stress in the graduate student population. Graduate students were requested to indicate “how stressful each of these events has been for you since you entered your graduate program” on a 7-point Likert scale ranging from 1 (not at all stressful) to 7 (extremely stressful). This inventory yields both a global graduate student stress score (sum of all items) and three subscale scores: (a) Academic Stress subscale score, sum of seven items; (b) Environmental Stress subscale score, sum of eight items; and (c) Familial/Monetary Stress subscale score, sum six items. Higher scores for the global and subscale scores indicate higher levels of perceived stress. The use and factor structure of the subscales was demonstrated in a series of studies by Rocha-Singh (1994). These studies also

demonstrated adequate internal consistency reliability of the Environmental stress ($\alpha = .85$), Familial/Monetary Stress ($\alpha = .77$), and Academic Stress ($\alpha = .78$) subscales, along with adequate one-week retest reliabilities for the subscales ($\alpha = .80, .85, .85$, respectively). Research also supported the concurrent validity of the scale as moderately high correlations with the Spielberger Trait Anxiety Scale (Spielberger, 1983) were found for each subscale. Confirmatory factor analysis of the current data adequately reflected the subscale structure and indicated adequate internal consistency reliability of the global graduate student stress scale ($\alpha = .84$), and the Environmental Stress ($\alpha = .70$), Familial/Monetary Stress ($\alpha = .66$), and Academic Stress ($\alpha = .83$) subscales.

S-Anxiety Scale of the State-Trait Anxiety Inventory Form Y (STAS). The STAS (Appendix F) was used to assess participants' current subjective feelings of apprehension, tension, nervousness, and worry. It consists of 20 descriptive statements and requires each respondent to indicate the degree to which each statement describes how he/she feels "right now" by using a 4-point Likert scale ranging from 1 (not at all) to 4 (very much so). Scores on the STAS range from 20 to 80, with higher scores indicating higher levels of state anxiety. The STAS has been widely used to assess situational anxiety or stress. Estimates of internal consistency reliabilities are generally in the .90's. As expected given the transient nature of state anxiety, test-retest reliabilities tend to be low, ranging from 0.16 to 0.62 (Spielberger, 1983; Anastasi, 1988). Analysis of the current data also yielded adequate estimates of internal consistency reliability ($\alpha = .95$) for the STAS.

Climate

This construct referred to graduate students' perceptions of the ethically important aspects of graduate departments' environments that are shared among departmental participants over time. It was measured by the Ethical Climate Index (ECI; Schulte, 2004).

Ethical Climate Index (ECI-R). The 60-item ECI-R (Appendix G) was used to measure students' perceptions of the ethical climate in their graduate school departments. For this measure, respondents are asked to estimate the extent to which statements about ethical climate are true in their departments by using a 5-point Likert scale ranging from 1 (rarely or never true) to 5 (usually or always true). This inventory yields a global ethical climate score (sum of all items) and three subscale scores (sum of items in each subscale) with higher scores indicating more positive ethical climates. The subscales reflect three main environments present in a graduate school program. The Faculty-Student subscale consists of 41 items that correspond to the environment encompassing faculty to student interactions. Similarly, the Student-Faculty subscale (8 items) corresponds to the environment encompassing student to faculty interactions; the Student-Student subscale (12 items) corresponds to the environment that encompasses student to student interactions. These subscales were initially suggested by Schulte (1990; 1991) during scale development and have been confirmed and used in subsequent studies (i.e. Schulte, 2001, 2002), including the study in which the current revision was made (Schulte & Carter, 2004; L. E. Schulte, personal communication, 2006, 2007). Schulte and Carter (2004) reported adequate internal consistency reliability estimates

(Cronbach's alpha) for the Faculty-Student, Student-Faculty, and Student-Student subscales as .94, .78, and .85, respectively. Schulte and her colleagues have also demonstrated adequate construct and content validity for the scale (Schulte, 1990; 1991). The content validity of the items was evaluated and confirmed by an expert in the ethical climate area, by two review panels, and by a comparison of the ECI to the CUES Community Scale (Pace, 1969). Construct validity of the ECI was demonstrated via exploratory and confirmatory factor analysis of student responses to ECI items, correlations of students' ECI ratings with their scores of the CUES Community Scale, and in differences on mean ECI ratings across several major areas of study within a university. Confirmatory factor analysis of data from the current study supported the use of the subscales. Analysis of the data also yielded adequate estimates of internal consistency reliabilities (Cronbach's alpha) for the global ethical climate scores ($\alpha = .90$), as well as, for the Faculty-Student ($\alpha = .96$), Student-Faculty ($\alpha = .82$), and Student-Student ($\alpha = .87$) subscale scores.

Support

This construct referred specifically to the relationship between a student and his/her primary faculty advisor and was assessed using two measures: (a) the Quality of Student-Faculty Relationship Scale, and (b) the Frequency of Student-Faculty Contact Scale. For both measures, the primary faculty advisor was defined for students as the faculty member who is "the chair of your dissertation committee [and] with whom you must consult when making academic decisions such as scheduling classes."

Quality of Student-Faculty Relationship Scale (Quality Scale). Quality Scale (Appendix H) was designed to assess the quality of the relationship between a student and his/her primary faculty advisor. It was based on scales used in previous studies to assess similar constructs (i.e. Boyd, 1996; Pascarella & Terenzini, 1979; 1980). The scale consists of 14 statements adapted from the Mentor Inventory I (Boyd, 1996) reflecting positive characteristics of mentors/advisors (Appendix H). It asks respondents to indicate the degree to which each statement is true of his/her primary faculty advisor on a 5-point Likert scale ranging from 1 (rarely or never true) to 5 (usually or always true). A principle components analysis with varimax rotation was used to estimate factor loadings of the Quality scale items. Using this approach, 2 unrotated factors emerged with the two largest eigenvalues, 7.23 and 1.06. These accounted for 51.62% and 7.59% of the total variance, respectively. A two-factor solution (with eigenvalues >1) was extracted after 3 iterations. The scree test was consistent with the selection of the two factors. The rotated component matrix (Appendix I) was utilized to identify factor loadings and ensure that the factor loading for each item was equal to or greater than |.40| (this is more conservative than the |.35| suggested by Stevens, 2002). Visual content analysis of the items was consistent with the two-factor solution indicating that the items could be separated in to two subscales. The Vocational-Social subscale consisted of 4 items related to vocational plans and extra-curricular social interactions. The Competency-Mentoring subscale consisted of 10 items related to advisor qualification and mentoring characteristics. Global scores were calculated by summing all items; the subscale scores were calculated by summing the items in each scale such that high

scores indicate higher quality student-faculty relationships. Analysis of the current data yielded adequate estimates of internal consistency reliabilities (Cronbach's alpha) for the global scale ($\alpha = .93$), as well as for the Vocational-Social subscale ($\alpha = .80$) and the Competency-Mentoring subscale ($\alpha = .91$).

Frequency of Student-Faculty Contact Scale (Contact Scale). For this study, six items were created to measure the frequency of informal contact (Appendix J). Items were based on those used in numerous other studies to quantify the frequency of informal contact between students and faculty members (i.e. Endo & Harpel, 1982; Lamport, 1993; Pascarella & Terenzini, 1979, 1980; Pascarella, Terenzini, & Hibel, 1978; Schroeder & Mynatt, 1992; Thompson, 2001). This scale requires respondents to indicate how often each semester he/she has met with his/her primary faculty advisor outside of the classroom for each of several different reasons on a 5-point Likert scale ranging from 1 (rarely or never) to 5 (usually or often). A principle components analysis with varimax rotation was conducted to estimate factor loadings of the Contact scale items. Using this approach, only one factor was extracted. The first component demonstrated an eigenvalue 5.847 and accounted for 58.468% of the variance. This component was the only component to have an eigenvalue above one (see Appendix K for component matrix). The scree test and conceptual analysis was consistent with only one factor. All factor loadings were greater than $|.40|$ and all items were retained. Given this information, only a global score (sum of all items) was calculated for this scale. Higher scores indicate more frequent contact between students and their primary faculty

advisors. Analysis of the current data demonstrated adequate internal consistency reliability ($\alpha = .80$).

Demographic Information

Basic demographic information was gathered from each participant before he or she completed the other measures included in the survey (Appendix L). Information gathered in this portion of the survey included institutional affiliation, enrollment status (full/part-time), number of consecutive fall/spring semesters enrolled in current graduate program, gender, marital status, ethnicity, and cumulative grade point average.

Similarly, basic information about the primary faculty advisor was gathered prior to the student-faculty relationship portion of the survey (Appendix M). Faculty member information gathered included gender, ethnicity, approximate number of years as a faculty member, and approximate age. Students were asked to estimate if unsure.

RESULTS

Preliminary Analysis

Indicator variables were created by averaging participants' responses according to subscale means, excluding from each calculation participants who responded to fewer than three items. After deleting responses from 31 participants who indicated that they had been enrolled in their current program for fewer than two full-time semesters, 14 participants who indicated part-time academic enrollment, and an additional 28 participants who had completely missing data, the dataset contained responses from 241 students. Among these 241 responses, all participants had complete data for the ECI; however, seven participants had missing data for the GSI-R scales and an additional three had missing data for the Quality or Frequency Scales. The systematic distribution of the missing data suggests that a missing-completely-at-random (MCAR) or missing-at-random (MAR) approach may not be appropriate. As a result, the most appropriate strategy was to listwise delete the missing data. This resulted in a final dataset of 231 participants, which is an adequate sample size for performing SEM (Loehlin, 1992). Variable means and standard deviations are provided in Table 1.

Table 1

Variable Means and Standard Deviations

	<i>M</i>	<i>SD</i>
Climate		
ECI-R: Student-Student	4.06	0.55
ECI-R: Student-Faculty	4.14	0.48
ECI-R: Faculty-Student	3.93	0.57
Support		
Quality – VS	3.27	0.89
Quality – CM	4.04	0.81
	2.41	0.82
Stress		
GSI-R	3.34	0.83
STAS	1.20	0.63

N = 231

Structural Equation Modeling

Models with observed variables (e.g., path analysis, multiple regression) assume that variables are free from measurement error, an assumption that is unlikely to be satisfied when measuring latent constructs like stress, climate, and support.

Consequently, structural equation modeling was used to test the relationship between these variables, while accounting for measurement error. Of particular interest was whether support functions as a moderator of the relationship between climate and stress.

As defined by Baron & Kenny (1986), a moderator is a variable “that affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable” (p. 1174). In the context of the current research, the moderation effect suggests that the relationship between climate and stress differs as

a function of support. In traditional observed-variable models, the moderation effect is represented as an interaction between the independent and moderator variable. In a latent variable model however, the interaction of two exogenous factors creates a variety of potential problems, including nonlinear structural relationships that violate the normality assumption (Klein & Moosbrugger, 2000). Although a number of approaches have been developed to correct for this problem, Klein and Moosbrugger's (2000) maximum likelihood approach seems to be one of the most widely utilized, including implementation in Mplus, the software used for the current analyses.

Although the Klein and Moosbrugger's (2000) maximum likelihood approach to latent moderator analysis accounts for the non-normal distribution properties associated with latent interaction terms, the indicator variables are still assumed to be multivariate normally distributed. To test this assumption, a series of univariate analyses were requested. Many of the variables had moderate outliers, and all but the Student-Faculty subscale of the ECI-R had a ratio of skew to the standard error of the skew larger than two standard deviations -- indicating "significant" departure from normality. Power or root transformations were applied to the variables to reduce the skew, and a sensitivity analysis approach was adopted. This involved testing the first model using the original and transformed variables, as well as, with a variety of estimation procedures in Mplus (i.e., mlr, mlm) that account for non-normal distribution of variables. Regardless of technique, the substantive pattern of results and tests of significance remained the same, suggesting that the skew was not causing spurious findings. Thus, the results from the

original variables using the standard maximum likelihood approach are reported here (see Table 2 for a list of transformations used in the initial model).

	<u>Original Skew</u>	<u>Skew/SE</u>	<u>Transformed Skew</u>	<u>Power/(Root)</u>
ECI-R: Student-Student	-.658	-3.88	.007	2.9
ECI-R: Student-Faculty	-.333	-1.85	-.005	2.1
ECI-R: Faculty-Student	-.696	-3.73	.008	3
GSI-R: Academic	-.345	-2.24	-.005	1.5
GSI-R: Familial/Monetary	.397	2.48	.072	(0.6)
GSI -R: Environmental	.506	3.07	.066	(0.3)
Quality	-.682	-4.26	.010	2.8
Quality: Vocational-Social	-.330	-2.06	-.031	1.5
Quality: Competency-Mentoring	-.787	-4.92	.001	3.5
Contact	.395	2.47	.034	(0.5)

Following the guidelines of Anderson and Gerbing (1988), the a priori strategy was to conduct a two-step procedure. The first step was to separately test the fit of the measurement model to the climate, support, and stress constructs. This formed the foundation for the second step in which the structural model was analyzed.

Confirmatory Factor Analysis

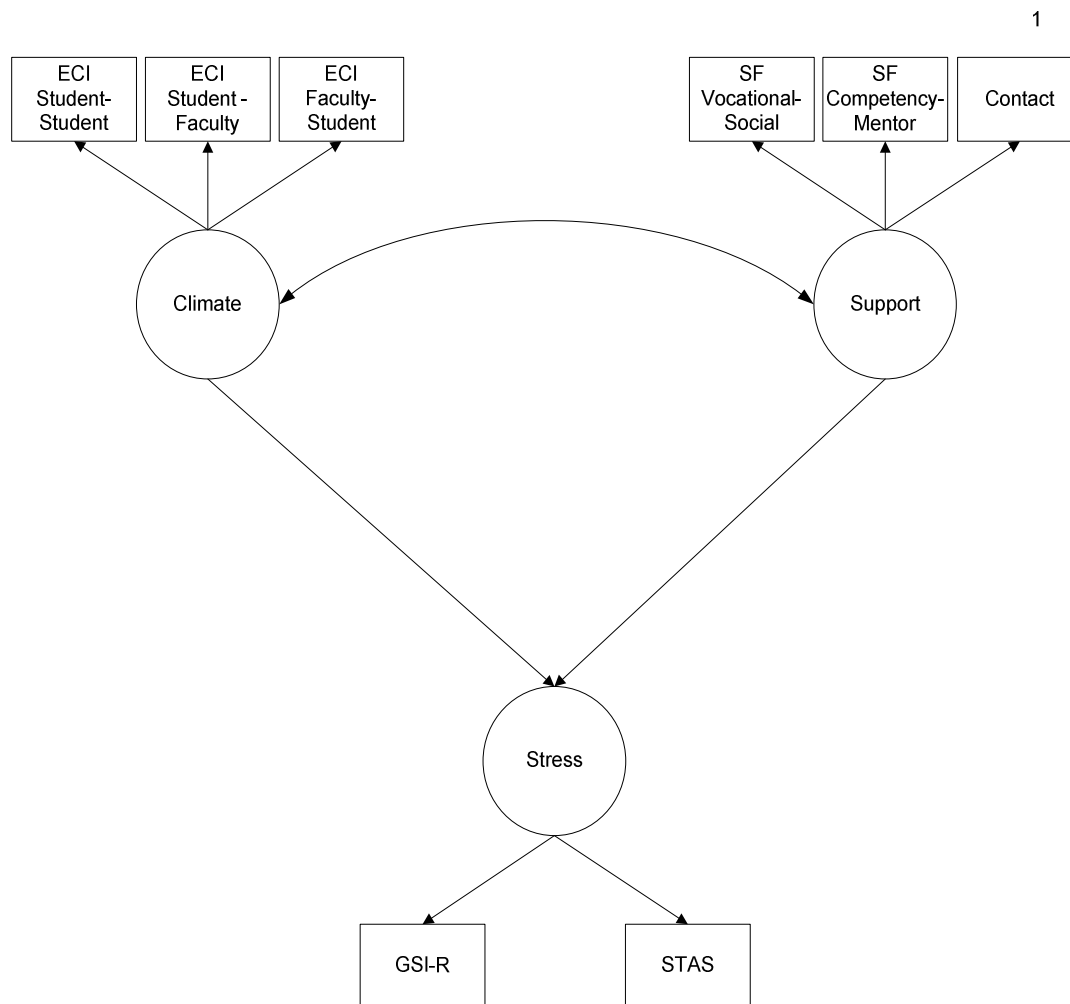
The initial confirmatory factor analysis (CFA), as originally hypothesized, had a relatively low CFI (comparative fit index) value (see Table 3) of .89 (higher than .95 is preferred and higher than .90 is acceptable according to Kline, 1998) and a relatively high root mean square error of approximation (RMSEA) of .12 (lower than .06 is

preferred and lower than .10 is adequate according to Kline). Exploration of the model revealed that the revision of the stress construct was appropriate. Considering the relatively low internal consistency of the GSI-R scales, the GSI-R global score was used in conjunction with the STAS score. Testing this model resulted in an improved model fit. Although not ideal, the CFI increased to .94 with a RMSEA of .11 (see Table 3). This model was used as the foundation for the structural model (Figure 2).

Table 3 <i>Goodness-of-Fit Indicators for the Measurement Model</i>					
Model	χ^2	df	<i>p</i>	CFI	RMSEA
1. Original CFA	136.80	32	<.001	.89	.12
2. Revised CFA	66.55	17	<.001	.94	.11
<i>Note.</i> The models shown here use the original, non-transformed variables and maximum-likelihood estimation					

Figure 2

Diagram of Modified Model Predicting Stress from Climate and Support



Structural Model Testing

For this portion of the analysis, the final CFA model served as the base or reduced model (Figure 2). This model represented the climate, support, and stress constructs but did not include any terms representing the moderation effect. The

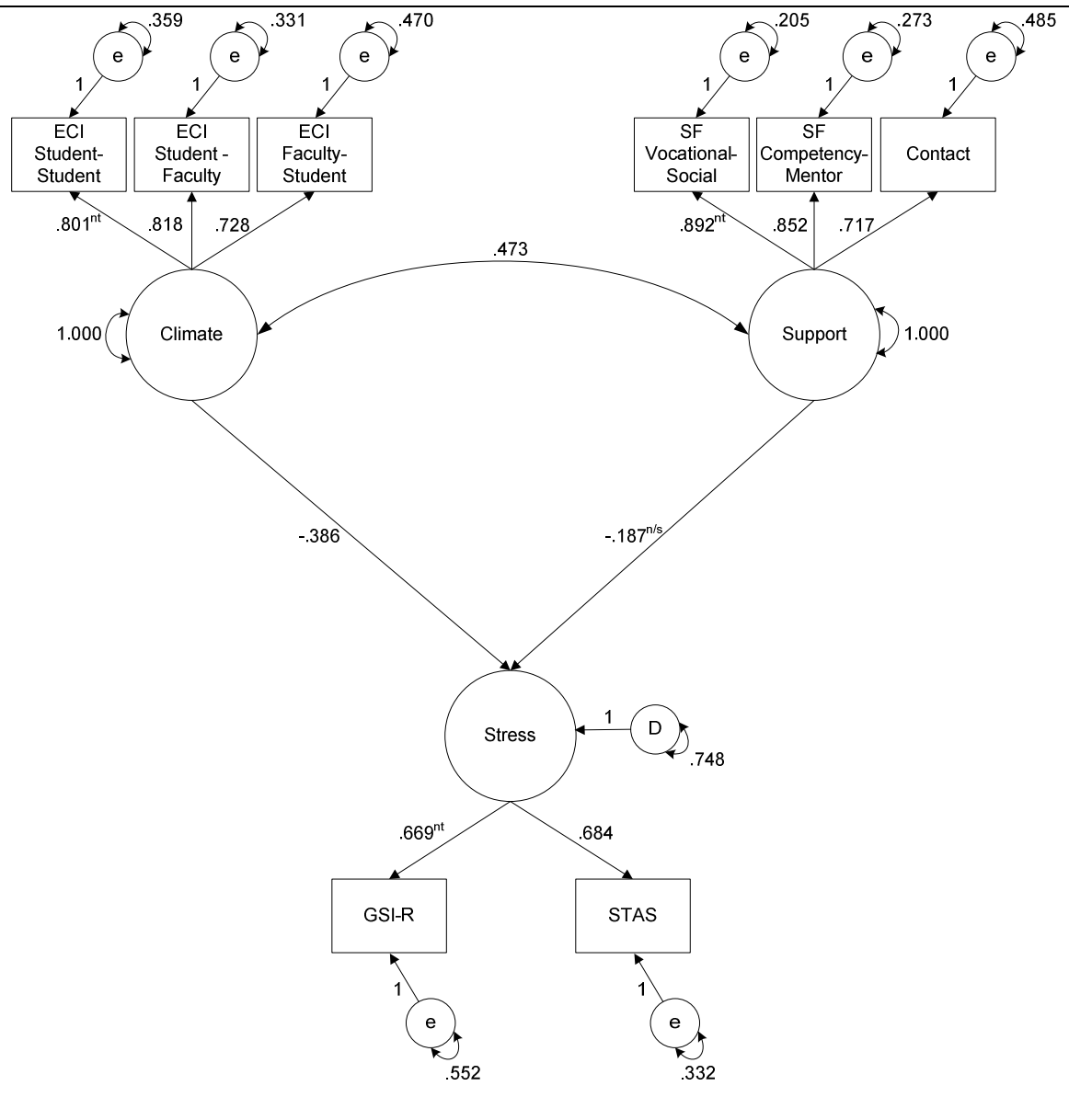
hypothesized or full model added the specified interaction between support and climate to represent the moderation effect. The implementation of the Klein and Moosbrugger (2000) latent construct interaction technique in Mplus does not provide chi square, CFI, or RMSEA estimates. Instead, the model provides an estimate of the log likelihood, which can be used to test the difference between nested models. Table 4 provides the goodness-of-fit indicators for the revised CFA structural model and the hypothesized structural model.

Table 4 <i>Goodness-of-Fit Indicators from the Structural Model Testing Latent Variable Moderation</i>			
Model	<i>Log Likelihood</i>	Df	<i>AIC</i>
Base model (reduced)	-1548.83	27	3151.67
Hypothesized model (full)	-1548.11	28	3152.21

The reduced model requested a regression predicting stress from climate and support. Figure 3 provides the path diagram with coefficients for this model. The hypothesized model specified an interaction between support and climate and requested a regression predicting stress from support, climate, and the interaction. Figure 4 provides the path diagram with coefficients for the hypothesized model. The test of difference in -2 log likelihood was non-significant, $\chi^2(1, N = 231) = 1.28, p = .40$, suggesting that the addition of the interaction term did not significantly aid in prediction.

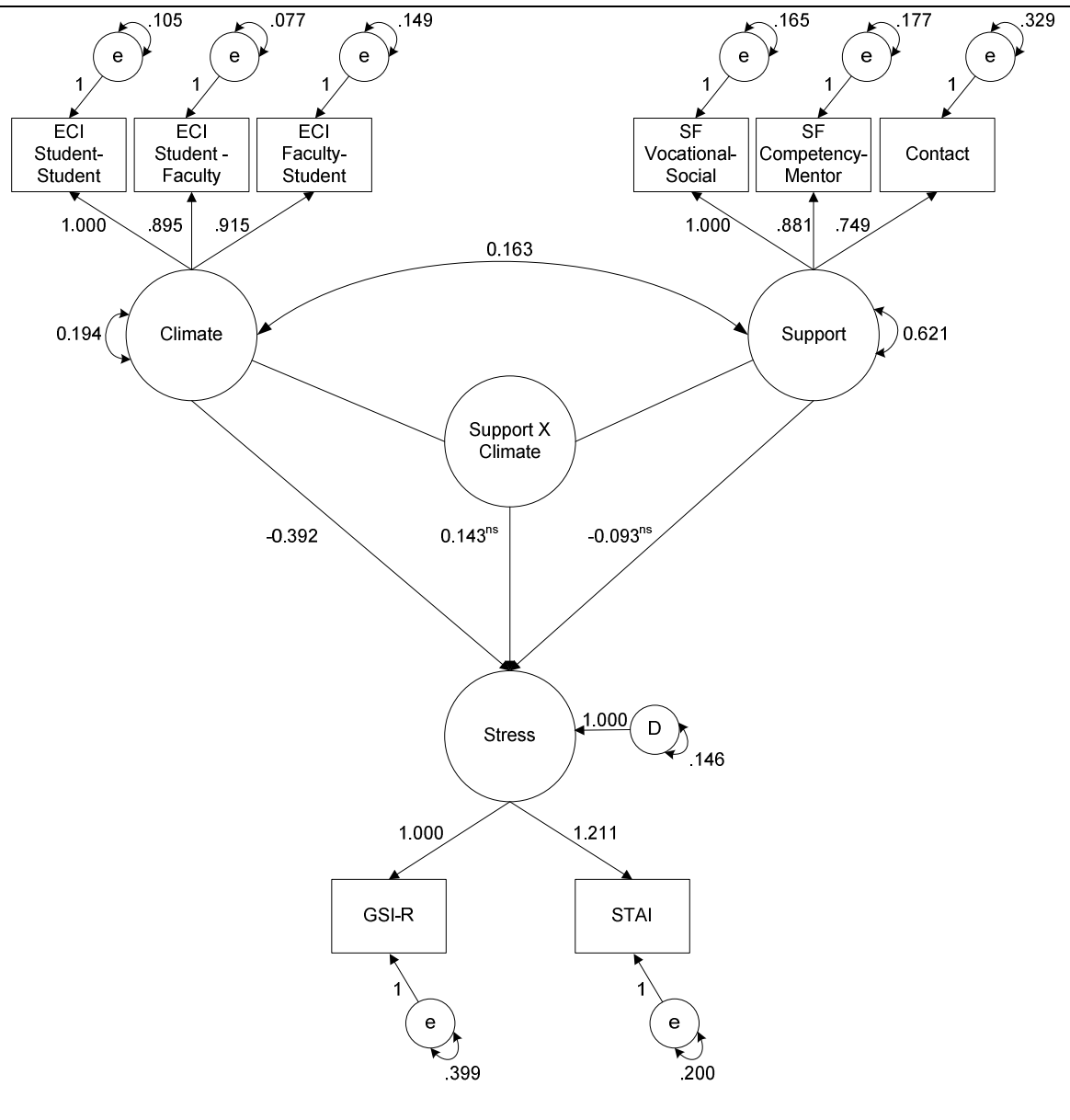
Figure 3

Path Diagram of Reduced Model Predicting Stress from Climate and Support



Note. Coefficients are standardized and significant, except for untested unit-loading constraints (nt) and where indicated by n/s.

Figure 4
 Path Diagram of Hypothesized Moderation Model



Note. Coefficients are unstandardized and significant, except for untested unit-loading constraints and where indicated by n/s.

In addition to this, the covariance between climate and support was significant ($z = 5.76$), suggesting the possibility of a collinearity problem in the model. Because some of the collinearity may be caused by the inclusion of the moderator, coefficients from the reduced model (Figure 2), which does not include the moderator, were used for interpretation. In this model, only ethical climate is a significant predictor of stress. The information obtained from the reduced model indicated that climate and support accounted for 25% of the variance in stress. Stress decreased by approximately .4 standard deviations for every one unit increase in climate. Although not significant, stress also decreased by approximately .2 standard deviations for every one unit increase in the support.

Gender Analyses

To determine whether the models were equivalent for males and females, a multigroup analysis based on gender was conducted. The first model tested for measurement invariance (i.e., no regression paths were specified). Importantly, however, the relatively small sample ($N = 231$) and the imbalance of males and females, makes this approach somewhat questionable here. In fact, because two participants had missing data for gender, the sample size was reduced to 229 (184 female). Table 4 provides the model fit for the unconstrained model with gender included. Judging from the relatively low CFI and the high RMSEA, the model does not provide a suitable fit to the data. For the sake of thoroughness, however, alternative models were tested that constrained factor loadings for males and females. As seen on the second line of Table 5, the constrained factor loadings model was not significantly different from the

unconstrained model, $\chi^2 (5, N = 229) = 0.74, p = .98$. Thus, it appears that the measurement model is similar for males and females.

In specifying the structural model, it appears that the regression of stress on climate was significant for both groups (β 's = -.34 and -.73 for females and males respectively), but the regression of stress on the student-faculty relationship construct was significant only for females (β 's = -.25 and .23 for females and males respectively). However constraining the regression coefficients to be equal across gender resulted in a non-significant difference from the unconstrained model, $\chi^2 (2, N = 229) = 2.31, p = .32$, suggesting that the model may apply equally well to males and females. This disparity is likely the result of the collinearity between the climate and student-faculty relationship constructs, which may be making coefficients unreliable. In the presence of collinearity, the test of model fit is the more appropriate statistic. This interpretation is bolstered by nonsignificant univariate tests of gender with the GSI-R and STAS scales as separate dependent variables, $F(1, 230) = .29, p = .59$ and $F(1, 229) = .01, p = .92$.

Model	χ^2	Df	<i>p</i>	CFI	RMSEA
1. Unconstrained CFA	100.88	34	<.001	.91	.13
2. Constrained Factor Loading CFA	101.62	39	<.001	.92	.12
3. Regression Coefficients Constrained	103.93	41	<.001	.92	.12

Note. The models shown here use the original, non-transformed variables and maximum-likelihood estimation

CONCLUSIONS

Summary and Discussion of Findings

The purpose of this study was to investigate the impact of departmental ethical climate (climate) and quality of the primary faculty-student relationship (support) on graduate student stress (stress). It was hypothesized that climate and support would predict stress. More specifically, it was expected that there would be an inverse relationship between stress and climate, as well as, between stress and support. It was also predicted that support would moderate the relationship between climate and stress.

A model was constructed to represent the hypothesized relationships and structural equation modeling (SEM) procedures were utilized to assess the fit of the proposed model to the data collected. The analyses revealed that the hypothesized model did not adequately represent the data; however, these analyses did render a reduced model that offered a better, but not optimal, fit to the data (for discussion of fit indices see Keith, 2006; Kline, 1998). The reduced model (figure 2) indicated that climate and support, together, predicted a significant amount of variance (25%) in stress with only the relationship between climate and stress being significant. Despite the significant amount of variance accounted for by climate and support, the relationship between support and stress was not significant after accounting for climate. Moreover, the analysis of the model depicting support as a moderator of the relationship between climate and stress indicated that support did not function as a moderator in this case.

These findings support the basic hypothesis that higher levels of climate would predict lower levels of stress and vice versa. This is consistent with the theory of stress

based on works by Lazarus (1966, 1977, 1991) and the notion that many of the factors that impact a person's appraisals of potentially stressful situations or stimuli are related to the ethicality of the environment in which they occur. As expected, higher ratings of climate were associated with lower levels of stress and lower ratings of climate were associated with higher ratings of stress.

The findings were not as clear regarding the role of support in this model. Although the data do show that support and climate together accounted for a significant amount of variance, it does not demonstrate a significant relationship between support and stress after accounting for the relationship between climate and support. These results do not corroborate the prediction that support would have a significant main effect on stress. However, rejection of this hypothesis is also somewhat questionable given the relatively strong relationship between climate and support. It is possible that this relationship may be masking a significant zero-order relationship between support and stress.

The results of the analyses were also not consistent with the hypothesis that the relationship between climate and stress would differ as a function of support. In fact, the model reflecting the moderation effect did not render significant improvements in the prediction of stress. Again, rejection of this hypothesis is complicated by the significant covariance between support and climate.

Although the theoretical basis for the direct and moderation effects of support on stress is persuasive and these have been repeatedly documented in the literature, several researchers and scholars have also noted the inconsistent nature of these findings (i.e.

Cohen & Wills, 1985; Scheck, Kinicki, & Davy, 1997; Uchino, Cacioppo, & Kiecolt-Glaser, 1996). Cohen and Wills (1985) proposed and tested a theory that may be useful in understanding the current data. In this theory, they reasoned that the likelihood of finding a direct and/or moderating effect for support depends heavily on the strategy used to assess support. They posited that support measures could be classified along two dimensions: (a) functional-structural, and (b) global-specific. The functional-specific dimension refers to whether a scale measures the “existence of relationships” (structural) or the types of support relationships provide (functional). They identified the main types of support as informational (involves information that is helpful in defining, understanding, and coping with stress), esteem (involves information that a person is accepted and esteemed), instrumental (involves provision of material resources such as financial aid), and companion/diffuse support (involves spending time with others and a sense of belonging). The global-specific dimension refers to whether a scale assesses a specific or multiple function(s) or structure(s). According to this, a scale that measures the existence of one relationship would be a specific structural scale and a scale that assesses the existence of several relationships would be a global structural scale. Similarly, a scale that measures several types of support would be a global functional scale and one that only assesses one type of support would be a specific functional scale.

Cohen and Wills (1985) asserted that studies relying on scales using global structural scales would be more likely to demonstrate a main effect for support since global structural scales are measures of social integration and tend to tap into “the existence of wide variety of stable community connections” (p. 315). On the other hand,

studies using specific structural measures would be less likely to demonstrate a main effect since highly specific measure assess the existence of only one relationship and as such “have low reliability for tapping social integration, and thus ..[tend to be] inconsistent for producing main effects” (p. 315). Moreover, they postulated that buffering effects are more likely to be found in studies utilizing specific functional measures in which the type of function assessed closely matches the type stressors assessed. In contrast, studies using global functional scales would be less likely to demonstrate a buffering effect since the composite indicator may obscure or mask the types of support assessed by the measure of stress. For example, a study using a measure of instrumental support related to finances would be more likely to likely to produce moderation effects when the measure of stress is related to financial strain than when it is related to academic strain.

The measures used to assess support in the current study are not easily classified according to the dimensions outlined by Cohen and Wills (1985). Both scales incorporated structural and functional components as they measure both the existence of the primary student-faculty relationship and the types of support rendered by that relationship. In terms of structure, the scales are more specific in that they only focus on one relationship. In terms of function, both scales assess several types of support and, therefore, are more global. Although the measures used to assess support in the current study are not easily identified along the structural-functional and the specific-global dimensions, Cohen and Wills theory does shed some light on the current findings regarding support. The lack of corroboration for a significant main effect for support is

consistent with Cohen and Wills assertion that main effects are less likely to be observed when scales measure a restricted number of structural components – the Quality and Frequency scales used in the current study only assessed the primary student-faculty relationship. Furthermore, the lack of evidence demonstrating the moderation effect of support is consistent with the premise that buffering effects are unlikely to be demonstrated when support scales assess many types of support that are not directly matched to the types of stress assessed in the stress scales – in the current study, the Quality and Frequency scales assessed several types support that are not especially well matched to domains assessed by the GSI-R and particularly poorly matched to those assessed by the STAS. Given this, it is possible that the lack of expected findings regarding support may be attributable to specific nature of the relationship assessed and the global nature of the types of support provided by that relationship.

Limitations

Interpretation of these results should be made with caution for many reasons. At a very basic level, the model used as the basis in the SEM procedures did not render a strong or optimal fit to the data even after modifying it for a better fit (i.e. incorporating the STAS measure). Although there is some debate regarding how to evaluate the goodness of fit of a model, it is generally recommended that a good fit is indicated by a non-significant test of χ^2 , a RMSEA less than .06, and a CFI higher than .95 (i.e. Keith, 2006; Kline, 1998; Maruyama, 1998). Some scholars suggest that RMSEA's up to .10 and CFI's higher than .90 may indicate adequate fits (i.e. Kline, 1998; Maruyama, 1998). Most scholars in this area note that the χ^2 statistic, while useful in some situations, is

frequently misleading, especially since it is particularly sensitive to sample size. Moreover, they note that there is no one or set of statistics that absolutely determine whether a model is acceptable. For our sample, only the CFI value indicated an adequate fit to the data even after considering possible ways to improve the model. This signifies that results based on this model should be considered cautiously.

Perhaps related to the aforementioned issues regarding analyzing and interpreting the results, measurement issues may play a role in this study. The significant relationship between support and climate indicate that these scales overlap considerably in terms of what they measure. There are many potential reasons for this including the possibility that these scales measure something in common other than what they were intended to measure or that both of the constructs measured by these scales are impacted by some common cause. Furthermore, it is possible that, even though the measures used in this study generally demonstrated adequate internal reliability and the validity of the measures were reasonably well supported by the existing literature, issues related to reliability and validity of the measures may be impacting the results. This situation may be further compounded by the need to provide multiple indicators for the SEM analysis and the fact that indicators for each construct were very similar, particularly since many indicators were created by using subscale scores from one instrument or very similar instruments.

The interpretation of this data is also limited by the fact that only self-report measures were used. Even though the study focused on student perceptions, self-report measures are especially sensitive to bias on the part of participants; for instance,

participants may respond in a manner that reflects their desire to respond in a socially desirable manner to represent their program in a positive light. Although steps were taken to mediate this kind of problem throughout the study, the potential for problems related to the types of measure cannot be ruled out.

Even though the participants, as doctoral level students, are likely familiar with web-based activities and possess adequate computer skills, the use of the web as a medium for conducting this study does pose some relevant considerations. As Azar (2000) discusses, web-based surveys limit the control the experimenter has over the study environment. As with any anonymous survey completed outside of a controlled environment, the participants can not be monitored to ensure that they are being appropriately forthcoming or following the directions. Moreover, in web-based surveys, the experimenter can not ensure that the survey is presented in the expected manner – this is especially problematic considering the types of problems that can arise with software conflicts, hardware problems, and internet connections. Despite these concerns, there is evidence that results from web-based surveys are comparable to results from laboratory-based studies (Krantz & Dalal, 2000). These concerns were carefully considered during the design of the study (particularly during the design of the survey); however, it is not possible to completely rule out the possibility of these types of problems.

An important limitation to be considered is related to the sample and the selection processes. Potential subjects were limited to full-time doctoral level students currently enrolled (for at least two consecutive semesters) in an APA approved

counseling or clinical doctoral program. This pool of potential participants was subject to several selection forces including selection at the program level (whether the identified representative forwarded the email) and at the participant level (whether self-selected to participate). Given the selection procedures, the sample obtained is not a random sample of the broader population and, therefore, the results should not be indiscriminately generalized to this population.

Future Directions

Although this project did not render the expected result, it does provide some support for the notion that the ethical characteristics of the training environment do impact students. Moreover, it illustrates the need for further research in this area. In reviewing the literature, it is evident that there is a real potential for harm to students in the training relationship and that this potential for harm is not well understood or studied. Based on the framework used for this project, studies utilizing a broader range of measures would be useful. This would include using more measures for each construct and using different types of measures for each construct. This seems especially important for studies utilizing SEM. The fact that Cohen and Wills' theory regarding support measures was consistent with the data obtained in this study suggests that investigators consider their theory when selecting instruments to measure support and stress. Investigators are also encouraged to consider that ethical climate, social support, and graduate student stress may interact in ways other than those investigated in this study. Other theories of stress, such as Pearlin's structural theory of stress (i.e. Pearlin, 1989), may offer useful guidance in developing hypotheses regarding the

relationships of these constructs. Moreover, there are many more constructs relevant to ethics in the training relationship than those investigated in this project. Given the complex nature of this topic and the dearth of empirical literature to guide research in this area, there are a seemingly infinite number of approaches to the investigation of ethics in the training relationship. While the approach utilized in this study leaves many questions unanswered, it does provide a foundation for further study.

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APPENDIX A

Announcement to Program Representative

Announcement Email for Faculty Program Training Directors/Coordinators

Subject: Survey on Ethical Climate in Psychology Graduate Programs

Dear Dr. Gloria,

My name is Kim Kempner and I am a doctoral candidate in the Counseling Psychology program at Texas A&M University. I am conducting a dissertation study using a web-based survey on doctoral students' perceptions regarding ethical climates and various facets of the graduate school experience. I would be extremely grateful if you would forward the research announcement (which is attached to this message and will be sent in a separate e-mail) to your doctoral student e-mail list. The subject of the separate e-mail will read "Ethical Climate" – please use the announcement that is easiest for you to forward.

The study is being supervised by Dr. Linda Castillo; and further, it has been approved by the Institutional Review Board at Texas A&M University. It is my hope that this study will be beneficial in developing a better understanding of how graduate students experience the training environment.

So that I can keep track of which programs have sent the announcement to their doctoral student e-mail list, I would be grateful if you would also send me a reply to this message. I welcome any comments or questions you may have.

I thank you in advance for your kind assistance.

Sincerely,

Kimberly Kempner, M.A.
Doctoral Student
Counseling Psychology
Texas A&M University
College Station, TX 77843
kkempner@usa.net

Supervising faculty

Linda Castillo, Ph.D.:
Assistant Professor of Counseling Psychology
MS 4225
Texas A&M University
College Station, TX 77843

lcastillo@coe.tamu.edu

APPENDIX B

Invitation to Students

Announcement Email for Graduate Students

Subject: Survey on Ethical Climate in Psychology Graduate Programs

Hi,

My name is Kim Kempner and I am a doctoral candidate in the Counseling Psychology program at Texas A&M University. I am conducting a dissertation study using a web-based survey on doctoral students' perceptions regarding ethical climates and various facets of the graduate school experience. I became interested in this area when I attempted to gather information about how students tend to handle ethical dilemmas within their programs. I was very disheartened by the fact that little research existed in this area. It is my hope that this project will help to increase recognition of the importance of the ethical environment in which graduate students function.

With these goals in mind, I am writing to ask you to participate in this project by completing an anonymous online survey. The survey is relatively simple and should take approximately 35 - 40 minutes to complete. The Institutional Review Board at Texas A&M University has determined that this research meets the criteria for human subjects according to Federal Guidelines (IRB # 2005-0266).

If you are a full-time graduate student who has been enrolled in an APA-approved counseling or clinical psychology program for at least two semesters, please take a few minutes to complete this survey. [You can complete the survey by clicking on \(or cutting and pasting into your browser's address bar\) the following link: http://www.coe.tamu.edu/~tadiguzel/kim_survey/](http://www.coe.tamu.edu/~tadiguzel/kim_survey/). The password to enter this site is "xxxx" (all lowercase).

In return for your participation, you will be given the opportunity to enter a drawing for one of two \$50 gift certificates at Amazon.com. The drawing will take place at the conclusion of the study.

I also would greatly appreciate it if you would forward this link to other graduate students enrolled in APA-approved clinical or counseling programs.

Thank you for your time and help.

Sincerely,

Kimberly Kempner, M.A.
Doctoral Student
Counseling Psychology
Texas A&M University
College Station, TX 77843
kkempner@usa.net

Supervising faculty:

Linda Castillo, Ph.D.
Assistant Professor of Counseling Psychology
MS 4225
Texas A&M University
College Station, TX 77843
lcastillo@coe.tamu.edu

APPENDIX C

Initial Web Page

Information Sheet

Ethical Climate, Student-Faculty Relationship, and Graduate Student Stress

You have been asked to participate in a research study designed to examine the relationships between graduate student stress, the quality of relationships between students and faculty, and the ethical climate within a department of study. You are being asked to participate as you are a full-time doctoral student in an APA-approved counseling or clinical psychology program who has been enrolled in this program for at least two semesters. This study is being conducted as part of a dissertation project. A total of 500 people will be asked to participate in this study.

If you agree to participate in this study, you will be asked to complete an anonymous online survey. The survey is relatively simple and should take approximately 30-40 minutes to complete. You understand that this study poses neither risks nor benefits beyond those normally resulting from thinking about issues that arise when taking surveys. As a participant you will receive the opportunity to enter a drawing for one of two \$50 gift certificates at Amazon.com. The drawing will take place at the conclusion of data collection. Winners will be notified via e-mail. This study is anonymous. Do not put any identifying information on the survey. No identifiers linking you to the study will be included in any sort of report that might be published. No cookies will be placed on your computer as a result of this survey. Research records will be stored securely and only the primary investigator (Kimberly Kempner, M.A.) and her chair (Linda Castillo, Ph.D.) will have access to the records. Your decision whether or not to participate will not have negative ramifications for you. If you decide to participate, you are free to refuse to answer any of the questions that may make you uncomfortable. There are no penalties for withdrawing from the study. You can withdraw at any time and still enter the drawing. If you choose to participate in the drawing, your participation may not be confidential; however, the information you submit in response to the survey will remain anonymous. You can contact Kimberly Kempner or Dr. Linda Castillo (979) 845-0891 with any questions about this study.

This research study has been reviewed by the Institutional Review Board- Human Subjects in Research, Texas A&M University. For research-related problems or questions regarding subjects' rights, you can contact the Institutional Review Board through Ms. Angelia M. Raines, Director of Research Compliance, Office of Vice President for Research at (979) 458-4067 (araines@vprmail.tamu.edu).

Print a copy of this information sheet for your records. By clicking on "I Agree," you consent to participate in the study.

Kimberly Kempner, M.A.
 Doctoral Student Psychology
 Counseling Psychology
 Texas A&M University
 College Station, TX 77843
kgpruitt@neo.tamu.edu /979-845-0891

Linda Castillo, Ph.D.
 Assistant Professor of Counseling
 MS 4225
 Texas A&M University
 College Station, TX 77843
lcastillo@coe.tamu.edu /979-845-0891

[I Agree](#)

[No Thanks](#)

APPENDIX D

Drawing Information

Thank you for your participation in the study. If you have any questions about this study you can contact Kimberly Kempner at kgpruitt@usa.net or Dr. Linda Castillo at 845-0891 or lcastillo@tamu.edu.

If you have feelings of discomfort after taking this survey, I strongly encourage you to contact a licensed therapist at your university counseling center, elsewhere in your community, or via the internet. Licensed therapists are available at www.mytherapynet.com 24 hours a day.

You can enter the drawing for one of two \$50 gift certificates at Amazon.com by clicking the link below and providing information about how to contact you if you should win the drawing. It is important to note that the information you provide in relation to the drawing is in no way connected to your responses on the survey. Your responses on the survey will remain anonymous, but the fact that you did participate may not remain confidential if you enter the drawing.

If you wish to enter the drawing please click on “Enter Drawing” below. The password for this site is xxxx. Clicking “Enter Drawing” indicates that you understand that if you are selected as a winner and accept payment as such, the fact that you participated in this study may be obtained under the Texas Open Records Act, even though any information that you gave to the investigator is anonymous; similarly, if selected as a winner, you agree to provide the investigator with signed receipt once the gift certificate is received.

If you do not wish to enter the drawing click on “No Thanks” or simply close this web page.

[Enter Drawing](#)

[No Thanks](#)

APPENDIX E

Graduate Student Stress Inventory – R (GSI-R)

Directions and Sample Items

GRADUATE STUDENT STRESS INVENTORY - REVISED

Below is a list of statements describing a variety of issues that may be related to your graduate education.

If you have **never experienced** one of the events listed below, then circle number 1.

If one of the events listed below has happened to you and has caused you a great deal of stress, rate that event toward the "Extremely Stressful" end of rating scale. If an event has happened to you while you have been in graduate school, but has not bothered you at all, rate that event toward the lower end of the scale ("Not at all Stressful").

Circle the number next to each item to indicate how stressful each of these events has been for you since you entered your graduate program. Use the following scale:

	Not at all Stressful		Moderately Stressful			Extremely Stressful	
	1	2	3	4	5	6	7

2. Fulfilling responsibilities both at home and at school.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
3. Taking exams	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
13. Peers treating you unlike the way they treat each other.							
16. Paying monthly expenses	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
21. Meeting deadlines for course assignments	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7

APPENDIX F

S-Anxiety scale of the State-Trait Anxiety Inventory Form Y (STAS):

Sample Items as Provided by Mind Garden, Inc.

Example

The S-Anxiety scale consists of twenty statements that evaluate how respondents feel "right now, at this moment."

	1	2	3	4
	Not At All	Somewhat	Moderately So	Very Much So
A. I feel at ease	1	2	3	4
B. I feel upset	1	2	3	4

*Reprinted with permission of Mind Garden, Inc. (www.mindgarden.com) from State-Trait Anxiety for Adults by Charles D. Spielberger.

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APPENDIX G

Ethical Climate Inventory – Revised (ECI-R)

HOW TRUE IS EACH STATEMENT IN YOUR MAJOR
DEPARTMENTAL OR PROGRAM AREA?

1 = Rarely or Never True
2 = Seldom True
3 = Sometimes True
4 = Often True
5 = Usually or Always True

- | | | | | | |
|--|---|---|---|---|---|
| 1. Professors are accessible to students outside of scheduled class time. | 1 | 2 | 3 | 4 | 5 |
| 2. Professors openly acknowledge excellent and outstanding work by students. | 1 | 2 | 3 | 4 | 5 |
| 3. Students act thoughtfully and fairly in the evaluation of professors. | 1 | 2 | 3 | 4 | 5 |
| 4. Students are considerate of their peers' feelings. | 1 | 2 | 3 | 4 | 5 |
| 5. Professors inform students how best to study for their particular courses. | 1 | 2 | 3 | 4 | 5 |
| 6. Faculty members take unfair advantage of students' skills and expertise. | 1 | 2 | 3 | 4 | 5 |
| 7. There is a cooperative spirit among the students in this department or program. | 1 | 2 | 3 | 4 | 5 |
| 8. Students are honest in completing course assignments, exams, papers, or projects. | 1 | 2 | 3 | 4 | 5 |
| 9. Students are sexually harassed or exploited by faculty members. | 1 | 2 | 3 | 4 | 5 |
| 10. Faculty members discriminate against students on the basis of race. | 1 | 2 | 3 | 4 | 5 |
| 11. Students are informed of program requirements and evaluation criteria before or upon entrance into programs. | 1 | 2 | 3 | 4 | 5 |
| 12. Professors encourage students to ask questions about course content. | 1 | 2 | 3 | 4 | 5 |
| 13. Professors are well prepared for their classes. | 1 | 2 | 3 | 4 | 5 |

- | | | | | | | |
|-----|--|---|---|---|---|---|
| 14. | Faculty members model appropriate behavior as mentors to students. | 1 | 2 | 3 | 4 | 5 |
| 15. | Students provide their peers with reinforcement and encouragement when appropriate. | 1 | 2 | 3 | 4 | 5 |
| 16. | Program admission requirements are fair. | 1 | 2 | 3 | 4 | 5 |
| 17. | Faculty members take an interest in students' professional lives. | 1 | 2 | 3 | 4 | 5 |
| 18. | Students are evaluated in classes according to their performance. | 1 | 2 | 3 | 4 | 5 |
| 19. | In this department or program, cooperation among students and faculty members is promoted. | 1 | 2 | 3 | 4 | 5 |
| 20. | Students are attentive to professors and their peers during class. | 1 | 2 | 3 | 4 | 5 |
| 21. | Faculty members discriminate against students on the basis of gender. | 1 | 2 | 3 | 4 | 5 |
| 22. | Course exams evaluate students' knowledge of material covered in the course. | 1 | 2 | 3 | 4 | 5 |
| 23. | Faculty members are accessible to all students on an equal basis. | 1 | 2 | 3 | 4 | 5 |
| 24. | Faculty members model ethical behavior as professionals. | 1 | 2 | 3 | 4 | 5 |
| 25. | Faculty members pay little attention to students who are of no use to them. | 1 | 2 | 3 | 4 | 5 |
| 26. | Faculty members openly belittle the opinions or beliefs of students. | 1 | 2 | 3 | 4 | 5 |
| 27. | Professors accommodate students with special needs. | 1 | 2 | 3 | 4 | 5 |
| 28. | Faculty members provide students with reinforcement and encouragement when appropriate. | 1 | 2 | 3 | 4 | 5 |
| 29. | Faculty members delay student progress through procrastination of their responsibilities. | 1 | 2 | 3 | 4 | 5 |
| 30. | Students acknowledge their peers' contributions to research or other projects. | 1 | 2 | 3 | 4 | 5 |
| 31. | Students who have questions about grades on papers, projects, or exams feel free to approach professors. | 1 | 2 | 3 | 4 | 5 |
| 32. | Students take unfair advantage of their peers' skills and expertise. | 1 | 2 | 3 | 4 | 5 |
| 33. | Students feel comfortable seeking help from professors outside of class time. | 1 | 2 | 3 | 4 | 5 |

- | | | | | | | |
|-----|---|---|---|---|---|---|
| 34. | Students can trust their peers with confidential information. | 1 | 2 | 3 | 4 | 5 |
| 35. | When school-related problems arise, students feel free to consult with faculty members. | 1 | 2 | 3 | 4 | 5 |
| 36. | Students accept responsibility for their performance in class by seeking help or information when necessary. | 1 | 2 | 3 | 4 | 5 |
| 37. | Professors provide students with prompt and sufficient feedback on course projects, papers, and exams. | 1 | 2 | 3 | 4 | 5 |
| 38. | Faculty members go out of their way to help students. | 1 | 2 | 3 | 4 | 5 |
| 39. | Students can trust faculty members with confidential information. | 1 | 2 | 3 | 4 | 5 |
| 40. | When working with a group of their peers, students do their fair share. | 1 | 2 | 3 | 4 | 5 |
| 41. | Students treat faculty members with respect. | 1 | 2 | 3 | 4 | 5 |
| 42. | Faculty members acknowledge students' contributions to research or other projects. | 1 | 2 | 3 | 4 | 5 |
| 43. | Students fulfill commitments made to their peers. | 1 | 2 | 3 | 4 | 5 |
| 44. | Faculty members keep scheduled appointments with students. | 1 | 2 | 3 | 4 | 5 |
| 45. | Professors promote cooperation among students. | 1 | 2 | 3 | 4 | 5 |
| 46. | Course exams, projects, and papers are evaluated fairly and according to pre-established criteria. | 1 | 2 | 3 | 4 | 5 |
| 47. | When students make errors, they blame innocent peers. | 1 | 2 | 3 | 4 | 5 |
| 48. | Faculty members follow through on legitimate requests made by students. | 1 | 2 | 3 | 4 | 5 |
| 49. | Students consult with faculty members when commitments cannot be met. | 1 | 2 | 3 | 4 | 5 |
| 50. | In classes, students learn to withhold the expression of opinions or beliefs that differ from the majority of the students. | 1 | 2 | 3 | 4 | 5 |
| 51. | Students fulfill agreements made to professors on course requirements. | 1 | 2 | 3 | 4 | 5 |
| 52. | Students treat their peers with respect. | 1 | 2 | 3 | 4 | 5 |
| 53. | All students are treated equally in this department or program. | 1 | 2 | 3 | 4 | 5 |
| 54. | Students defend peers who are being ridiculed or criticized by others. | 1 | 2 | 3 | 4 | 5 |

- | | | | | | | |
|-----|---|---|---|---|---|---|
| 55. | Faculty members model appropriate behavior as researchers. | 1 | 2 | 3 | 4 | 5 |
| 56. | Professors allow students flexibility in choosing topics for course projects or papers. | 1 | 2 | 3 | 4 | 5 |
| 57. | Faculty members are attentive to students during scheduled appointments. | 1 | 2 | 3 | 4 | 5 |
| 58. | Students are free to pursue their own interests and goals while accepting suggestions from faculty members. | 1 | 2 | 3 | 4 | 5 |
| 59. | Professors allow the expression of opinions or beliefs that differ from their own. | 1 | 2 | 3 | 4 | 5 |
| 60. | Faculty members can trust students with confidential information. | 1 | 2 | 3 | 4 | 5 |

*Reproduced with permission of author. Schulte, L.E., & Carter, A.F. (2004). An assessment of a college of business administration's ethical climate. *The Delta Pi Epsilon Journal*, 46 (1), 18-29.

APPENDIX H

Quality of Student-Faculty Relationship Scale (Quality Scale)

Student-Faculty Relationship

Directions: Please indicate the degree to which you perceive the following statements to be true of your primary faculty advisor. Your primary faculty advisor is likely the faculty member who the chair of your dissertation committee. He or she is the faculty member with whom you must consult when making academic decision such as scheduling classes.

1 = Rarely or Never True
 2 = Seldom True
 3 = Sometimes True
 4 = Often True
 5 = Usually or Always True

My Primary Faculty Advisor...

- | | | | | | |
|---|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 1. shows interest in my future goals and aspirations. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 2. provides me with support and guidance. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 3. shares similar ideas and research with me. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 4. is knowledgeable and competent in his/her field. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 5. is readily available. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 6. is able to give “constructive criticism” tactfully. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 7. shows interest in my personal growth. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 8. provides feedback on the quality of my work. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 9. helps me establish connection in my professional area of interest. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

10. interacts with me socially, outside of school.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
11. “coaches” me for applying for internships and/or jobs.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
12. keeps information shared between me and him/her in strict confidence.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
13. demonstrates good listening skills.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
14. is sensitive to my personal needs and welfare.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

APPENDIX I

Rotated Component Matrix - Quality Scale Items

	Component	
	1	2
SFRQ1	.594	.503
SFRQ2	.773	.430
SFRQ3		.555
SFRQ4	.414	.333
SFRQ5	.642	
SFRQ6	.780	
SFRQ7	.651	.465
SFRQ8	.529	
SFRQ9		.772
SFRQ10		.710
SFRQ11		.696
SFRQ12	.633	
SFRQ13	.843	
SFRQ14	.792	

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
 a. Rotation converged in 3 iterations.

APPENDIX J

Frequency of Student-Faculty Contact Scale (Contact Scale)

STUDENT-FACULTY RELATIONSHIP MEASURE

Directions: Please estimate how often each semester you have met with your primary faculty advisor outside of the classroom for each of the following:

1 = Rarely or Never
 2 = Seldom
 3 = Sometimes
 4 = Often
 5 = Usually or Always

1. to get basic information and advice about your academic program.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2. to discuss matter related to your future career.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
3. to help resolve a disturbing personal problem.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
4. to discuss intellectual or course-related matters.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
5. to discuss a campus or departmental problem.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
6. to socialize informally.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

[Submit Your Results](#)

[Reset this form](#)

APPENDIX K**Component Matrix – Contact Scale Items**

	Component 1
FFRQ1	.738
FFRQ2	.762
FFRQ3	.652
FFRQ4	.718
FFRQ5	.773
FFRQ6	.554

Extraction Method: Principal Component Analysis
1 component extracted

APPENDIX L**Student Demographic Sheet**

Please provide the following information about *yourself*.

Gender: Male Female

Age:

Marital Status: Single Married Separate
Divorced Long-term Partner

Ethnicity:

Name of the university in which you are enrolled:

Graduate(PhD) Program enrolled: Clinical Counseling

Is graduate program APA accredited? Yes No

Enrollment Status: Full-time Part-time

Number of consecutive fall/spring semesters enrolled in current program:

Approximate cumulative grade point average:

APPENDIX M

Faculty Demographic Sheet

Please provide the following information about your primary faculty advisor.
Your primary faculty advisor is likely the faculty member who the chair of your
dissertation committee.

He or she is the faculty member with whom you must consult when making academic
decision such as scheduling classes.

Gender: Male Female

Ethnicity:

Age (estimate if unsure):

How many years has this person been
a faculty member (estimate if unsure)?

VITA

Name: Kimberly Pruitt Kempner

Address: Department of Educational Psychology
College of Education
Texas A&M University
4225 TAMU
College Station, TX 77843-4225

Email Address: kgpruitt@usa.net

Education: Ph.D., Counseling Psychology, Texas A&M University, 2007
M.A., Clinical Psychology, University of Houston, 2002
B.A., Psychology and Biology, University of St. Thomas, 1994

APA Accredited Pre-doctoral Internship:
University of Tennessee-Knoxville Student Counseling Center, 2005-2006