Counselor Self-Efficacy Development: An Examination Over Time of the Influence of Trainee Exposure to Clients, Negative Affectivity and the Supervisory Alliance

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COUNSELOR SELF-EFFICACY DEVELOPMENT: AN EXAMINATION
OVER TIME OF THE INFLUENCE OF TRAINEE EXPOSURE TO CLIENTS,
NEGATIVE AFFECTIVITY AND THE SUPERVISORY ALLIANCE

A DISSERTATION SUBMITTED TO
THE FACULTY OF THE GRADUATE SCHOOL
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY
DEPARTMENT OF COUNSELING PSYCHOLOGY

BY
REBECCA DE GRAAF
CHICAGO, ILLINOIS
MAY 1996
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ABSTRACT

This study examined how the earnest and anxious beginning counselor trainee moves from early bewilderment and frustration in her work with clients to greater confidence in her nascent counseling skills and capacities. Specifically, the present research explored how exposure to clients and selected trainee individual differences affected the development of counseling confidence over a semester of clinical and supervisory experiences. Three factors were hypothesized to differentially influence trainees' increase in counseling self-efficacy based on social cognitive theory: (a) the frequency and challenge of the trainee's exposure to clients; (b) the predisposition of the trainee to experience anxiety and pessimism, called negative affectivity; and, (c) the strength of the supervisory alliance between the trainee and her primary supervisor.

A new statistical methodology called hierarchical linear modeling was used to analyze the self-efficacy development of 18 practicum counselors. These analyses revealed that: (a) trainees can be distinguished by their level of counseling confidence over time, since some are confident in their clinical skills, and tend to remain so, while others exhibit an enduring lack of counseling confidence.
confidence; (b) whether reporting high or low counseling confidence, trainees exhibit weekly shifts in counseling self-efficacy that are likely related to the fragility of new beliefs and trainee dependence on external sources for performance evaluation and validation of success; (c) the degree of clinical challenge is a potent and complex predictor of counseling self-efficacy with opposing effects on self-efficacy level and growth; at high levels, challenge positively impacts trainee self-efficacy but exerts a negative influence on self-efficacy growth; (d) while anxiety is a much maligned efficacy information source, this work suggests that there may be positive effects of anxiety in that introspection, mild pessimism, and sensitivity to affective stimuli play a facilitative role in trainee self-efficacy levels; and, (e) in combination, clinical challenge and trainee negative affectivity effect levels, but not growth, of self-efficacy. Finally, as measured in this study, frequency of client exposure and strength of the supervisory alliance did not influence level or change in trainee counseling confidence over time.
CHAPTER 1
INTRODUCTION

Beginning counselors in training face a monumental learning task: they must apply their growing knowledge of human behavior and dysfunction with their unpracticed intervention skills to individuals in distress, while simultaneously negotiating the emotional and intellectual rigors of graduate school. Although trainees respond differently to these often ambiguous, challenging tasks and learning demands, Skovholt & Ronnestad (1992) have discovered commonalities among beginning counselors. In their qualitative work on stages and themes in counselor development, these authors provide a portrait of the typical counselor trainee that serves as a descriptive backdrop for this research.

Skovholt & Ronnestad (1992) present the following picture of the beginning counselor: She struggles to apply academic knowledge and skills to work with her clients, making valiant efforts to compensate for her dearth of experience by learning practical and specific techniques (Skovholt & Ronnestad, 1992). In this endeavor, she absorbs information in an almost haphazard, unintegrated fashion from many disparate and important sources; and she does this
via equally numerous modalities, i.e., reading, introspection, modeling, discussions and debates with counselor peers. She starts to make sense of what it is she is to do as a counselor by "psychologizing", by earnestly and extensively applying learned theories and techniques to herself and others. She measures her success as a counselor concretely, often with a client-driven focus, e.g., does my client attend sessions? does my client seem to like me? does my client report feeling better? Additionally, she monitors her performance against that of her peers and exhibits high performance and competence anxiety during this comparative process. She is, in sum, enthusiastic, insecure, and impressionable.

Further, according to these authors, the counselor trainee moves from this first phase of confusion and insecurity into a phase of comparatively greater calm and confidence. She achieves this shift by embracing different counseling conceptual/systems. The impetus for such theoretical and tactical adherence is her increasing bewilderment and recognition in the first phase that being a sympathetic, supportive "friend" in counseling is not sufficient to effect client behavioral change. As her knowledge and experience grows, the task of counseling becomes increasingly chaotic and complex. Though bewildered and frustrated, the trainee is determined to become competent and is bent on mastery. One important mastery
strategy that she may utilize is modeling experts. By adopting the views and practicing the techniques of chosen experts, the counselor can temporarily reduce her insecurity and urgency. She then possesses a thin veneer of confidence in her counseling capacities that is exquisitely vulnerable to negative evaluations from supervisors or from student peers in her practicum (Skovholt & Ronnestad, 1992).

The thrust of this present research is to explain, in quantitative terms, how the earnest and anxious beginning trainee described by Skovholt & Ronnestad (1992) moves from early bewilderment and frustration to greater confidence in her nascent counseling skills and capacities. This research seeks to model quantitatively beginning counselor development, assessing the influence of variables predicted by social cognitive theory to have an impact on this process.

The application of social cognitive theory to practical problems of performance and behavior change is well researched (Bandura, 1977, 1982, 1986). These applications center around Bandura's (1977) concept of self-efficacy, which is defined as an individual's expectations regarding her successful execution of a desired behavior in a given performance domain. Early analysis of self-efficacy and behavior was conducted with adults who had snake phobias. These analyses showed that the stronger an individual phobic's efficacy expectations, the more likely he or she
would successfully complete a task related to interacting with a snake (Bandura, 1977). Later research conducted with non-clinical populations revealed similar links between self-efficacy beliefs and behavior. For example, Multon, Brown & Lent's (1991) meta-analysis of consolidated results from a wide range of participants, designs, and assessment methods found that the relationships between self-efficacy beliefs, academic performance, and persistence were positively and statistically significant. Larson, Suzuki, Gillespie, Potenza, Bechtel & Toulouse (1992) pointed out that researchers have also applied self-efficacy theory to the measurement of the success of women in traditionally male careers (e.g., Betz & Hackett, 1981; 1983; Hackett, 1985; Hackett & Betz, 1981), weight control (Bernier, 1986), physical self-efficacy (Ryckman, Robbins, Thornton & Cantrell, 1982), social skills (Moe & Zeiss, 1982), and eating behaviors (Glynn & Ruderman, 1986). Larson et al. (1992) applied Bandura's (1977, 1982) theory of behavioral change to counselors in training.

Social cognitive theory is well suited to the study of counselors in training because of its clear articulation of the mechanisms by which change occurs. These mechanisms are described in detail in the next chapter. While many avenues could have been pursued in the application of Bandura's (1977, 1986) theory of behavioral change to counselor trainees, this work focused on two aspects of social
cognitive theory: the construct of self-efficacy and the role of efficacy information sources in efficacy growth. These foci were chosen because of their reported importance in prior work, specifically that of Larson et al. (1992).

Larson et al. (1992) laid the quantitative groundwork for the present exploration in their development of a counseling self-efficacy measure. Their work, in essence, served as the pilot for this current study which sought to extend their findings in several important ways: (a) by using the same self-efficacy instrument with a similar population of counselor trainees to confirm prior findings; (b) by using a larger sample with more frequent self-efficacy assessments during training in order to describe the self-efficacy change process in greater detail; and (c) by directly assessing efficacy information sources in order to investigate the influence of self-efficacy predictors.

In regard to self-efficacy measurement, Larson et al. (1992) developed an instrument that assessed counselor trainee self-judgments about required, basic behaviors in counseling situations. Prior to Larson et al.'s (1992) work, researchers who sought to measure counselor expectations of success with their clients devised study-specific instruments (e.g., Friedlander & Snyder, 1983; Johnson, Baker, Kopala, Kiselica & Thompson, 1989; and Rudolf, Manning & Sewell, 1993). Such isolated approaches to the investigation of the self-efficacy construct does not
permit easy comparison of results across studies and contributes to fragmentation within the literature. Larson et al.'s (1992) general measure, however, can be used to estimate counselors' self-efficacy across different training situations, allowing better comparisons across different studies. The present study thus employed Larson et al.'s (1992) measure in this manner.

Using Larson et al.'s (1992) work as a guide for choice of instrumentation, the present study also attempted to extend their findings by assessing the impact of efficacy information sources over time. In their efforts to validate their measure, Larson et al. (1992) used it to assess the counseling self-efficacy of ten masters practicum students during a training semester. Four trainees completed the instrument both at the beginning and at the end of the first semester's practicum, while six trainees completed the instrument at the beginning, middle and end of the second semester of practicum. The investigators hypothesized that trainees' self-efficacy would increase over time due to their general exposure to several sources of efficacy information: performance accomplishments, or successfully counseling clients; vicarious learning, or observation of successful counseling sessions; and verbal persuasion, or supervision. Larson et al. (1992) graphed individual trainee's scores separately for each of the two semesters of practicum. However, given the small sample size, they could
not conduct a statistical analysis. Looking at the graphed scores alone, the pattern of scores generally indicated that trainees' estimates of their counseling self-efficacy increased over time, though one student's scores actually decreased during this time period. Without statistical verification, however, these patterns require confirmation and replication.

In addition to problems in definitively describing counselor self-efficacy change over time, explaining the growth patterns in Larson et al.'s (1992) work is also problematic. The researchers operationalized the information sources that influence self-efficacy growth in a general and inclusive manner by using time in training as indicators of performance accomplishments, vicarious learning, and verbal persuasion. This strategy precludes any indepth explanation of the findings. Without separating out the effects of the distinct information sources by assessing each directly, the researchers could not link the sources to counselor self-efficacy change in any meaningful way.

In summary, Skovholt & Ronnestad's (1992) qualitative work described the typical counselor trainee in ways that dovetail with certain quantitative research. The quantitative research, especially that of Larson et al. (1992), has often sought to explain the behavior and development of the beginning counselor within the framework
of social cognitive theory. Using Larson et al.'s (1992) work as a foundation, the present study attempted to extend previous findings in the social cognitive literature that pertained to counselor trainee self-efficacy. Specifically, this study explored how exposure to clients and selected trainee individual differences affected the development of confidence as a counselor over a semester of clinical and supervisory experiences. Three factors were hypothesized to differentially influence the counselor trainees' growth in self-efficacy based on social cognitive theory: (a) the frequency and challenge of the trainee's exposure to clients; (b) the predisposition of the trainee to experience anxiety and pessimism, called negative affectivity; and (c) the strength of the supervisory alliance between the trainee and her primary supervisor.
CHAPTER 2
REVIEW OF RELATED LITERATURE

The focus of this research was modeling the development of trainee self-efficacy over time. In this review of related literature, the construct of self-efficacy as it relates to social cognitive theory is discussed first. This discussion is followed by an exploration of how the present study extended Larson et al.'s (1992) findings by employing a new statistical methodology. The final section outlines how this study built upon Larson et al.'s (1992) research theoretically.

Social Cognitive Theory and Self Efficacy

This section presents a working definition of self-efficacy, explores the relationship between self-efficacy and behavior, outlines sources of efficacy information, and describes the mechanisms of self-efficacy development. This information is the theoretical foundation for this study and is revisited throughout subsequent chapters.

Definition and Description

Self-efficacy has historically been defined in terms of an individual's expectations of success in a given behavior or task, thus the label "personal efficacy expectations".
Put differently, self-efficacy is a person's self-judgments about her capacity to perform at a certain level in a certain endeavor (Bandura, 1986). At their core, an individual's self-efficacy beliefs answer the fundamental question, "Can I do this?"

Both the specificity and accuracy of self-efficacy beliefs should be underscored. In terms of specificity, an individual's answer to the question, "Can I do this?", is related to specific domains of performance, e.g., driving a car or mastering a counseling intervention. Pajares & Miller's (1995) research regarding mathematics self-efficacy highlights the importance of self-efficacy specificity. These researchers discovered that in terms of predicting specific behavioral outcomes, the best measures of self-efficacy were those that had the "closest match" or highest correspondence between the types of beliefs and performances to which they were tied. In terms of accuracy, self-judgments about specific performance abilities must be accurate if they are to positively impact behavior. Over or underestimation of what one can do can adversely affect functioning. Overestimation can lead to serious performance failures and underestimation can lead to self-limiting decisions to not initiate or participate in potentially self-enhancing actions (Bandura, 1986).

Self-efficacy beliefs differ from an individual's outcome expectations. Put simply, outcome expectations
address the question, "If I do this, will it turn out okay?" (Lent, Brown & Hackett, 1994). Bandura (1986) distinguishes between self-efficacy beliefs and outcome expectations, noting that an individual can believe executing a particular course of action will yield certain desirable outcomes, yet not act on her outcome beliefs because she doubts she can do what needs to be done.

**Relationship to Action and Behavior Change**

Self-efficacy expectations are intimately tied to action. Based on the level and strength of self-efficacy, Bandura (1977, 1982) theorizes that individuals will differentially initiate coping behavior, exert effort in those behaviors, and sustain this effort even when they encounter obstacles and negative experiences. In this sense, self-efficacy beliefs are an important lubricant for learning and self-functioning.

The strength of the relationship between self-efficacy judgments and action is affected by a number of factors, including: possession of necessary subskills for successfully negotiating a given task; appropriate incentives to perform the desired task, as well as adequate resources, tools, or equipment; ambiguity of the task or task circumstances; and, faulty self-knowledge that distorts the self-appraisal process (Bandura, 1986). This later factor, the distortion of the self-appraisal process, weakens the link between self-efficacy beliefs and action.
and asserts its influence via several cognitive channels: (a) at the level of perception, such that an individual misperceives her failures and successes; (b) at the cognitive processing level, such that she makes cognitive errors in the selection, combination and weighing of available efficacy information; or, (c) at the recall level such that the person fails to remember efficacy-relevant information (Bandura, 1986). Some individuals are more prone to these cognitive distortions than others; this is discussed in greater detail in the section on negative affectivity.

Sources of Efficacy Information

Individuals derive their self-efficacy beliefs from four principal sources of information: (a) performance accomplishments; (b) physiological states (anxiety); (c) vicarious experience (modeling); and (d) verbal persuasion (Bandura, 1977).

Performance accomplishments. Bandura (1986) labels performance accomplishments "enactive attainments" and asserts that they are the most potent source of efficacy information because they are based on "authentic mastery experiences". An individual cognitively "weights" mastery experiences based on the strength of her "pre-existing self-perceptions"; once strong efficacy beliefs are developed through repeated performance accomplishments, an occasional failure does not adversely affect self-judgments (Bandura,
1986). Rudolf, Manning & Sewell (1983) found evidence to support this positive relationship between performance accomplishments and self-efficacy beliefs. Researching the area of speech therapy, Rudolf et al. (1983) discovered that as student clinicians gained experience with clients, their fear and avoidance of the treatment situation diminished and their self-efficacy increased.

Rudolf et al.'s (1983) results suggest a positive linear relationship between trainees' performance accomplishments and self-efficacy. However, Bandura has also hypothesized that in some instances, a curvilinear relationship exists between frequency of success experiences and increased self-efficacy (Lent et al., 1994). Self-efficacy estimates no longer grow incrementally, and actually plateau, when the performance accomplishments lose their challenge (Lent et al., 1994). Without sufficient performance challenge, self-efficacy beliefs are likely to level off. At that leveling point, the challenge of the success experiences may become more important than simple frequency alone.

**Physiological states (anxiety).** At moderate levels, visceral agitation (anxiety) can facilitate performance by spurring one to use her skills. At high levels, however, arousal often disrupts performance, especially when the performance is complex and requires well organized behavior (Bandura, 1986). However, the cognitive meaning an individual assigns to her anxiety maybe more important than
actual level of physiological arousal. Some individuals interpret their anxiety as a typical, temporary reaction that all people experience, both the competent and incompetent. Some individuals attribute aversive physiological arousal to personal inadequacy and interpret it as information confirming their lack of worth. Compared to the former individuals, those who personalize their anxiety are likely to lower their perceived efficacy (Bandura, 1986).

**Vicarious experience (modeling).** An individual is most sensitive to efficacy information received through a model enacting a given behavior when she is unsure of her own capabilities, or when she does not know how to evaluate her performances. In other words, individuals will use the performances of others to gauge their own personal efficacy when they lack "factual evidence" for judging the adequacy of their behavior (Bandura, 1986).

**Verbal persuasion.** In the process of developing self-efficacy beliefs, individuals not only compare their performance to that of models, they use verbal persuasion to incorporate the opinions and evaluations of qualified others into their self-percepts. An individual is often receptive to the positive persuasions of external sources who support and encourage her performance attempts. In essence, she may "borrow" the confidence of a trusted or respected other in her skills to actually attempt and negotiate a success
experience (Bandura, 1986).

**Mechanisms of Self-Efficacy Development**

Individuals combine these four sources of self-efficacy information over time to develop beliefs in their capacities that can precipitate, sustain and refine important behaviors and skills. While the cognitive equations individuals use to differentially weight and combine efficacy information remain relatively unexplored to date, Bandura (1986) does describe the general process by which children develop self-estimates in regard to desired performances. Bandura (1986) emphasizes the role of external guidance in early self-efficacy development. For the child, this external guidance is often packaged in the form of directives and encouragement from adult significant others (verbal persuasion) and in the observed behavior of valued or important peer models (vicarious experience). As a child's cognitive capacities develop, this external guidance is gradually replaced with internal self-efficacy beliefs that then help determine behavior. The chief mechanism for this development is the individual's ability to evaluate her own capabilities accurately.

Accuracy of self perception is, of course, dependent on knowledge of present skills, the difficulty of the task in question and the skills it requires, and the potential problems inherent in executing a given course of action (Bandura, 1986). Children are in the process of building
the necessary knowledge bases for the development of accurate self-appraisals. A limited knowledge base, coupled with a good dose of concrete thinking, lack of self-observational skills and relatively poor perspective taking, make the child's self-appraisals vulnerable to "immediate, salient outcomes" (Bandura, 1986, p. 421); when self-appraisals are exclusively and intimately linked to concrete obvious outcomes, they lack stability and strength. It is critical that the child move beyond this "outcome equals self appraisal" cognitive equation because the strength of self-efficacy beliefs profoundly impacts the assurance with which individuals approach situations and how well they use their skills. Individuals without strong self-efficacy beliefs may know how to execute desired behaviors, but typically do not perform as they are capable (Bandura, 1986). This dynamic has large ramifications for counselor trainees and is explored further in subsequent chapters.

**Statistical Expansion of Prior Work**

The methodology of this study built upon Larson et al.'s (1992) research, addressing the constraints of their sample size and data analysis strategy. First, Larson et al.'s (1992) small sample size constrained their ability to conduct statistical analyses that would powerfully describe the development of counselor trainees' self-efficacy over time. Indeed, Russell, Crimmings & Lent (1984) suggest that
the greatest problem confronting supervision researchers is the small sample sizes of counselors and supervisors employed in their studies. In addition to a small sample size, another drawback to Larson et al.'s (1992) study was the relatively few, in some cases only two, self-efficacy assessments for some of their participants during the semester of practicum. This assessment strategy could not capture the complex or subtle ways in which a trainee may change over time (Willett et al., 1991) and resulted in the loss of potentially interesting and important information.

A new methodology, hierarchical linear modeling (HLM), can alleviate the problems of small sample size and loss of important information via few assessments by increasing the number of observations over time of a relatively small number of participants. This methodology has been employed to study diverse areas of individual change over time, including early vocabulary growth of young children (Huttenlocher, Haight, Bryk, Seltzer, & Lyons, 1991), functioning of families at risk of maladaptive parenting, child abuse, or neglect (Willett, Ayoub & Robinson, 1991), recovery of cognitive functioning following pediatric closed head injury (Francis, Fletcher, Stuebing, Davidson & Thompson, 1991), and attitudes toward deviance during adolescence (Raudenbush & Chan, 1993).

In this literature, there is no "standard" sample size required for use of HLM procedures. Much of the published
research using this statistical technique comes from the area of developmental psychology, where samples are drawn with relative frequency from both large and small data bases. "Typical" sample sizes and number of assessments over time in HLM analyses are represented in these studies: 22 children, assessed three to seven times over a seven month period (Huttenlocher et al., 1991); 21 therapist-client dyads assessed weekly over the course of an academic semester (Kivlighan & Shaughnessy, 1995); 49 children assessed four times during three years (reported in Francis et al., 1991); and 143 children assessed four times during the course of a year (Bryk & Raudenbush, 1992). The power in the HLM analysis results from repeated measures over time and not from a large number of participants.

Willett et al. (1991) outline an approach to HLM, also called growth modeling, used in this study. This approach involves two stages, with four steps.

**Stage One: The Unconditional Model**

Stage one of the HLM analysis involves the first three data analysis steps. In stage one, the curve which best fits self-efficacy growth across subjects is determined. Next, the number of parameters to be analyzed is determined from that curve. Finally, an "unconditional model" is established.

**Step 1: Assembling growth records.** Using fitted or sketched trend lines, simple graphs of trainee weekly self-
efficacy scores are plotted against time to yield a longitudinal growth record for each participant. The growth records of all participants are displayed together in a single graph to aid in their comparison. The collection of growth trajectories are inspected to decipher whether or not all trainees seem to "grow in the same fashion, with the same shape to their growths, and at the same rates or curvatures" (Willett et al., 1991, p. 39).

Step 2: Selecting a within-trainee growth model. After this preliminary inspection of participant growth records is complete, the second step is to adopt a mathematical model that represents a general trend of trainee growth in the sample. There are many possible mathematical models that could represent trainee growth in self-efficacy. The most simple, a straight line, represents linear development. More complex relationships between self-efficacy and time would be curvilinear and represented by any number of curved lines, e.g., a quadratic or negative exponential line (Willett et al., 1991).

Step 3: Delineating growth parameters. Once a within-trainee growth model is selected, the third step is to delineate the parameters of the mathematical model that best describe the shape of the line. Different growth models have different numbers of growth parameters, based on the particular mathematical model. For example, the straight line growth model has two parameters: status at
some specific time (the intercept) and rate of change (the slope). The intercept in HLM is called "the base" and reflects the average counselor self-efficacy at a designated point in the semester (e.g., the middle or end of the semester). The intercept is a function of a systematic growth curve plus random error. The slope, or "linear term", is the average self-efficacy growth rate for trainees at the designated semester point. These growth parameters are assumed to vary across individuals (Bryk & Raudenbush, 1992). Finally, the random error term is assumed to have a simple structure, in that each error term is considered to be "independently and normally distributed with a mean of zero and a constant variance" (Bryk & Raudenbush, 1992, p. 132).

These relationships of the unconditional model can be depicted mathematically, where $Y_{ti}$, the observed counseling self-efficacy at week $t$ for trainee $i$, is a function of a linear growth curve plus random error, $e_{ti}$.

$$Y_{ti} = \Pi_{0i} + \Pi_{1i}(s_{ti} - L) + e_{ti}.$$ 

The base, or intercept, $\Pi_{0i}$ is the level of counseling self-efficacy of trainee $i$ at a specified point during the semester and $\Pi_{1i}$ is the growth rate or slope at that point for the same trainee. In this study, that specified time was the semester midpoint. Centering the scores around the
semester midpoint is achieved through subtracting a constant, the average number of self-efficacy observations across trainees, from each observation number, where $s_{ti}$ represents the observation number and $L$ the average number of those observations over the semester, $(s_{ti} - L)$.

Trainee exposure to clients over a semester of clinical work was considered sufficiently frequent and challenging to warrant the hypothesis that a linear growth model would best summarize changes in beginning counselor self-efficacy. In a linear growth model, the rate of change (the slope) is considered the weekly rate of change in trainee self-efficacy. The implication is that trainee participants whose weekly rate of change is positive have increasing estimates of self-efficacy, while those whose weekly rate of change is negative have decreasing estimates of self-efficacy (Willett et al., 1991).

In summary, at the end of step three an unconditional model is established that captures the individual growth trajectories and their unique sets of parameters. The unconditional model provides the baseline statistics necessary for evaluating the impact of predictor variables on self-efficacy development over time. Essentially, the individual growth parameters become outcome variables in subsequent regression analyses called conditional models (Bryk & Raudenbush, 1992). This involves Stage Two of the HLM analysis.
Stage Two: The Conditional Model

Stage one of the HLM analysis is largely descriptive. The second stage involves analysis of "interindividual differences" in "intraindividual change" (Kivlighan & Shaughnessy, 1995). In this analysis, a conditional model is built with the predictor variables. Then the amount of variance explained by the addition of predictors ($\Sigma^2$ conditional), or between-subject variance components, is compared to the variance explained in the unconditional model ($\Sigma^2$ unconditional). This comparison determines how much variance in the growth parameters (base and linear terms) is accounted for by the predictors (Kivlighan & Shaughnessy, 1995). Such an equation would look like this: 

\[
\frac{(\Sigma^2 \text{ unconditional} - \Sigma^2 \text{ conditional})}{\Sigma^2 \text{ unconditional}} 
\]

In this second stage of the analysis, the average counselor trainee self-efficacy level and growth was compared at two time periods, at midsemester and at the end of practicum. These two time periods were chosen because they are traditional evaluation points for the trainee during the course of a semester long practicum. As mentioned above, designating a specific point for evaluation is achieved by "centering" the dependent variables (via standardization of the scores) and independent variables (by subtracting the group mean score from each individual score of the given predictor). A model is "centered" at any point within the assessed time period to facilitate interpretation of the
results. Centering is not unique to HLM analyses. Jaccard, Turrisi & Wan (1990) describe the "centering transformation" in their work on interaction effects in multiple regression and note that centering does not change the slope of the line of best fit, though it does alter the numerical value of the intercept.

**Step 4: Developing a regression equation.** The final step to growth modeling involves developing a regression equation to test the relationship between the growth parameters determined in Stage One and the independent variables in Stage Two. Assuming the straight line growth model, hierarchical linear modeling yields two sets of regression equations with different dependent variables. One set utilizes the average within-participant level of self-efficacy at specific points during the training semester (the base) as the dependent variable, while the other set utilizes the weekly rate of change of self-efficacy during the time period (the slope).

Separate equations for predicting each of the two growth parameters are computed. The generic equation for predicting each parameter is

$$
\Pi_{pi} = B_{p0} + \text{Sum}(B_{pq}X_{qi}) + r_{pi},
$$

where $\Pi_{pi}$ is the growth trajectory parameter $p$ for trainee $i$, $B_{pq}$ is the effect of $X_q$ on the $p$th growth parameter, $X_{qi}$ is
a measured characteristic of a predictor variable and \( r_{pi} \) is the random effect with a mean of zero. More specifically, this translates into an equation for base 
(\( \Pi_{0i} \)) and an equation for slope (\( \Pi_{1i} \)):

\[
\Pi_{0i} = B_{00} + B_{01}(\text{Predictor1})_{i} + B_{02}(\text{Predictor2})_{i} + \ldots + r_{0i},
\]

\[
\Pi_{1i} = B_{10} + B_{11}(\text{Predictor1})_{i} + B_{12}(\text{Predictor2})_{i} + \ldots + r_{1i},
\]

where the first coefficient in each equation is carried over from the unconditional model statistics and each coefficient thereafter is a conditional model coefficient which modifies the unconditional statistic. In this study, the same predictors were used, in the same order, for each of the two equations; these predictors are described in the theoretical section of the reviewed literature.

**Theoretical Expansion of Prior Work**

Like Larson et al. (1992), this work sought to map the growth of counselor trainees' self-efficacy. However, in addition to describing changes in self-efficacy over time, this study also examined factors that influence the growth process. To that end, the sources of information Bandura (1977) suggests individuals use to construct their self-efficacy beliefs were operationalized according to three aspects of the trainee and her practicum experience: (a) the frequency and degree of challenge of counselor-client contact over the training semester.
(performance accomplishments), (b) the trainee's inherent predisposition to experience negative emotion and to view herself and the world through "gray lenses" (physiological or emotional arousal), and (c) the strength of the supervisory alliance in supervision (vicarious experience and verbal persuasion).

Performance accomplishments: The Frequency and Challenge of Exposure to Clients

Performance accomplishments are especially influential sources of efficacy information. Their influence lies in a logical cause and effect process: performance successes raise expectations of future, similar successes (Bandura, 1977). On the other hand, failures, especially repeated failures or those that arise in the early phases of a learning process, lower efficacy expectations (Bandura, 1977). Thus, beginning trainees' self-efficacy beliefs are especially vulnerable to the impact of failure experiences. However, given their relative lack of clinical experience, every mastery experience with clients is likely to contribute incrementally to trainees' growing counseling self-efficacy. This would suggest a positive linear relationship between frequency of performance accomplishments and increases in self-efficacy.

In his later theorizing, Bandura (1986) notes that shear frequency of success experiences is not enough to explain self-efficacy development and introduces the concept
of challenge of performance accomplishments. At some point, the informative value of repeated success experiences for an individual's developing self-efficacy beliefs can plateau. Unless the degree of challenge or difficulty of those performance accomplishments rises along with an individual's successes, one can expect a curvilinear relationship between accomplishments and self-efficacy. If the curvilinear relationship were graphed, self-efficacy would rise incrementally with the frequency of success experiences until such experiences lost their challenge. At the point which experiences were no longer challenging, self-efficacy would level off.

Other cognitive theorists have noted the influence of task challenge in learning. Blocher (1983) defines challenge in terms of a "mismatch" between what the learner can do, or her "coping resources", and what the learning environment demands. Applying the concept of task challenge to counseling supervision, Blocher (1983) emphasizes that without appropriate learning challenge, the counselor trainee will not grow. However, when the challenge is excessive, the supervisee may become overly anxious or discouraged and "disengage physically or psychologically" from the learning task (Blocher, 1983). In the early stages of counselor development, every session with a client is likely to be difficult on some level and to present some degree of challenge. For the counselor trainee, her first
practicum experiences lend themselves to high levels of learning challenge in that they are often complex, ambiguous, novel, abstract, and intense (Blocher, 1983). Indeed, Blocher (1983) notes that the introductory practicum is particularly challenging in the "intense emotional experience" that arises from assuming "professional responsibility" for a distressed human being (p. 31).

It seemed unlikely that the question with this study's participants regarding the role of performance accomplishments in growing self-efficacy would be, "are their mastery experiences challenging enough?" suggesting a self-efficacy growth curve that plateaus over the course of practicum. Rather, the task with beginning counselors is one of guarding against too much challenge too fast. Therefore, it was hypothesized that greater frequency of client contact and adequate levels of clinical challenge would be more strongly related to higher levels and increasing growth rates in counseling self-efficacy at the midpoint and end of the practicum semester.

**Emotional Arousal: The Role of Anxiety**

Like performance accomplishments, emotional arousal is a potent source of information individuals use to construct self-efficacy beliefs (Bandura, 1977, 1982). The informative value of arousal on one's appraisal of personal competence lies largely in its association with failure experiences. Given this association between anxiety and
poor performance, one is more likely to have expectations of success when not overcome by high emotional arousal (Bandura, 1977). In addition, anxiety breeds anxiety, such that an individual who is anxious about performing a certain task or behavior can become even more anxious through "anticipatory self-arousal" (Bandura, 1977). For these individuals, calamitous expectations may be less related to actual coping ability and more related to "faulty self-appraisal" that is inaccurately disparaging of their coping capabilities (Bandura, 1982). Operating from a set of faulty assumptions about their own coping, such people may distort or discount any successes they do have and instead focus on failures, mistakes, and similar "disasters".

The predisposition to experience emotional arousal and to distort success information in a faulty self-appraisal process may be part of a larger personality construct called negative affectivity or neuroticism (Watson & Clark, 1984, Lent et al., 1994). One of the factors within a five factor model of personality, negative affectivity (NA) can be defined as, "a dispositional trait characterized by a tendency to experience aversive emotional states" (Stokes & Levin, 1990, p. 173). When compared to those low in NA, high NA individuals are more likely to report feeling nervous and dissatisfied across many different situations and to ruminate about their perceived and actual failures,
set-backs, and character flaws (Watson & Clark, 1984). This emotional pessimism and acute sensitivity to the negative is not exclusively applied to self, such that high NA individuals also detect and concentrate on the negative in others and the world (Watson & Clark, 1984).

Clearly, compared to high NA individuals, those characterized as low NA are much less likely to experience the emotional arousal that inhibits the development of performance enhancing self-efficacy. However, there are some potentially positive aspects of negative affectivity for the counselor trainee: high NA individuals are more introspective than their low NA counterparts, less likely to distance themselves from negative affects, and more likely to acknowledge the negative, or areas for potential growth, in themselves, their clients and their clinical work (Watson & Clark, 1984). Indeed, low NA trainees may not experience the functional value of anxiety and other negative affects that in moderate doses motivate development and use of coping strategies (Bandura, 1986). Thus, social cognitive theory would suggest that the counselor trainee most likely to develop the adequate, accurate self-efficacy beliefs that facilitate counseling performance and skill acquisition are those with moderate levels of negative affectivity. Therefore, it was hypothesized that high levels of counselor trainee negative affectivity would be associated with lower overall counseling self-estimates and with decreasing rates
of growth at the midpoint and end of practicum.

In addition to examining the impact of negative affectivity on the level and growth of counselor self-efficacy, this study also considered the relationship between trainee performance accomplishments, in terms of degree of task challenge, and the predisposition to experience elevated arousal. Specifically, the interaction between task challenge and negative affectivity was examined as an influence on trainee self-estimates of counseling competence. The frequency dimension of performance accomplishments was not examined in conjunction with negative affectivity due to its potential “contamination” by supervisor and practicum requirements for specific caseload numbers and by agency policies regarding maximum number of counseling sessions per client. It was predicted that trainees high in negative affectivity would cognitively distort performance accomplishments, thus decreasing the impact of challenging success experiences on their developing counseling competencies. This lead to the specific hypothesis that negative affectivity would moderate the relationship between self-efficacy and performance accomplishments such that for trainees with high negative affectivity levels, appropriately challenging exposure to clients would be less associated with higher and increasing levels of self-efficacy than for those with lower or moderate NA levels.
Vicarious Learning and Verbal Persuasion: The Role of Supervision

Counselor supervision is a primary vehicle for training counselors in our field. In supervision, the counselor trainee learns how to apply theories of client change to actual human beings with problems that often elude textbook prescriptions. Various behaviors of the supervisor can facilitate the trainee's learning, including those that might be labeled as vicarious learning and verbal persuasion, e.g., demonstration or modeling of interventions and providing support and encouragement. In examining the role of supervision in counselor self-efficacy development, Skovholt & Ronnestad's (1992) portrait of the typical trainee as she actively seeks out vicarious learning experiences and counseling models is revisited and presented first. A discussion regarding verbal persuasion and the supervisory alliance then follows.

Portrait of the Counselor Trainee. Skovholt & Ronnestad (1992) describe the beginning counselor trainee along several dimensions, including her predominantly serious, earnest, anxious affect and her concrete conceptualization of herself, her clients, and the counseling process. This cognitive concreteness has been noted by others, who write that the beginning trainee operates in “the world of the concrete”, a world that is “stimulus-bound” and “oriented to the apparent demand
characteristics of the immediate situation" (Josephs, 1990, p. 14). This description of the beginning counselor trainee is reminiscent of Bandura's (1986) depiction of the young child in the process of developing stable self-efficacy beliefs. Like the child, the counselor trainee is externally focused, using external sources of efficacy information gathered from those in authority and from peers. Like the child, her counseling self-judgments are inextricably linked to concrete, immediate outcomes, e.g., did my client attend today's session?

As stated in the introductory chapter, Skovholt & Ronnestad (1992) suggest that the counselor trainee begins to move from these simple conceptualizations of herself and the counseling enterprise when she adopts differing counseling systems. While her cognitive concreteness begins to give way to more cognitive complexity, the imitating counselor trainee is less interested in critiquing "efficacy of the models", and more interested in practicing them on all of her clients (Skovholt & Ronnestad, 1992). Later, she will become more discerning and question the utility of the models. For now, her primary mode of operation is the imitation or modeling of counseling experts, with the most immediate expert likely to be that of her primary supervisor. Her attempts to model her supervisor fall along an "imitation-identification" continuum, from imitation, in which she rather indiscriminately parrots her supervisor, to
identification, in which she internalizes the various characteristics copied during sessions with clients (Skovholt & Ronnestad, 1992). In order to engage in and master this central task of imitation, the trainee must have an alliance with her supervisor. To the extent that there is a strong alliance, the supervisee will likely model supervisor behaviors and solicit and use verbal persuasion.

**Supervisory alliance.** In supervision, counselor trainee learning and supervisor behavior occur within the context of a working alliance. Patton (1993) states this more strongly, saying that a trainee will learn very little or nothing about the counseling enterprise without a firm working alliance with her supervisor. Bordin (1983) defines working alliance as a "collaboration for change" between a person seeking change (the counselor trainee) and the change agent (the clinical supervisor). This collaboration has three aspects: (1) mutually agreed upon and understood goals for change; (2) learning and behavioral tasks for each party; and (3) the relational and procedural bonds between the two individuals (Bordin, 1983).

Beginning counselors often experience the relational aspect of the working alliance, or "bond", as a necessary condition for their learning within supervision. Supervisory support, or verbal persuasion, is a primary ingredient of this "bonding". For example, in their survey of advanced graduate students in APA-accredited clinical and
counseling psychology programs, Allen, Szollos & Williams (1986) asked respondents about their best and worst supervisory experiences. They discovered that highly regarded supervisors, those who provided quality supervision, "established supportive relationships" with their trainees (Allen et al., 1986, p. 91). In addition, Heppner & Roehlke (1984) found that beginning practicum students' satisfaction with supervision was closely tied to supervisor behaviors that fostered a positive relationship with trainees. In fact, these researchers found that for beginning, advanced, and intern level trainees, ratings of effective supervision were related to a supportive supervisory relationship; without a supportive relationship, supervision was considered ineffective (Heppner & Roehlke, 1984).

From a social cognitive perspective, the supervisor's verbal persuasion task is akin to that of an athletic coach: during practice, in the name of fostering serious effort, a coach may question her athletes' performance abilities. However, just before the game, she will encourage and validate their skills to foster optimal performance (Bandura, 1986). While instilling motivation to perform well, in a "coach like" fashion, a supervisor must also remember the fragility of self-efficacy beliefs in endeavors with high performance requirements and high personal investment, like counseling clients and competitive sports.
Like the professional athlete, the counselor trainee is vulnerable to "performance slumps" and lowered self-efficacy in the face of repeated failures (Bandura, 1986). Prevention of counselor self-efficacy demoralization (as when a "performance slump" becomes long-standing) is especially important in the early phases of training, when trainees are forming core beliefs about their counseling capacities.

Thus, effective supervision from the trainee point of view is built on the foundation of a supportive supervisory relationship or alliance. There is theoretical support for the hypothesis that supervisory support via verbal persuasion is linked to counselor self-efficacy development. There is also empirical evidence to suggest that the strength of the working alliance in counselor supervision is related to the development of trainee counseling confidences. For example, Efstation, Patton & Kardash (1983) found that scores on a measure of supervisory alliance were significant predictors of self-efficacy scores on a self-efficacy inventory. Therefore, it was predicted that stronger supervisory alliances will be associated with higher levels and increasing rates of counselor self-efficacy growth at the midpoint and end of the practicum semester.

**Research Questions**

Several research questions and hypotheses were proposed
throughout this chapter and are summarized below. There are two overarching questions, each followed by specific hypotheses.

Question 1: How do counselor trainee self-efficacy estimates develop or change over time? Or, put another way, what is the shape of the counselor trainee growth curve? This question was addressed by the HLM unconditional model.

Hypothesis 1: The growth curve will be linear, with self-efficacy ratings increasing over the practicum semester as trainees have greater exposure to clients and clinical work.

Question 2: How are differences in self-efficacy development at the midpoint and end of the practicum semester explained by trainee exposure to clients, both in terms of frequency and challenge, level of trainee negative affectivity, the strength of the supervisory alliance, and the interaction between client exposure and negative affectivity? This question was addressed by the HLM conditional model.

Hypothesis 2A: Frequency of client contact and adequate levels of clinical challenge will be positively related to levels and growth rates of counseling self-efficacy.

Hypothesis 2B: Higher levels of counselor trainee negative affectivity will be associated with lower overall counseling self-estimates and with decreasing rates of growth over time.

Hypothesis 2C: Stronger supervisory alliances will be
associated with higher levels and increasing rates of counseling self-efficacy over time. Hypothesis 2D: For participants with high negative affectivity levels, challenging exposure to clients will be less associated with higher and increasing rates of self-efficacy growth than for those with moderate or low NA levels.

Using average level and average weekly change in trainees' counseling self-efficacy estimates as the outcome variables, HLM analyses were conducted in which these predictors were added into the regression equation sequentially: (a) frequency and challenge of work with clients as rated by the counselor trainees and entered consecutively; (b) level of trainee negative affectivity, measured with the score of a chosen NA measure; (c) strength of the supervisory alliance, as assessed by a single administration of an alliance measure; and (d) the interaction between challenge and negative affectivity, created as a product of the two variables.

The rationale for this sequence of predictors was found in theory and precedent. Frequency and degree of challenge of trainee exposure to clients, or self-reported performance accomplishments, were entered first because of the power Bandura (1977, 1982) assigns to this source of self-efficacy information in behavior change. When discussing which source of efficacy information has the most potent influence
in the formation of beliefs regarding one's competence, Bandura (1986) cites research that demonstrates that performance accomplishments surpass the influences of physiological arousal, vicarious learning, and verbal persuasion. In addition, Lent et al. (1994) cite three studies in which self-efficacy was related to each of the four sources of efficacy information proposed by Bandura. While self-efficacy was related to each source, the strongest or most potent relationship was found between it and performance accomplishments (Lent et al., 1994).

Given the comparatively weaker influence of all other self-efficacy information sources on self-efficacy formation, the remaining three predictors were added to the regression equation after performance accomplishments. As a trait or characterological variable, negative affectivity was entered after frequency and challenge. With its link to anxiety, or emotional arousal, negative affectivity was considered a key predictor of counselor self-efficacy. Strength of the alliance was added next as a more relational, less enduring predictor variable. The interaction term was added last in order to separate out variance explained by the main effects and that explained by their interaction.
CHAPTER 3

METHODOLOGY

Participants

Counselor trainees were graduate students enrolled in beginning or advanced practicum courses at two large midwestern universities. Though in some ways not an ideal analysis strategy, responses of beginning and advanced trainees were combined rather than compared for several reasons: (a) research precedent (e.g., Roehlke, 1993); (b) the emphasis in counselor trainee developmental models on growth stages and negotiated training tasks that supersede the practicum status of "beginning" or "advanced" (e.g., Stoltenberg, 1981; Hess, 1987; and, Watkins, 1990); and (c) research findings "regarding counselor characteristics across various levels of trainee experience indicate that significant differences exist only between the expressed needs of beginning-level and intern-level trainees" (Holloway, 1992, p. 188).

Participant self-report was used exclusively throughout the study, rather than potentially more "objective" sources of information, e.g., supervisory ratings of trainee performance and task difficulty. The rationale for this type of measure stemmed from the
importance of an individual's perceptions and judgments of her abilities and behavior in social cognitive theory. Bandura (1982) noted that people are more likely to be influenced by how they perceive their performance successes than by the successes themselves. Additionally, Lent et al. (1995) noted that self-efficacy beliefs and objectively-assessed skills are not interchangeable; in fact, there often is only a moderate relationship between self-efficacy and "objective ability indices".

Each trainee received both group supervision within a practicum class and individual supervision with a primary supervisor. Some primary supervisors were licensed and employed in a variety of settings, including: counseling centers, academic departments, community agencies, and psychiatric hospitals. Other supervisors were unlicensed psychology interns in an APA accredited predoctoral internship program at a university counseling center. Intern supervisors received two hours a week of group supervision of their supervision; this group supervision was facilitated by a licensed psychologist.

This study was conducted over a semester of practicum training. Trainees were invited to participate after being provided an explanation of the broad intent of the project and the nature of their participation. Participants were informed that if they desired, they could receive a summary of the results of the completed research. Trainees
indicated on a background information sheet the following demographics: their sex, the sex of their primary supervisor, the experience level of their supervisor, the number of semesters of previous supervision, and the length of their own prior clinical experience. Questions on the background information sheet about supervision were adapted with permission from H. Roehlke (personal communication, March, 1994) from the Supervision Questionnaire (Worthington & Roehlke, 1979).

**Instruments**

**Dependent Measure**

Trainee self-efficacy was assessed using the Counseling Self-Estimate Inventory (COSI) developed by Larson et al. (1992). This instrument contains 37 items rated on a 6-point (1 = strongly disagree, 6 = strongly agree) scale. Higher scores reflect stronger self-perceptions of counseling self-efficacy. In addition to an overall COSI score, the instrument has five scale scores, each of which estimates a different dimension of counseling self-efficacy: (a) Microskills (12 items), (b) attending to Process (10 items), (c) dealing with Difficult Client Behaviors (7 items), (d) Cultural Competence (4 items), and (e) Awareness of Values (4 items). Larson et al. (1992) report internal consistency estimates for the total inventory and the five aforementioned scales as: .93 for the COSI total; .88 for Microskills; .87 for Process; .80 for Difficult Client
Behaviors; .78 for Cultural Competence; and .62 for Awareness of Values. Given the large and statistically significant correlations among the five subscales and the complexity of the HLM regression equation, the total COSI score was used as the dependent variable in this study.

Test-retest reliability estimates, with a three week time interval between administrations, indicate that the total COSI scores are stable over time ($r = .87$). The graphs of the 10 masters students who completed the COSI several times during a practicum semester indicate that while the COSI scores are stable over time, they are also "sensitive to change" across a semester of training (Larson et al., 1992).

In addition, Larson et al. (1992) reported initial validity estimates derived from responses of masters level trainees enrolled in introductory counseling courses from several universities. These trainees had all shown evidence of effective counseling skills and had received instruction in core counseling areas, such as ethics and theory. Evidence of convergent validity was obtained from correlations of COSI scores and the following instruments: (a) State-Trait Anxiety Inventory, with those reporting higher counseling self-efficacies also reporting less state and trait anxiety, $r = -.42$, $p < .01$ and $r = -.51$, $p < .0001$ respectively, and (b) the Problem Solving Inventory, with those scoring higher on the COSI also reporting
themselves as more effective problem solvers, $r = -0.73$, $p < 0.0001$. As evidence of discriminant validity, Larson et al. (1992) reported that participants' total COSI scores were minimally correlated with defensiveness and faking as assessed by the Social Desirability Scale, $r = 0.27$, $p < 0.05$ and the Tennessee Self-Concept Scale Self-Criticism score, $r = -0.18$. In addition, COSI scores were minimally related to aptitude and achievement, as measured by GRE Verbal scores, $r = 0.16$, GRE Quantitative scores, $r = 0.10$, and GPA, $r = 0.25$ (Larson et al., 1992).

**Independent Measures**

**Exposure to clients.** At the end of their practicum, participants were asked to provide their total number of counseling sessions during the semester and their perceptions of the degree of challenge in their work with clients. To measure these perceptions, Osgood's (1952) semantic differential technique for measuring individuals' perceptions of different concepts was used. Participants were asked to rate "the overall quality of your experiences with clients during THIS practicum semester" on a series of "bipolar adjective scales" (Anastasi, 1976). The following eight scales were used: simple-complicated; stimulating-dull; difficult-facile; demanding-effortless; exciting-tedious; compelling-uninspiring; challenging-easy; straightforward-complex. The ratings on each scale were assigned a value from 1 to 7, with 7 indicating the greatest
degree of challenge. These ratings were then summed to achieve a single challenge score for each participant.

Negative affectivity. Presently, there is no widely accepted measure of negative affectivity. In order to provide another form of validity evidence for one of the self-report measures of this construct used in this study, and to assure that the construct was accurately measured, three negative affectivity instruments were administered to counselor trainees: (a) Stokes & Levin's (1990) Negative Affectivity measure, (b) Watson, Clark & Tellegen's (1988) PANAS, and (c) McCrae & Costa's (1991) Neuroticism scale, taken from their larger measure of personality, the NEO-Personality Inventory (NEO-PI). Based on patterns from preliminary correlations, one of the NA measures was chosen to represent this construct. This measure was: (a) highly correlated with scores from the other two measures, and (b) not correlated with any of the other predictor variables. The three NA measures are described below.

Stokes & Levin (1990) developed a 21 item measure of NA that asked respondents to rate their degree of agreement on a 6-point Likert Scale, with 1 indicating "disagree strongly" and 6 indicating "agree strongly". The researchers reported that the scale had high internal consistency, achieving coefficient alphas of .87 (N = 381) and .84 (N = 323), and reasonable test-retest reliability, r = .88 (N = 85) for a six week interval. In addition, Stokes
& Levin (1990) cite three validity studies (total N = 741) in which their scale correlated significantly with measures of the following constructs: anxiety, r = .64, p < .001; neuroticism, r = .60, p < .0001; self-esteem, r = -.74, p < .0001; happiness, r = -.509, p < .001; life satisfaction, r = -.455, p < .001; job satisfaction, r = -.35, p < .001; and experienced negative affect, r = .63, p < .001.

The second NA measure, the Positive and Negative Affect Schedule (PANAS) was developed by Watson, Clark & Tellegen (1988). It is a shorter and more simple measure of negative affectivity than the Stokes & Levin (1990) instrument. Two 10-item scales, the Positive and Negative Affect scales, comprise the PANAS. The two scales are highly internally consistent, largely uncorrelated with each other and "stable at appropriate levels over a 2-month period" (Watson et al., 1988, p. 1063).

Finally, the third NA measure was the Neuroticism scale of the NEO Personality Inventory (NEO-PI). Costa & McCrae (1992; 1992) developed the NEO-PI as a measure of the five factor model of personality, which posits that most individual differences in personality can be categorized into five major dimensions: (a) Neuroticism, (b) Extraversion, (c) Openness to Experience, (d) Agreeableness, and (e) Conscientiousness. For the Neuroticism dimension of the NEO-PI, respondents rate their agreement or disagreement with each of 48 statements on a five point scale. In their
Professional Manual for the NEO-PI, Costa & McCrae (1992) reported the following reliability data for the Neuroticism Scale: (a) internal consistency coefficient of .92 and (b) retest reliability of .87, with no time interval reported for the retest. They reported that a six-year longitudinal study of the Neuroticism, Extraversion, and Openness scales yielded retest reliability coefficients ranging from .68 to .83 (Costa & McCrae, 1992). Though the data reported in the Professional Manual are often sketchy or incomplete, the authors cite validity evidence for the Neuroticism Scale as well: (a) the Neuroticism scale is strongly correlated with the Neuroticism scale of the Eysenck Personality Inventory (no statistics were offered to support this relationship), and (b) the facet of the Neuroticism scale that taps anxiety correlates .55 with anxiety as measured by the State-Trait Personality Inventory (no p value reported) (Costa & McCrae, 1992).

**Supervisory alliance.** The trainee's version of the Supervisory Working Alliance Inventory (SWAI) developed by Efstation et al. (1990) was used to measure the trainee's relationship with her supervisor. The trainee's version consists of two scales, the Rapport scale (12 items) and the Client Focus Scale (7 items). Respondents rate each of the 19 items on a 7-point Likert response format, with 1 indicating "almost never" and 7 indicating "almost always." Efstation et al. (1990) reported the following alpha
coefficients for the Trainee scales: .90 for Rapport and .77 for Client Focus (N = 178).

The supervisory working alliance was assessed only once during the study, after either the fourth or fifth supervision session. Kokotovic & Tracey (1990) note that much of the working alliance research uses the third session as the tacitly agreed upon point at which the alliance can be accurately assessed. For example, in their study of client attachment and perceptions of the working alliance with counselor trainees, Satterfield & Lyddon (1995) used this convention in the administration of their working alliance inventory. In their analysis of the development of working alliance over time, Kivlighan & Shaughnessy (1995) cited several other studies in which, according to this research convention, the working alliance was also measured at the third session (e.g., Kiesler & Watkins, 1989; Mallinckrodt & Nelson, 1991; Reandeau & Wampold, 1991; Safran & Wallner, 1991; and Tyron & Kane, 1993). The rationale for this convention is the assumption that prior to the third session, not enough time would have lapsed to form a sound working alliance. However, Kokotovic & Tracey (1990) reported that "no one has examined the extent to which this is true" (p. 17). Therefore, the choice to administer the SWAI only once and after the third supervision session was grounded in research precedent (Kokotovic & Tracey, 1990).
Procedures

The study was conducted during a semester of practicum training. In order to allow counselor trainees to establish a supervisory alliance with their supervisors and to begin to build a client caseload, data collection was begun at the fifth or sixth week of practicum. Participants completed the following: (a) background information questions, (b) the COSI, and (c) the trainee version of the SWAI. In the following weeks of practicum, each participant continued to fill out the COSI on a weekly basis. At the midpoint of the data collection, approximately at mid-semester, participants completed the three measures of negative affectivity in addition to completing the COSI. Given that negative affectivity is a trait variable and stable over time, the choice of assessing it at midsemester was largely based on making the work more manageable for participants by spreading it out during the course of the study. At the end of the semester, participants completed the COSI and a brief summary of their clinical work. They were thanked again and invited to share in results from any preliminary statistical analyses. To summarize, at the end of the study, participants completed the following: one assessment of background information, one measure of the supervisory alliance, three measures of negative affectivity, one summary of their exposure to clients, and eight to ten assessments of their counseling self-efficacy.
Data were analyzed according to the analytic strategy suggested by Willett et al. (1991) and outlined in the literature review. Three statistical packages were utilized for the data analysis, SAS, SPSSX and HLM. The later is a computer program developed by Bryk, A.S., Raudenbush, S.W., Seltzer, M., & Congdon, R.J. (1986) for analyzing hierarchical linear models.
CHAPTER 4

RESULTS

In this chapter, results of the data analyses are organized into three sections: (a) descriptive statistics, (b) preliminary analyses, and (c) tests of the research questions.

Descriptive Statistics

Descriptive data are summarized in Table 1 and Table 2. Aspects of the research participants and study variables are highlighted below.

Description of the Sample

Eighteen practicum students participated in the study. The average counselor trainee was a 31 year old, Caucasian female completing a university counseling center practicum. The majority of the trainees had no or only one prior semester of practicum training. Trainees in this sample spent an average of 13 hours a week at their practicum site and were supervised by supervisors with an average of three years experience since completing their doctoral degrees. The majority of these supervisors were not licensed.

Description of Study Variables

Across all counselors, average weekly self-efficacy ratings on the COSI gradually increased during the semester,
Table 1

Means, Standard Deviations, and Percentages of Background Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>18</td>
<td>31.39</td>
<td>8.35</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>18</td>
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<tr>
<td>Female</td>
<td></td>
<td>83.3</td>
<td>16.7</td>
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</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian Islander</td>
<td></td>
<td>11.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td></td>
<td>88.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practicum Site</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Counseling Center</td>
<td></td>
<td>38.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMHC</td>
<td></td>
<td>5.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital</td>
<td></td>
<td>11.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School</td>
<td></td>
<td>22.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>22.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Months Prior Clinical Experience</td>
<td>13</td>
<td>20.46</td>
<td>25.80</td>
<td></td>
</tr>
<tr>
<td>Number of Prior Practicum Semesters</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
<td>43.8</td>
<td></td>
<td></td>
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<tr>
<td>1</td>
<td></td>
<td>31.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>18.8</td>
<td></td>
<td></td>
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<tr>
<td>4</td>
<td></td>
<td>6.3</td>
<td></td>
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</tr>
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<td>Weekly Hours on Site</td>
<td>18</td>
<td>13.39</td>
<td>7.34</td>
<td></td>
</tr>
<tr>
<td>Supervisor Years Since Ph.D.</td>
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<td>3.07</td>
<td>4.27</td>
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<tr>
<td>Licensed</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td>41.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td>58.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Table 2

**Means and Standard Deviations of Predictor and Outcome Variables**

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Counseling Sessions</td>
<td>17</td>
<td>50.47</td>
<td>23.74</td>
</tr>
<tr>
<td>Clinical Challenge</td>
<td>18</td>
<td>45</td>
<td>7.06</td>
</tr>
<tr>
<td>Negative Affectivity</td>
<td>18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NA</td>
<td></td>
<td>57.56</td>
<td>10.12</td>
</tr>
<tr>
<td>NEO-PI</td>
<td></td>
<td>121.50</td>
<td>26.49</td>
</tr>
<tr>
<td>PANAS</td>
<td></td>
<td>18.83</td>
<td>5.79</td>
</tr>
<tr>
<td>Supervising Alliance</td>
<td>18</td>
<td>101.00</td>
<td>19.84</td>
</tr>
<tr>
<td>Counselor Self-Efficacy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time 1</td>
<td>2</td>
<td>141.50</td>
<td>4.95</td>
</tr>
<tr>
<td>Time 2</td>
<td>6</td>
<td>135.17</td>
<td>26.23</td>
</tr>
<tr>
<td>Time 3</td>
<td>18</td>
<td>147.28</td>
<td>21.11</td>
</tr>
<tr>
<td>Time 4</td>
<td>17</td>
<td>150.59</td>
<td>21.77</td>
</tr>
<tr>
<td>Time 5</td>
<td>18</td>
<td>155.61</td>
<td>18.39</td>
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<tr>
<td>Time 6</td>
<td>18</td>
<td>155.00</td>
<td>21.51</td>
</tr>
<tr>
<td>Time 7</td>
<td>17</td>
<td>155.76</td>
<td>22.60</td>
</tr>
<tr>
<td>Time 8</td>
<td>17</td>
<td>160.47</td>
<td>23.82</td>
</tr>
<tr>
<td>Time 9</td>
<td>17</td>
<td>160.82</td>
<td>24.23</td>
</tr>
<tr>
<td>Time 10</td>
<td>18</td>
<td>164.17</td>
<td>21.24</td>
</tr>
</tbody>
</table>

**Note:** NA = Negative affectivity measure developed by Stokes & Levin (1990); NEO-PI = Neuroticism scale of NEO-PI; PANAS = Negative Affect scale of PANAS.
with relatively unchanging standard deviations from week to week. The sample's average self-efficacy across all ten weeks was 152.64, with a possible range of 37-222. This average was higher than those obtained for masters and doctoral level counselors in Larson et al.'s work (1992), 141.35 and 146.40 respectively. The typical counselor trainee in this sample had 50 counseling sessions during the practicum semester, rated her training experiences as challenging, seemed to be only somewhat ruminative, anxious, and pessimistic, and reported a strong alliance with her primary supervisor.

Trainee responses to all predictor variables were restricted to some degree. First, in regard to frequency of counseling sessions, trainees averaged 50.47 sessions, with one trainee reporting the minimum number of 19 and another the maximum of 120. This range reflects the extreme responses to this variable, as the majority of trainees (70.6%) reported between 30 and 61 counseling sessions. Participant responses to degree of clinical challenge were also restricted. Out of the eight items on the scale, with a possible range of 1 (indicating low challenge) to 7 (indicating high challenge), no average item response was below 5.17. In addition, while the possible range of scores for the total challenge scale was 8-56, the actual range obtained for this sample was 29-55. This suggests that trainees reporting "low" levels of challenge in the present
study were, overall, moderately challenged by their clinical work.

A restricted range of scores on the negative affectivity measure emerged as well. Trainee scores on the Stokes & Levin (1990) NA measure ranged from 45-83 out of a possible range of 21-126, while the range of scores in the instrument development samples were 25-104 and 34-107 (Stokes & Levin, 1990). Additionally, the average level of trainee negative affectivity obtained on this measure was 57.36, with a standard deviation of 10.12, while averages in the development samples were 63.15 and 62.81, with standard deviations of 17.12 and 15.96, respectively (Stokes & Levin, 1990). Finally, the range of scores on the other two measures of negative affectivity that were not used in the HLM analyses were also restricted: (a) actual scores on the NEO-PI Neuroticism scale ranged from 54-178, out of a possible range of 48-240; and, (b) actual scores on the Negative Affect scale of the PANAS ranged from 11-33, out of a possible range of 10-50. Thus, the average NA score obtained in this study indicates a comparatively lower or moderate level of reported negative affectivity for these counselor trainees.

Finally, trainees' responses to the supervisory alliance measure were restricted, ranging from 42-126 out of a possible range of 19-133. At the item level, with possible responses ranging from 1 (indicating a weak
alliance) to 7 (indicating a strong alliance), trainees rarely endorsed values of 3 or less; no modal response for any of the items was below 4. While the restricted range of SWAI scores fits the general pattern of responding within this sample, Roehlke (1993) found a similar narrow range of SWAI scores in her assessment of the trainee supervisory alliance. The range restriction of this measure explains, in part, the lack of "significantly discriminatory" findings for the supervisory alliance variable in the HLM analyses (Roehlke, 1993).

Preliminary Analyses

Three sets of preliminary analyses were conducted prior to testing the proposed hierarchical linear model of counselor trainee self-efficacy development: (a) correlations among the three negative affectivity measures, (b) correlations among the independent variables, and (c) reliability estimates for the dependent and independent variables. Results of these analyses are summarized in Table 3, Table 4, and Table 5 respectively.

Choosing a Negative Affectivity Measure

Three measures of negative affectivity were administered to trainees in order to generate validity evidence for the Stokes & Levin (1990) measure and to insure that the construct was accurately assessed. Scores from each of the three measures were strongly correlated with scores from the other two. In each case, these correlations
### Table 3

**Correlations Between Measures of Negative and Positive Affectivity**

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. NEO-PI</td>
<td></td>
<td>.80***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. PANAS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative Affect</td>
<td></td>
<td>.68**</td>
<td>.62**</td>
<td></td>
</tr>
<tr>
<td>4. PANAS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Affect</td>
<td>-.48*</td>
<td>-0.31</td>
<td>-0.22</td>
<td></td>
</tr>
</tbody>
</table>

*Note: NA = Negative affectivity measure developed by Stokes & Levin (1990); NEO-PI= Neuroticism Scale of the NEO-PI.*

* p<.05. **p<.01. ***p<.001.
were statistically significant. Additionally, each instrument was negatively correlated with the Positive Affect scale of the PANAS; this relationship was statistically significant for the Stokes & Levin (1990) measure, $r = -.48$, $p < .05$. Given the similar pattern of relationships among the negative affectivity measures with each other and the PANAS Positive Affect scale, they appeared to assess the construct equally well, in the same manner, and could each be used in the main analysis with confidence. The Stokes & Levin (1990) measure was chosen based on its simplicity in terms of measuring only one construct (the PANAS measures two) and its brevity (the NEO-PI Neuroticism Scale has 27 more items than the Stokes & Levin (1990) instrument).

**Relationships Among the Predictor Variables**

Prior to conducting the hierarchical regression analyses, correlation coefficients were computed to assess the degree of possible multicolinearity among the predictor variables. All relationships among the predictor variables were negligible, ranging from $r = .00$ for degree of training challenge and trainee negative affectivity, to $r = .22$ for strength of the supervisory alliance and trainee negative affectivity. None of the computed correlations among the predictor variables were statistically significant.

**Reliability Estimates**

Alpha coefficients were computed for the predictor and
Table 4

Correlations Between Frequency, Clinical Challenge, Negative Affectivity, and Supervisory Alliance

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Frequency:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Counseling Sessions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Clinical Challenge</td>
<td>0.07</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Negative Affectivity</td>
<td>-0.13</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Supervisory Alliance</td>
<td>-0.19</td>
<td>-0.06</td>
<td>-0.22</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Negative affectivity was assessed using the measure developed by Stokes & Levin (1990).
outcome variables. In all cases, coefficients were adequate. They ranged from .80 for the Stokes & Levin (1990) negative affectivity measure to .96 for the measure of supervisory alliance.

Tests of the Research Questions

Two overarching questions guided this research. The first addressed the descriptive nature of counselor trainee self-estimates over time, the HLM unconditional model. The second addressed the predictive ability of several between subject variables, or the HLM conditional model. Specific hypotheses were posed for each question and are reiterated and discussed below.

Question 1: The HLM Unconditional Model

The HLM unconditional model, the first step in hierarchical linear modeling, addresses the question, how do counselor trainee self-efficacy estimates change over time? Or, what is the shape of the counselor trainee self-efficacy growth curve? It was hypothesized that the shape of the curve would be linear, with counselor trainees exhibiting rising levels of self-efficacy over the course of the practicum semester.

Counselor trainee self-efficacy estimates across the practicum semester were plotted together, yielding a single graph in which individual growth curves could be compared with one another. With an eye toward identifying a group pattern or mathematical model that might describe changes in
Table 5

**Alpha Coefficients of Predictor and Outcome Variables**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Challenge</td>
<td>.88</td>
</tr>
<tr>
<td>Negative Affectivity</td>
<td></td>
</tr>
<tr>
<td>NA</td>
<td>.80</td>
</tr>
<tr>
<td>NEO-PI</td>
<td>.93</td>
</tr>
<tr>
<td>PANAS</td>
<td>.88</td>
</tr>
<tr>
<td>Supervisory Alliance</td>
<td>.96</td>
</tr>
<tr>
<td>Counselor Self-Estimates at Semester End Point</td>
<td>.94</td>
</tr>
</tbody>
</table>

**Note:** NA = Negative affectivity measure developed by Stokes & Levin (1990); NEO-PI = Neuroticism scale of NEO-PI; PANAS = Negative affect scale of the PANAS.
counselor self-efficacy, a smoothing function was applied to the data using SAS, a sophisticated data analysis package. Essentially, the smoothing function computes the average self-efficacy score for each participant at a given time point as a function of the surrounding time points. The amount of smoothing is determined by the width (i.e., number of time points) of the smoothing band. Thus, the smoothing function can be likened to a "moving average". This algorithm can be applied to the dependent variables so that there is a range of no or minimal smoothing (zero smoothing) or complete smoothing (100 smoothing). Figures 1, 2 and 3 depict the counselor self-efficacy records at zero, 50 and 65 degrees of smoothing.

Three conclusions are drawn from a visual inspection of these figures: (a) within subjects, individual self-efficacy ratings fluctuate a great deal over the course of the training semester (see Figures 1 and 2); (b) between subjects, growth curves can be generally be categorized as one of two types, one which increases during the weeks of practicum and one which decreases (see Figure 3); and (c) the average or "typical" counselor trainee's changes in self-efficacy is most parsimoniously described by a linear growth model (see Figure 3). As a linear growth model, the HLM model in this research has two mathematical parameters, an average level of self-efficacy at a specified time (the base or intercept) and an average change in self-efficacy
Figure 1

Individual Growth Curves (COSI X WEEK) for Counselor Trainees (n=18) at Zero Smoothing

Note: COSI=Counselor Self-Estimate Inventory Score.
WEEK=Week during the ten week data collection period.
Figure 2

Individual Growth Curves (COSI X WEEK) for Counselor Trainees ($n=18$) at 50 Degrees of Smoothing

Note: COSI=Counselor Self-Estimate Inventory Score; WEEK=Week during the ten week data collection period.
Figure 3

Individual Growth Curves (COSI X WEEK) for Counselor Trainees (n=18) at 65 Degrees of Smoothing

Note: COSI=Counselor Self-Estimate Inventory Score; WEEK=Week during the ten week data collection period.
over time (the slope).

After determining the shape of the growth curve, and thereby identifying the mathematical model to be tested in the regression equation, the final step in assessing the HLM unconditional model is computing baseline statistics for the growth parameters. Bryk & Raudenbush (1992) organize their discussion of these statistics into three areas: (a) the average growth trajectory, (b) individual variation in growth trajectories, and, (c) reliability of the intercept (base) and change (slope) coefficients. Table 6 presents the results for the unconditional model, with the data centered at midsemester.

The average growth trajectory. The average intercept at midsemester was .00858 (t(1,17) = .040, p = .392). Because the COSI raw scores were transformed to z-scores for this analysis, the t-test for the intercept is a trivial test indicating that the coefficient is not significantly different from zero (Kivlighan & Shaunessy, 1995). This means that the average level of counselor self-efficacy was essentially zero at midsemester.

The average growth rate was -.00252 (t(1,17) = -.141, p = .389). Counselor trainees exhibited a gradually decreasing pattern of self-efficacy growth, losing an average of -.00252 points in their self-estimates per week during the study. This average incremental loss was not statistically significant and is likely related to the two
"opposite" general growth patterns identified over the course of the semester in the SAS plots, one increasing and one decreasing. These two patterns may have created a "canceling" effect that netted an average change in self-efficacy of essentially zero. One strategy to address this situation would be separate main analyses for the two groups. However, separate main analyses were not feasible given the constraints of small sample size.

To summarize, as hypothesized, a linear growth pattern was supported by the data. However, unlike the original hypotheses, the overall pattern indicated slow, undramatic and decreasing changes in counselor self-efficacy over time.

**Individual variation in growth trajectories.**
Assessment of the degree to which trainees' changes in self-efficacy differed or deviated from the average is conducted with the chi-square statistic. If there is no individual variation in counselor trainees' self-efficacy levels or growth, the statistic will be nonsignificant. The variance estimate for level of self-efficacy at midsemester was .80024, with a corresponding chi-square statistic of 1167.8 (df=17, p < .000). The variance estimate for counselor growth rate was .00457, with a corresponding chi-square statistic of 81.076 (df=17, p < .000). These results indicate that there was significant variation in both level and growth rate of trainee self-efficacy.

**Reliability of initial status and change.** Reliability
estimates of the intercept and slope are a rough check on the viability of proceeding to the conditional model, where the two parameters will be modeled as a function of predictor, or between subject, variables. Reliability estimates in HLM follow the same rules for interpretation as other such estimates and are computed on a scale of zero to one. For counselor self-efficacy, the estimated reliability for initial status was .985; for growth rate, it was .795. A typical reliability estimate for the growth coefficient is .400 (Bryk & Raudenbush, 1992). The high estimate in this sample indicates that the relationship between time and counselor self-efficacy was very reliably assessed.

In summary, the high reliability estimates suggest that variability in the individual growth parameters is primarily systematic and unrelated to model error. The next step, proceeding to the regression analysis of the conditional model, can be undertaken with the confidence that individual differences exist in the parameters and that their estimates are reliable.

**Question 2: The HLM Conditional Model**

The second research question addressed prediction of counselor self-efficacy level and change during practicum. Specifically, it was hypothesized that higher levels and increasing rates of self-efficacy growth would be associated with greater frequency and challenge of client contact, as well as with stronger supervisory alliances. It was
hypothesized further that higher levels of trainee negative affectivity and an interaction between challenge and negative affectivity would yield lower levels and decreasing self-efficacy growth rates. However, prior to examining the HLM conditional model, two data analysis issues require attention: (a) division of the originally proposed conditional model into two models of self-efficacy development, and (b) the data analysis strategy of "model trimming".

Two conditional models. It quickly became apparent that the originally proposed model for predicting self-efficacy development was unwieldy and untenable in terms of number of predictors in relation to number of participants. Originally, it was anticipated that the following predictors of self-efficacy would be added, in the following order, into the HLM regression equation: frequency of client contact, challenge of clinical work, counselor negative affectivity, strength of the supervisory alliance, and the interaction between challenge and negative affectivity. Altering the original regression equation was also deemed necessary due to the number of possible three-way interactions that would warrant investigation and interpretation in the "full model", e.g., frequency by challenge by a third predictor.

Using social cognitive theory as a guide, two models of self-efficacy development were tested. The models were
delineated based on the primary predictor of self-efficacy development, performance accomplishments (Bandura, 1986). In this study, performance accomplishments were divided along two dimensions, frequency and degree of challenge. Thus, two "mastery experience models" were tested: (a) a frequency model, in which the self-efficacy predictors were added into the regression equation in the following order: frequency of client contact, counselor negative affectivity, and strength of the supervisory alliance, and (b) a challenge model, in which predictors were added in the following order: challenge of clinical experience, negative affectivity, strength of the supervisory alliance, and the interaction between challenge and negative affectivity.

**Model trimming.** In achieving an HLM model of best fit, several strategies were employed that deviate from a traditional hierarchical linear regression approach. As in traditional hierarchical linear regression, the ordering of the predictors is grounded in theory and remains invariable throughout the data analysis steps. However, HLM conditional models are modified, or "trimmed", by deleting nonsignificant terms from the full equation and re-estimating the reduced model with the remaining predictors (Bryk & Raudenbush, 1992). In analysis of both the frequency and challenge models, all independent variables were added in the order outlined above to predict both level and growth rate of self-efficacy at the semester midpoint.
and at the end. The full models were trimmed by omitting	nonsignificant variables "backwards", by first deleting
predictors that had been added to the equation last.
Essentially, this involved removing predictors that
theoretically had less influence in self-efficacy
development. In both conditional models, evidence for
simplifying the HLM equations emerged in that fixed effects
in the full model were nonsignificant (t-ratios were
nonsignificant), yet there was clear evidence for true
variation in individual growth parameters (significant chi-
square statistics).

The frequency model. Counselor self-efficacy ratings
were centered at semester midpoint. Analysis of the HLM
full frequency model yielded no significant fixed effects
for self-efficacy growth. Only one fixed effect for self-
efficacy level approached significance, negative affectivity
(NA), gamma = 2.3821, p = .062. Chi-square statistics were
766.69 (df = 14, p < .0001) for base and 80.537 (df = 14,
p < .0001) for slope. These results indicate that trainees
higher in negative affectivity had higher levels of self-
efficacy compared to those with lower levels, a finding
counter to prediction. An additional discrepancy from the
original hypotheses occurred, negative affectivity was not
associated with self-efficacy change or growth over time.
Finally, strength of the supervisory alliance did not
contribute to variance explained by the model and was not
associated with increasing levels or growth of counselor self-efficacy as originally predicted. Trimming the model by omitting strength of the supervisory alliance from the HLM equation for both parameters did not change the pattern of results in the full frequency model. The model was further reduced to assess the power of frequency alone to predict self-efficacy level and growth at midsemester. The results were nonsignificant and analysis of the frequency model was discontinued.

Thus, the hypothesis that frequency of client contact would be associated with increasing levels and growth rates of counselor self-efficacy was not borne out in this analysis. Because the growth rate was nonsignificant, essentially yielding a flat line, parameter values were the same at both the middle and end of the semester. Therefore, no analyses were conducted on centering self-efficacy ratings at the semester’s end.

The challenge model. As in the frequency model, counselor self-efficacy ratings were centered at midsemester. HLM analysis of the full model yielded no statistically significant fixed effects for either the intercept or slope. Chi-square statistics were 618.03 (df = 13, p < .0001) for base and 57.678 (df = 13, p < .0001) for slope. Trimming strength of the supervisory alliance from the model yielded similar nonsignificant results. By continuing to modify the model “backwards”, and
reducing the model conservatively, the interaction between challenge and negative affectivity was omitted from the slope, but not from the base, HLM analyses. This reduction in the model yielded statistically significant effects for the base predictors challenge, negative affectivity, and their interaction. It yielded statistically significant effects for the slope predictor of challenge, but not negative affectivity. Therefore, in the final HLM challenge model, negative affectivity was trimmed from the slope analysis. A summary of the model of best fit and the associated statistics is presented in Table 6. As with the frequency model, given the relatively flat nature of the self-efficacy growth curve, no HLM analyses were conducted by centering counselor self-efficacy scores at the end of the semester.

To summarize the results of the challenge conditional model, challenge of the clinical work, trainee negative affectivity level, and their interaction were significantly related to level of counselor self-efficacy at midsemester. Higher levels of challenge and negative affectivity related to higher levels of self-efficacy; gamma coefficients were 2.63 \( (t(1,14) = 2.59, p = .022) \) and 2.38 \( (t(1,14) = 1.97, p = .062) \) respectively. However, counselor self-efficacy levels were significantly lower for trainees for whom there was interaction between challenge and negative affectivity, with a gamma coefficient of -3.73 \( (t(1,14) = 2.38, \)
Table 6

Linear Model of Growth in Supervisee Self-Efficacy: Effects of Clinical Challenge and Negative Affectivity at Midsemester

<table>
<thead>
<tr>
<th>Fixed Effect</th>
<th>Coefficient</th>
<th>SE</th>
<th>t ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model for Status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base</td>
<td>0.0087</td>
<td>0.1704</td>
<td>0.051</td>
</tr>
<tr>
<td>Challenge</td>
<td>2.6339</td>
<td>1.0189</td>
<td>2.585*</td>
</tr>
<tr>
<td>Negative</td>
<td>2.3821</td>
<td>1.2069</td>
<td>1.974t</td>
</tr>
<tr>
<td>Affectivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td>-3.7302</td>
<td>1.5695</td>
<td>-2.377*</td>
</tr>
<tr>
<td><strong>Model for Growth Rate</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base</td>
<td>-.0025</td>
<td>.0162</td>
<td>-.152</td>
</tr>
<tr>
<td>Challenge</td>
<td>-.0364</td>
<td>.0167</td>
<td>-2.169*</td>
</tr>
</tbody>
</table>

*p=.06.  *p<.05.
Only challenge of client contact and the training experience related significantly to individual growth rates in self-efficacy, with those higher in challenge exhibiting a gradual decline in counseling confidence over the semester. While not dramatic, the decrease was statistically significant, with a gamma coefficient of -.036 ($t(1,16) = -2.17, p = .045$).

Figure 4 depicts the relationship of challenge and negative affectivity to level and growth of counselor self-efficacy during the practicum semester. Depicted are six hypothetical counselor trainees, who were: (a) one standard deviation above the mean in challenge, and (b) one standard deviation below; (c) one standard deviation above the mean in negative affectivity, and (d) one standard deviation below; and, finally, (e) those who were one standard deviation above the mean in challenge, negative affectivity, and their interaction, and (f) those who were one standard deviation below the mean on each of the three variables. As can be seen in the figure, trainees who were one standard deviation below the mean on any of the three variables displayed lower overall counselor self-estimates compared to those who were one standard deviation above the mean on any of the three variables. However, those lower than average on all three variables showed higher self-efficacy levels than those who were lower on either challenge or negative affectivity alone. In addition, self-efficacy gradually
Figure 4
Relationship of Challenge and Negative Affectivity to Level and Growth of Counselor Self-Efficacy During the Practicum Semester

Note: COSI=Counselor Self-Estimate Inventory Score; WEEK=Week during the ten week data collection period. Depicted, from highest to lowest self-efficacy levels, are trainees who are:
- 1 SD above the M in Challenge;
- 1 SD above the M in Negative Affectivity;
- 1 SD above the M in Challenge, Negative Affectivity and the interaction;
- 1 SD below the M in Challenge, Negative Affectivity and the interaction;
- 1 SD below the M in Negative Affectivity; and,
- 1 SD below the M in Challenge
increased during the semester for those trainees who were one standard deviation below the mean in challenge, though these levels stayed low and did not reach those of the "average" counselor trainee at the semester's end. Because negative affectivity did not influence self-efficacy growth, trainees below the average in negative affectivity displayed an essentially flat growth curve.

The pattern of results is exactly reversed for those hypothetical trainees who were one standard deviation above the mean on the three predictors, with highest self-efficacy levels occurring for those with greater than average clinical challenge, followed closely by those with higher than average negative affectivity, followed by those who exhibited high levels of both constructs. While trainees above average in negative affectivity did not exhibit increasing or decreasing self-efficacy levels during the training semester, counselors above average in challenge showed a gradually decreasing pattern. This declining pattern does not greatly compromise trainee self-efficacy levels, which remained high and above average even at the projected semester's end.

To summarize the results of the main analyses as they relate to the second research question and its hypotheses: Hypothesis 2A: While higher levels of clinical challenge were associated with higher levels of counselor self-efficacy as predicted,
higher levels of challenge were also associated with a gradually decreasing growth trend.

Hypothesis 2B: Though it was predicted that negative affectivity would be associated with self-efficacy changes over time, it was not. Nor was its' relationship to self-efficacy level as anticipated, with greater levels of negative affectivity associated with higher self-efficacy levels.

Hypothesis 2C: Unlike original predictions, the strength of the supervisory alliance did not influence either level or growth rate of counselor self-efficacy.

Hypothesis 2D: The hypothesized moderating effects of negative affectivity on challenge for both level and rate of self-efficacy growth were not borne out. Instead, the interaction exhibited additive effects for self-efficacy level, but not growth rate. Thus, trainees who reported higher levels of both negative affectivity and training challenge had lower levels of self-efficacy than their peers who were higher on only one of the constructs. This pattern was reversed for trainees reporting low levels of both constructs.

Though discrepancies between research hypotheses and research findings emerged, the challenge model explained variation in counselor self-efficacy levels and growth rates relatively well. Table 7 displays the variance accounted for in the unconditional model by conditional model
predictors. For base, the percent of parameter variance explained by challenge and negative affectivity is 36.13%, \((.80024 - .51108)/.80024\). For slope, the percent of parameter variance in counselor self-efficacy growth rates accounted for by challenge is 22.54%, \((.00457 - .00354)/.00457\).
Table 7

Variance Explained in Midsemester Self-Efficacy Status and Growth Rate as a Function of Clinical Challenge and Negative Affectivity

<table>
<thead>
<tr>
<th>Model</th>
<th>Midsemester Status</th>
<th>df</th>
<th>Growth Rate</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unconditional</td>
<td>0.80024</td>
<td>17</td>
<td>0.00457</td>
<td>17</td>
</tr>
<tr>
<td>Conditional on Clinical Challenge and Negative Affectivity&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.51108</td>
<td>14</td>
<td>0.00354</td>
<td>16</td>
</tr>
<tr>
<td>Proportion of the Variance Explained</td>
<td>36.13</td>
<td></td>
<td>22.54</td>
<td></td>
</tr>
</tbody>
</table>

Note: <sup>a</sup>These variances are based on the model estimated in Table 6. The variance for Growth Rate in the Conditional Model refers to the effects of clinical challenge only.
The purpose of this study was to expand upon Larson et al's (1992) research in the area of counselor self-efficacy development by utilizing a growth model to describe the relationship between self-efficacy and time and by relating that relationship to aspects of social cognitive theory. Discussion of the research results is divided into three sections: (a) research questions, (b) implications for training, and (c) future research needs. Regarding the later, obvious research needs are discussed where applicable throughout the discussion, while the section devoted exclusively to future research needs focuses on theory related issues.

Research Questions

Two overarching questions guided the data analysis, one descriptive in nature, the other explanatory. Each question with its respective hypotheses is addressed sequentially as it relates to tenants of social cognitive theory.

Question 1: A Linear Model

The first research question addressed the shape of the counselor trainee self-efficacy growth curve. It was hypothesized that a linear relationship existed between
counselor trainee self-efficacy development and time, with trainees exhibiting a gradual increase in self-efficacy over the course of the semester. Contrary to prediction, the unconditional hierarchical model revealed that, on average, there was slightly decreasing trend over time, with trainees rating their counseling self-efficacy beliefs lower week after week by some negligible amount. This result was not statistically significant. The essentially "zero" growth pattern is likely an artifact of the within subject variation and the two opposite patterns of self-efficacy growth that emerged when the individual growth curves were plotted.

Regarding the within subjects variability of trainee counseling self-estimates, the three week test-retest reliability estimate obtained by Larson et al. (1992) for the COSI total (r = .87) suggests that the weekly fluctuations reflect real variation and should not be attributed to measurement error. When viewed within the context of Bandura's (1986) description of the self-efficacy development of children, these fluctuations in trainee weekly self-estimates are not so surprising. As children develop efficacy beliefs in different performance domains, their nascent beliefs are fragile and tied to concrete, external indicators of success or failure (Bandura, 1986). Numerous authors have postulated that beginning counselor trainees exhibit similar dynamics in regard to self-
estimates of their counseling abilities (e.g., Skovholt & Ronnestad, 1992, and Josephs, 1990); this work provided quantitative evidence that this is indeed the case. It may be that as individuals approach any new learning task in which they have a great deal of personal investment, their growth in self-efficacy recapitulates that childhood developmental process. Investigations of the growth of self-efficacy across different performance domains in different fields and over longer periods of time would yield important evidence for this hypothesis.

While there was a good deal of within subject variation in counselor self-estimates, two efficacy patterns emerged between trainees. Essentially, the between subjects' variation in self-efficacy over time divided trainees into two distinct groups, those who initially exhibited higher levels of self-efficacy and maintained relatively high levels over time, and those who initially exhibited lower levels that tended to remain relatively low throughout the semester. Other researchers have discovered similar between subjects variability in trainee self-efficacy levels. Sharpley & Ridgeway (1993) conducted assessments of trainee self-efficacy at three points during a practicum semester and found widely varying levels of counseling confidence among their participants, leading them to conclude that such variation is a typical or "normal distribution" for the self-efficacy construct. Perhaps, more specifically, it is
the normal distribution for this population of beginning counselors. Similarly, in their study of counseling self-efficacy among prepracticum trainees, Johnson et al. (1989) discovered large and persistent differences in trainee counseling confidence when assessed during pretraining, after training in basic skills, and after training in intermediate skills. Rationales for these two distinct patterns in trainee self-efficacy development relate to the second research question, how well did the four information sources predict the level and changes in self-efficacy over time? This will be discussed in the next section.

The linear model of self-efficacy development was supported by the data analysis. However, a visual perusal of the smoothed growth curves points to a possible "leveling trend" toward the end of the practicum semester for some trainees. Nonlinear trends were not investigated for several reasons, including: (a) the need for parsimony of explanation; (b) the constraints of small sample size compared to number of predictors; and (c) the beginning status of the trainees, such that the counseling learning tasks did not likely lose their challenge, thereby precipitating a plateau in self-efficacy growth. However, future research might investigate the possibility of nonlinear, "leveling" growth trends with beginning trainees, for which there may be several explanations: (a) trainees may begin to exhibit "practice effects" from completing the
same instrument week after week, so that when remembering what they reported last week on an item, they might respond similarly out of habit, or out of a desire to be consistent; (b) at some point toward the semesters’ end, trainees may “decide” how skilled they are as counselors, or how much effort they will expend in training and clinical work, and express this decision in unchanging self-efficacy reports; or (c) the challenges have waned and the trainees’ apparent lack of change in self-efficacy toward the semester’s endpoint is due to the decreased difficulty or stimulation of the learning experience. While Bandura (1986) offered this last explanation as a possible “plateau precipitant” in self-efficacy growth, anecdotal, applied experience with beginning counselors at the end of a training semester would suggest otherwise. Typically, the emotional and technical challenges of termination with clients, peers and supervisors actually increases learning challenge. Utilizing biweekly measures of both self-efficacy and learning challenge across two semesters of training might better elucidate these possibilities.

**Question 2: Influence of Performance Accomplishments**

In the current study, Bandura’s (1986) most potent self-efficacy information source, performance accomplishments, was conceptualized along the dimensions of frequency and challenge of trainee exposure to clients and clinical work. The ability of each of these dimensions to predict trainee
self-efficacy level or change is discussed separately.

**Frequency.** Other researchers have considered years of counseling experience and training as a measure of counseling performance accomplishments, based on the rationale that counselors with more experience have had more opportunities for success (Larson et al., 1992). The beginning status of participants in this study required a modification of “years of counseling experience” as a frequency measure to “amount of counseling experience gained during the training semester”. Contrary to prediction, however, frequency of exposure to clients, at least as it was conceptualized and measured in this study, did not predict either trainee counseling self-efficacy level or growth.

Plausible explanations for this unexpected result are related to the restricted range of responses to the frequency measure and to problems with how the construct was measured. In regard to the later, operationalizing performance accomplishments as frequency of client contact was probably too global a measure of beginning trainee success experiences. While simply “sitting with a client” and conducting a counseling session might be considered a success by the most inexperienced and anxious trainees, its lack of predictive ability in this research suggests that it cannot also be considered a “success experience” in the way that Bandura (1986) intended. In addition, this frequency
measure did not distinguish trainee perceived performance accomplishments from performance failures (Larson et al., 1992). The debilitating effects of failures on self-efficacy development, perhaps stronger than the "facilitating effects of success", require a measure of mastery that is more closely aligned with Bandura's (1986) theorizing.

A measure of mastery that better captures Bandura's (1986) definition of performance accomplishments might query trainees about their self-evaluated success, both globally and in terms of specific interventions, after each client session. Such "success ratings" might then be summed for a "weekly" mastery score, which could then be compared to trainee weekly self-efficacy beliefs. This measurement strategy fits with Bandura's emphasis on the importance of self-perceived successes and failures in self-efficacy development. An alternative strategy of asking supervisors to rate trainee counseling success might provide evidence of trainee accuracy or distortion in self-perception. This issue of trainee performance is further addressed in the section on future research needs.

In addition to being too general or too global, measuring success experiences as frequency of client contact was also confounded by caseload requirements of the training sites and the practicum instructors. This may have resulted in an artificial ceiling effect or restriction of range.
While prior clinical experience may be another possible confounding influence, since approximately half of the sample reported some type of prior counseling work, the research results from examining the relationship of this variable to self-efficacy development are mixed. Sipps, Sugden & Faiver (1988) examined the counseling self-efficacy of first through fourth year graduate students and discovered that second year trainees exhibited the "lowest levels of efficacy expectations, significantly lower than students at the other three levels" (p. 399). These findings are congruent with Skovolt & Ronnestad's (1993) findings that second year counselors know enough to know they know very little, and thus experience even greater crises in confidence than their more naive and enthusiastic first year peers. On the other hand, Larson et al. (1992) found significant gains in counselor self-estimates across experience levels, with bachelor's level trainees exhibiting lower self-efficacy levels than either master's level counselors or counseling psychologists. Similarly, in their three year longitudinal study of 12 doctoral trainees, Hill, Charles & Reed (1981) also found increased counseling confidence over time. It is important to note, however, that the measures in these studies were different, complicating comparisons of the results.

Finally, assuming that the frequency measure was an adequate assessment of trainee success experiences, it is
also possible that for beginning trainees, task or learning challenge is a more potent dimension of performance accomplishments than the frequency of client exposure. However, such an assumption would ignore the obvious problems addressed above and future research with a more focused frequency measure is needed to support this explanation.

**Challenge.** Adequate levels of challenge were hypothesized to relate positively to self-efficacy levels and growth. However, adequate challenge differed for these two dimensions of self-efficacy, with high levels of clinical challenge associated with high levels of self-efficacy that decreased over time and low levels of challenge associated with low levels of self-efficacy that increased over time. While the size of the growth trends were not large, they were statistically significant. Clearly, challenge is a complex variable that relates positively to self-efficacy level, but takes its toll in terms of change over time. In this section, the relationship of challenge to self-efficacy level and change are explored in the context of social cognitive theory.

In terms of self-efficacy level, clinical challenge was positively and strongly related to trainee counseling self-estimates such that trainees reporting the highest levels of challenge also exhibited the highest levels of self-efficacy. Alternatively, trainees with the lowest levels of
practicum challenge were the least confident in their abilities to effectively execute basic counseling skills. Bandura (1986) has offered an explanation for this finding, stating that if a person is self-assured and she interprets the attempted behavior or skills as difficult, she will experience even greater cognitive and emotional rewards that continue to fuel the skill building process. In other words, she will value her successes, feel good about them, and continue to approach the learning task with motivation and enthusiasm. On the other hand, if a trainee interprets attempted counseling skills as boring or nonstimulating, she is not likely to feel especially efficacious or competent at their completion. Therefore, successes in low challenge tasks cannot be used productively in the self-efficacy information cognitive equation.

Challenged and underchallenged trainees may have differed in the learning or task goals they set for themselves. In fact, goal setting may be a primary mechanism by which counseling task challenge asserts its' influence in self-efficacy formation. Bandura (1986) wrote, "high achievers tend to make self-satisfaction contingent upon attainment of challenging goals" (p. 476). Similarly, Lent et al. (1994) state that attaining challenging goals in relation to self-set standards engenders self-satisfaction and enhances self-efficacy. By setting challenging goals, efficacious trainees organize and guide their counseling
skill acquisition, sustain their learning motivation over the training semester in the face of setbacks and lack of client improvement, and increase the likelihood that they will attain their desired outcomes (Lent et al., 1994). On the other hand, underchallenged, inefficacious trainees may have set lower goals for counseling mastery and thus have been more satisfied with lower levels of performance. Indeed, Bandura (1986) maintained that both self-dissatisfied and efficacious individuals will persist in their efforts to succeed, while those who perceive themselves as "inefficacious to fulfill the goal and are satisfied with a substandard gain slacken their efforts and show a substantial decline in performance" (p. 471).

Social cognitive theory supports the explanation that efficacious trainees set and achieve more challenging learning and task counseling goals for themselves in comparison to their inefficacious peers. What is puzzling, however, is the potent presence of low clinical challenge in the beginning stages of training. In addition, the low challenge growth trend is not the pattern predicted by Bandura (1986) for individuals who have gained some experience and now find the once new skill unstimulating. If that had been the case and the counseling tasks had lost their challenge, the change in self-efficacy for the inefficacious trainees should have risen and then hit a plateau. Instead, their counseling confidences rose in a
steady, slow climb over the semester.

Thus, for these beginning counselors, it seems unlikely that clinical experiences lost their challenge via mastery of basic skills. Low challenge is more likely explained by "self-efficacy demoralization" (Bandura, 1986). Self-efficacy demoralization is precipitated by a series of perceived or actual failures and setbacks, and is characterized by intractable self-doubt that leads to lowered task interest and performance. For inefficacious, underchallenged trainees, self-efficacy demoralization may reflect a defensive, premature foreclosure in self-evaluation or in evaluation of the counseling enterprise. The possibility of trainee self-efficacy demoralization points to the need for an analysis of critical incidents in the three primary spheres of training, in practicum group feedback/consultation, individual supervision, and client sessions. Linking the impact of critical training events to self-efficacy level and growth would provide information about the nature of failures that lead to trainee demoralization. Given the dearth of knowledge regarding the specifics of typical trainee setbacks, a series of single subject quasi-qualitative designs could yield results for future large sample, quantitative analyses.

While perceived clinical challenge positively influenced self-efficacy level, it negatively influenced self-efficacy growth. In regard to self-efficacy change, trainees with
higher challenge levels exhibited a decreasing trend, while those with lower levels exhibited an increasing trend. Several possibilities may account for these results. First, in terms of the high challenge trainee, decreasing self-efficacy growth may be related to overstimulation. In her eagerness, described so well by Skovolt & Ronnestad (1993), the trainee may "bite off more than she can chew" and the supervisor's task is to allow enough challenge to stimulate her growth, while guarding against overtaxing her nascent skills. Indeed, the demands and stresses of training may intensify trainee personal problems, leading them to pursue their own psychotherapy in order to cope (Hill et al., 1981). Alternatively, the decreasing growth trend for high challenge trainees may represent a "self-efficacy correction", such that the trainee now experiences the complexity of the enterprise and adjusts her view of her own capabilities accordingly. In terms of the low challenge trainee, the increasing trend may represent greater engagement in the training process or a more accurate estimation of increased counseling capacities over time. Future research incorporating evaluations of trainee performance may elucidate these possible explanations; this issue is discussed at length in the final section of the chapter.

Due to the global nature of the counseling challenge measure, this research is limited in its ability to describe
the exact nature of trainee over and under challenge. The challenge measure in this work was global in two respects: (a) as a sum total of semantic differential items, it was designed to assess the overall degree to which beginning counselors found their work with clients intellectually and emotionally difficult, and (b) the measure did not specify particular components of clinical experience, so it is not possible to differentiate how challenged trainees felt in relation to specific dimensions of the counseling enterprise, e.g., dealing with difficult client behaviors, negotiating powerful emotional responses to clients, or managing referrals for psychiatric intervention. Future research might tease apart different components of clinical challenge, exploring which are the most potent predictors of beginning trainee self-efficacy and examining individual differences in terms of exerted influence. Such distinctions might be particularly useful in understanding both low self-efficacy levels and decreasing growth rates and in designing appropriate supervisory or training interventions.

Question 2: Influence of Emotional Arousal

While the supervision literature is replete with work suggesting the dangers of trainee overstimulation and the adverse effects of anxiety on counseling performance (e.g., Hale & Stoltenberg, 1988), much less is written about the impact of “understimulation” on trainee skill acquisition
and confidence. Indeed, social cognitive theory predicts that negative affectivity, as it relates to high anxiety, would lower trainee counseling self-estimates; for example, Larson et al. (1992) found that higher counseling self-efficacy was related to less state and trait anxiety. Theoretically, one would expect higher levels of negative affectivity to be associated with self denigration of skills as a defensive maneuver to protect against criticism expected from supervisors and others, or as part of a generally pessimistic outlook (e.g., "I will never counsel as well as ______"), or out of some ruminative perfectionistic style that precludes the trainee from "resting on her laurels".

Contrary to prediction, higher negative affectivity levels were associated with higher self-efficacy levels. Negative affectivity was not, however, associated with self-efficacy change. Congruent with social cognitive theory's emphasis on mastery experiences as the most influential efficacy information source, challenge was more potent in this regard. In addition, a trainee can overcome, ignore, or use anxiety in ways that she cannot do with the challenge of learning counseling skills. In other words, she has more control over herself than over the difficulty of the learning situation. For these reasons, this section will focus on the link between negative affectivity and self-efficacy. This discussion is divided between a
consideration of the nature of negative affectivity in this study and possible explanation of the findings.

Nature of trainee negative affectivity. The typical trainee in this study did not report high levels of negative affectivity; overall levels were in the moderate range. The restricted range of scores in the negative affectivity measure may be related to small sample size, or to measuring a construct not widely distributed within this population. In either case, higher levels of the construct with these trainees does not necessarily indicate high levels of neuroticism.

That leaves the question, what DO the higher levels of negative affectivity in this study indicate about a counselor trainee? A perusal of the Levin & Stokes (1990) measure at the item level suggests that it may be more useful in this study to consider the negative affectivity scores as trainee self-report regarding their inclination for introspection, self-consciousness, mild self-deprecation, realism in judging self and others, and vulnerability to affective stimulation and to criticism. A counselor trainee reporting greater inclination in these areas might be characterized as a supervisee who is humble, eager to learn, sensitive to her own internal affective states and to those of her clients, and personally invested in doing well as a counselor. Such a conceptualization fits well with Skovolt & Ronnestad's (1993) portrait of the
beginning trainee. Within this conceptualization of negative affectivity, those low in this construct might be characterized as less invested in the learning task and in counseling itself. Given their greater inattention to internal cognitive and emotional states, low NA trainees may be less likely to see the complexity of the enterprise. In short, they are likely to appear comparatively less “motivated” and “underwhelmed”.

**Explanations for findings.** Several theoretical explanations may elucidate why higher trainee negative affectivity was associated with higher counseling self-efficacy. First, moderate levels of anxiety or arousal have a facilitative effect on performance; this relationship is represented by the classic anxiety-performance inverted U shaped curve. In this regard, trainees with higher levels of negative affectivity may use their higher arousal levels as cues for coping. They may use their emotional arousal as a signal to think ahead about the “dangers” or difficulty of the counseling enterprise, using their self-doubt and ruminative capacities to review their performance and to plan for “next time”. To the extent that such anticipatory thought is realistic and not overwhelming, it has functional or adaptive value (Bandura, 1986).

Related to the notion of facilitative anxiety is the impact of arousal on cognitive processing. Trainees reporting higher levels of negative affectivity by
definition experience higher levels of emotional and physiological arousal. In moderate doses, this heightened arousal may "prime" or increase the impact of information and feedback received in group and individual supervision, as well as from work with clients. With informational sources of efficacy somehow highlighted or made more salient, the trainee can more easily access, process, and integrate the "data" into existing beliefs about her skills (Bandura, 1986).

At other times, when anxiety does not perform a facilitative function, it can exist without being an impediment to the approach and execution of a desired behavior. Bandura (1986) notes that even when feeling highly anxious and ineffectual, people can perform and function competently, with the added cognitive benefit of overcoming "inappropriate fears".

A final explanation for the positive relationship between negative affectivity and self-efficacy is that the comparatively more anxious, ruminative, introspective trainee may be "working harder" than her less self reflective, viscerally agitated peers. Early in training, trainee natural talent is less important than a willingness and ability to take risks with clients and peers, an openness to learning, and a desire to work hard. Indeed, Bandura (1986) states, "...performance attainments on many tasks are determined more by how hard one works at them than
by inherent capacity" (p. 406). Such hard work has payoffs in terms of success experiences and concomitant increases in self-efficacy. If this was the case, negative affectivity in this study did not operate as expected, with higher levels of negative affectivity associated with trainee dismissal of success experiences or with erroneous external attributions for good performances.

**Question 2: Influence of Modeling and Verbal Persuasion**

Like Larson et al. (1990), this study operationalized modeling and verbal persuasion efficacy information sources in terms of supervision. More specifically, in this study, these efficacy information sources were operationalized as the supervisory alliance between the trainee and her primary supervisor. While modeling and verbal persuasion are not considered the most potent predictors of self-efficacy, they play an important role in the beginning stages of self-efficacy development (Bandura, 1986). It is somewhat puzzling, then, that their influence in this research was practically and statistically nonsignificant in predicting trainee self-efficacy level and growth. Three explanations seem particularly relevant: (a) the mode in which these information sources were delivered, e.g., in terms of the practicum group or the individual supervisor; (b) the nature of the supervisory alliance measure, which was more agentic and goal oriented than affective and relational; and (c) the indirect assessment of these efficacy information sources.
Delivery mode. It may be that the "peer modeling" that occurs within the weekly practicum meetings via case presentations and group discussion was more influential in the level and growth of trainee self-efficacy than the modeling that occurred within individual supervision. In terms of modeling desired performance, social cognitive theory would suggest that the "ideal model": (a) is similar to the participant in significant ways; (b) is one or two steps ahead of the participant on important dimensions, especially in expertness or ease with which a desired behavior is executed and achieved; (c) encounters obstacles and then exhibits coping behavior, rather than delivering a flawless, fluid performance; and (d) exerts appropriate effort and experiences success. In other words, the ideal model could be conceptualized as an advanced peer. In addition, when discussing the development of self-appraisal skills in children, Bandura (1986) writes, "it is the attainments of others similar to themselves that are most predictive of the children's own operative capabilities" (p. 421). Large discrepancies between supervisor and trainee in skill level and counseling experience may have diluted the impact of this source of efficacy information for the supervisee.

The same may be true in regard to group feedback and encouragement, or what Bandura (1986) labels the verbal persuasion efficacy information source. Compared to the
evaluation and support provided by the primary supervisor, the practicum group's collective opinion about the trainees' capacities, as well as the individual opinions of respected peers, may have carried more weight in the counselor's cognitive self-efficacy equation. Whether this influence might occur due to sheer numbers, e.g., "How can eight people be wrong about their evaluation of my skills?", or due to similarity, e.g., "Certainly they understand how hard this is; since, like me, they have only just started seeing clients," or to some other combination of factors is unclear.

Alternatively, some trainees may have used a more cognitively complex dismissal strategy for modeling and verbal persuasion received in individual supervision. When a trainee achieves a success with her clients using interventions suggested by her supervisor, sometimes parroting exact words and phrasing, the efficacy information she receives from the accomplishment will be diluted if she credits the success to her supervisor rather than to herself. Crediting her success to an external source, rather than to her personal capabilities, will decrease the impact of modeling and verbal persuasion efficacy information for the trainee (Bandura, 1986).

The SWAI. The supervisory alliance measure in this study is largely agentic, focusing on specific aspects of the supervisor's behavior during supervisory sessions.
While capturing well what a good practicum supervisor does, e.g., "My supervisor's style is to carefully and systematically consider the material I bring to supervision", it does not address as fully the more relational and affective aspects of the supervisory alliance, e.g., "I like my supervisor." When these agentic, goal oriented supervisory behaviors are absent, counselor trainee self-efficacy may suffer. However, for competent supervisors who responsibly and respectfully execute the behaviors outlined in the SWAI, it may be that the relational and affective aspects of the alliance are more potent influences in trainee self-efficacy development. In this regard, Friedlander & Snyder (1983) found that their practicum and intern trainees expected to grow personally in supervision when their supervisors were attractive, trustworthy and evaluative. However, "the expected impact on actual counseling behavior was more closely linked with expecting a supportive supervisory relationship" (Friedlander & Snyder, 1983, p. 347). Future research examining the relationship between supervisory alliance and beginning counselor self-efficacy might utilize alliance measures that tap both behavioral and affective aspects of supervision. Such a strategy could distinguish the potent aspects of modeling and verbal persuasion on trainee counseling self-estimates and allow comparisons among these dimensions.
Indirect assessment. While there is precedent and some theoretical support for conceptualizing supervision in terms of modeling and verbal persuasion, this assumes that these efficacy information sources are both available and communicated during supervisory sessions. At best, the supervisory alliance is a distant proxy for modeling and persuasion. Future research might utilize more direct measures of these constructs and assess the extent to which modeling and verbal persuasion actually occur within supervision, under what circumstances, and how trainees differentially use this information in their construction of self-efficacy beliefs.

Question 2: Influence of the Accomplishment X Anxiety Interaction

The interaction between challenge and negative affectivity predicted self-efficacy level, but not growth, in this sample. The self-efficacy levels of two groups of hypothetical trainees were plotted and two observations regarding these patterns in particular require explanation: (a) Why do trainees who view their clinical experiences as especially challenging and who are more ruminative and anxious than their cohorts, exhibit higher levels of self-efficacy than those who are one standard deviation below the average on both challenge and negative affectivity? This observation involves between group comparisons of trainees and was largely explored in prior sections related to main
effects, and (b) Why do trainees in the above average self-efficacy group who experience an interaction between high levels of challenge and negative affectivity exhibit lower levels of self-efficacy than their peers, who report high levels of one of the constructs but not the other? Conversely, in the below average self-efficacy group, why do trainees who experience an interaction between low levels of challenge and negative affectivity exhibit higher levels of self-efficacy than their peers, who report low levels of one of the constructs but not the other? These observations involve within group trainee comparisons.

**Between group comparisons.** In regard to between group comparisons, negative affectivity exerts an additive effect to challenge rather than a moderating influence. Higher levels of trainee self-efficacy are associated with high levels of each construct, while low levels of trainee self-efficacy are associated with low levels of each construct. Trainees at either the high or low extremes of both constructs would exhibit combined features of both challenge and negative affectivity, e.g., a low challenge-low negative affectivity counselor might present with disinterest or little enthusiasm for practicum training (low challenge), coupled with a lack of introspection or motivation (low negative affectivity), all of which leave her less intellectually and emotionally engaged than her high challenge-high negative affectivity peers. The discussions
regarding challenge and negative affectivity main affects are applicable here and will not be restated.

**Within group comparisons.** The statistically significant interaction effect suggests that within each of the high and low self-efficacy groups, negative affectivity modifies the relationship between challenge and level of trainee counseling confidence. With efficacious trainees, the combined effect of challenge and negative affectivity is to lower or dampen counseling confidence. Specifically, within the high self-efficacy group, the high challenge-high negative affectivity trainee exhibits lower self-efficacy levels than those who are either cognitively or affectively stimulated, but not both. These trainees may be at the upper limits of their perceived coping capabilities and experience lowered self-efficacy related to being "overtaxed". It is possible that this lowered self-efficacy is an expression of anxiety occurring in association with stringent internal standards. In other words, high task challenge generates some anxiety on its own by virtue of the difficulty to be negotiated; when anxiety of another form is added to an already stressful task, the trainee is in danger of being overstimulated, and concomitant losses in counseling confidence occur.

On the other hand, for inefficacious trainees, the combined effect of challenge and negative affectivity tends to heighten or increase counseling confidence.
Specifically, within the low self-efficacy group, it is "worse" to be either bored or unaware than to be both in terms of the toll on self-efficacy levels. It may be that in conjunction, low levels of challenge and negative affectivity insulate the trainee from even lower levels of confidence in their skills. They may "think they can" because they perceive the tasks as "easy" and have not yet seriously or deeply considered their actual level of counseling skill. In other words, this subgroup of inefficacious trainees is not stimulated by the training experience and is not particularly worried or concerned about this state of affairs. This trainee portrait has striking similarities to Patton's (1993) behavioral description of supervisee "resistance" to learning within supervision. Such resistance might be expressed through trainee avoidance behaviors such as: sketchy, minimal reports of clinical work; speaking about clients in a vague, summarizing, or general manner; habitually forgetting to tape client sessions or avoiding playing tapes in supervision; frequent cancellations or tardiness to supervision sessions; and general lack of preparation (Patton, 1993). Future research might compare beginning counselor self-efficacy with trainee behavior during supervision to assess the overlap between counseling inefficacy and resistance.
Implications for Training

Optimal levels of challenge and negative affectivity provide a facilitative learning environment for the counselor trainee. For the typical trainee, some anticipatory anxiety and excitement, as well as some post-session rumination and introspection about challenging work, makes for good learning and greater confidence in counseling skills. A Buddhist tenet comes to mind, “everything in moderation, neither too loose nor too taut be”. The two hypothetical trainee patterns identified in the significant interaction suggest that supervisees are likely to fall between the two extremes of those who are “too loose” (the low challenge-low negative affectivity trainee) and those who are “too taut” (the high challenge-high negative affectivity trainee). Depending upon their location on this continuum, counselor trainees will likely need their supervisors to modify their relational stance and teaching strategies. This discussion is divided according to the polarities of this continuum.

“Too Loose” Trainees

Bandura (1986) repeatedly emphasizes the connection between higher self-efficacy beliefs and desired behavioral outcomes, stating that when individuals are self-assured, they make better use of their talents. The logical implication is that this group is not achieving or performing as well as it might. This is especially
problematic because, whether high or low, trainee self-efficacy estimates remain relatively stable throughout a training semester (Johnson et al., 1989). Given the seemingly imperviousness of trainee self-estimates to "standard training procedures", Johnson et al. (1989) suggest that "interventions to assist low-efficacy students may be warranted" (p. 214).

Supervisor assessment of the accuracy of trainee counseling self-estimates is an important first step in determining effective interventions for low counseling confidence. When low counseling self-efficacy reflects actual low ability, supervision might focus on skill building and remediation. However, when low counseling self-estimates reflect an underestimation of trainee ability, supervision might focus on enhancing supervisee self-efficacy. The following discussion pertains to this second ineffectacious group and assumes trainee capacity to master basic counseling skills.

Once assessment of trainee skills is complete (an issue discussed more fully in the last part of the chapter), several strategies can be employed to impact the low self-efficacy levels that impede trainee performance. First, supervisors might target the trainee's self-schemata as it relates to learning and applying counseling skills and interventions. To this end, a supervisor might help the supervisee to: (a) monitor positive changes in ability to
execute counseling skills; (b) evaluate performance changes both objectively and subjectively; (c) remember and effectively use past successes and mastery experiences; and (d) align her "expectancies, anticipatory feelings, behaviors, objective consequences, and subsequent self-evaluations" (Goldfried & Robins, 1982, p. 361).

A second supervisory strategy to increase low trainee self-efficacy levels involves generating greater effort and motivation by increasing learning and task challenge. A supervisor might increase the difficulty of the training experience for the underwhelmed or bored beginning counselor in several ways. One strategy might target low trainee performance standards, thereby guiding this type of supervisee to embrace more challenging micro and macro goals for her clinical work. Specifically, a supervisor might highlight the difference between counselor internal standards for performance accomplishments and her actual performance during counseling sessions. The supervisor might then encourage the trainee to set her sights higher in terms of what is a "good enough" execution of an intervention by modeling complex skills in role plays with the supervisee portraying her client, and by inviting the supervisee to examine the true complexity of the counseling enterprise with materials illustrating expert therapists working with difficult clients.

Finally, another supervisory strategy for increasing low
trainee self-efficacy levels involves cultivating a facilitative or "healthy" dose of counselor negative affectivity, perhaps best defined as self-reflective thought flavored with appropriate worry, intensity and mild pessimism. Social cognitive theory posits that some trainee anxiety or visceral arousal can spur greater effort, which is often rewarded with greater success, and thereby greater self-efficacy. Thus, helping the supervisee who is not prone to self reflection or self-criticism become dissatisfied with substandard skills and more concerned about her role as a counselor may enhance self-efficacy levels and growth. To this end, a supervisor might emphasize the weighty ethical and legal responsibilities in counseling, introduce a difficult client into the trainee's caseload, focus on aspects of trainee countertransference that emerge in the supervisory relationship or with clients, and recommend individual or group therapy to stimulate trainee curiosity and interest in her inner life.

"Too Taut" Trainees

Supervisees who are overly anxious and self-critical illustrate the "too taut" end of the trainee continuum. While their counseling self-estimates are higher than those of their "too loose" counterparts, their efficacy is adversely impacted over time. Supervisors could target elements of training challenge and trainee anxiety to ameliorate these deleterious effects.
Supervisors might "grade down" the training experience in terms of task challenge by: (a) helping the trainee to build a caseload of manageable clients; (b) simplifying the counseling endeavor into several heuristics that the supervisee can implement successfully, e.g., "when in doubt, reflect client feelings"; and (c) using the cognitive strategies outlined by Goldfried & Robins (1982) to modify and ease the stridency of inappropriately high internal performance standards. In addition, supervisees above the mean in terms of challenge and negative affectivity will likely need to address their high levels of emotional arousal and anxiety driven tendencies to ruminate.

Supervisors might target trainee anxiety directly in supervision sessions by teaching her how to do muscle relaxation and other stress management strategies, visualization exercises in which the counselor successfully and calmly executes desired behaviors, and positive self-talk. These beginning trainees are especially receptive to learning specific, new counseling techniques and will likely respond well to supervision interventions that link counselor learning to client benefits.

**Future Research Needs**

The challenge conditional HLM model explained 36.13% of the variance among counselor trainee self-efficacy levels and 22.54% of the variance in their growth rates at midsemester. While these numbers are gratifying in one
sense, in another they point to the need for further investigation of the counselor trainee self-efficacy developmental process. The need in future research for more focused measures of efficacy information sources has been addressed, especially in terms of performance accomplishments, and modeling and verbal persuasion. In addition, two avenues of investigation would be particularly useful in further explicating the self-efficacy construct as it relates to the counselor trainee: (a) refined assessment of the relationships among the efficacy information sources as they impact counselor self-estimates, and (b) incorporation of trainee performance into future research designs that address social cognitive theory more completely. Finally, future research could be built on this work, acknowledging the limits of its generalizability in terms of a predominantly female sample of beginning trainees.

Refined Assessment of Information Sources

Two areas warrant attention in future assessment of the influence of efficacy information sources: (a) the cognitive equations that trainees develop and use in their construction and maintenance of counseling self-efficacy beliefs, and (b) the bi-directional influence between self-efficacy beliefs and the sources of efficacy information.

Cognitive equations. Bandura (1986) suggested that individuals create self-efficacy cognitive equations by
weighting the different sources of efficacy information differently. He does not elaborate on what form such an equation might take, noting only that "there has been little research on how people process multidimensional efficacy information" (Bandura, 1986, p. 409). However, there are theoretical reasons to assume that individual differences, differing learning or task circumstances, and different phases of the self-efficacy development cycle would impact the cognitive weights that trainees assigned to efficacy information sources. In addition to securing their counseling self-estimates, future research might devise ways for supervisees to rank the importance of the four different information sources and to describe their reasoning for the rankings. Or, rather than ranking, trainees could assign an importance or salience score to each information source. In other words, to gain a clearer sense of trainees' understanding of their cognitive processing strategies, as well as the dimensions they use to evaluate and monitor their counseling skills, future research might employ more qualitative techniques, e.g., asking trainees to describe what impacts their counseling self-estimates and how these influences operate.

**Bi-directional influence.** Bi-directional influence between self-efficacy and the predictors was not examined in this study, although Bandura (1986) implicitly and explicitly stated that such relationships exist, e.g.,
"perceptions of self-efficacy affect emotional reactions as well as behavior" (p. 439). The question for researchers and supervisors may not be which comes first, lower levels of perceived trainee self-efficacy or lower levels of perceived counseling challenge; but, how do the two constructs mutually influence each other?

An analysis of the constructs' mutual influence might be especially enlightening in regard to the significant main effects for challenge and negative affectivity, as they relate to low levels of these constructs. For example, in addition to asking the question, how does low clinical challenge hinder level of trainee self-efficacy, one could also ask, how do lower self-efficacy beliefs impact the perceived challenge of the counseling learning experience? Is it possible that low levels of self-efficacy precipitate an "I don't care" trainee response that negatively impacts perceived challenge? Similarly, one could also ask, how do lower self-efficacy beliefs affect trainee introspection and openness to new learning? Could low self-efficacy levels engender trainee defensiveness that causes them to "shut down" and capitulate with, "I give up. It's hopeless"? Some of these bi-directional relationships may have greater strength in one direction or the other. Answers to these questions may give supervisors more guidance and options in designing intervention strategies for the understimulated and unmotivated supervisee who, without help, will maintain
their low counseling confidence levels and likely low levels of performance.

Untested Aspect of the Theory: Trainee Performance

This work focused its' research lens on trainee self-perceptions in self-efficacy development. The next step in investigating this construct would be to compare trainee perceptions with actual counseling performance. Future research linking prediction of self-efficacy from both efficacy information sources and actual counseling performance could further the present findings by addressing the issue of accuracy in trainee self-perceptions. From the present data, one cannot determine the dynamics underlying low self-efficacy levels: Are trainee low self-efficacy levels related more to inadequate counseling skills or to counselor misappraisals of adequate capabilities? In the same vein, without actual performance data, it is not possible to ascertain dynamics underlying self-efficacy growth trends: Are decreasing levels of self-efficacy an accurate "correction" of trainee self-perceptions that better match the reality or their skills? Or, are trainee skills adequate for their developmental level, with decreasing growth rates reflecting a demoralizing mismatch between present capabilities and strident internal performance standards?

While assessing trainee performance would further explicate the present findings, measuring performance
presents a somewhat thorny problem in terms of supervisors' evaluations of counselor trainees. Borders & Fong (1992) found that supervisors' evaluations of their supervisees' skills and capacities can be highly subjective and are "contaminated" by events within supervision and by the supervisory relationship itself. Research incorporating performance evaluations must address the question of accuracy, e.g., who is the "best judge" of a trainee's performance— the trainee, the individual supervisor, an external judge, or the client? Conflicting findings exist about this aspect. Second year practicum students in Border & Fong's (1992) work received significantly lower supervisor ratings of their counseling skills than their first year practicum cohorts or predoctoral interns. However, ratings by external judges' of these same students' work did not reflect this negative evaluation trend. As would be more expected, external judges' performance ratings of the three groups increased according to experience levels. True performance assessments would also require client outcome and satisfaction data; however, to do this raises yet another thorny issue, replete with possible contaminants and the many complications inherent in psychotherapy outcome research. Nonetheless, an argument for including client response, and supervisee conjecture about client response, is found in Hale & Stoltenberg's (1988) study in which undergraduate students posing as counselors with a
confederate client reported concerns about client evaluation of their counseling skills; this concern was strong enough for the researchers to label it client "evaluation apprehension".

**Limits of Generalization**

The generalization of the present findings to all "typical counselor trainees" is limited by the predominantly female sample and by the beginning level of the counselors.

**Role of counselor sex.** Researchers who do not wish to use undergraduate psychology students in analogue studies to examine counselor development must use the "real" samples available to them. As with this study, it is not uncommon for samples of trainees to be predominantly female (e.g., Borders & Fong, 1992; Sharpley & Ridgway, 1993; and Jackson, 1993). While Larson et al. (1992) found no sex differences in counselor self-estimates in their scale development sample of prepracticum students, there were large disparities between numbers of female and male participants in their work as well: of the 213 participants, 159 were female, 53 were males, and one person did not indicate their sex. Unfortunately, in the present research, the large disparity in numbers of female and male supervisees precluded any statistical analyses by sex since any sex differences would likely have been an artifact of discrepant cell numbers. Thus, Larson et al.'s (1992) scale development sample and the present sample may be biased in
terms of sex. The present results cannot be assumed to represent male trainee self-efficacy development as accurately as they represent that of their female peers, therefore caution should be taken when applying these findings to men.

Role of beginning status. This work examined the self-efficacy development of beginning counselors and thus cannot be generalized to trainees at other levels of graduate and professional training. However, evidence suggests that counselors struggle with counseling self-efficacy at different points across their vocational life span (Skovolt & Ronnestad, 1993). For example, in the field of occupational therapy, Bush, Powell & Herzberg (1993) examined the self-efficacy of beginning professionals encountering the challenges of their first post-graduate employment. These authors cited, "decreased self-confidence in professional abilities" as a formidable challenge for newly graduated occupational therapists (Bush et al., 1993, p. 929). Future research might address the process of self-efficacy development in more experienced counselors as they learn new therapeutic techniques, experience personal crises and circumstances that impact their clinical work, counsel especially difficult clients, or supervise challenging supervisees. Assessments of self-efficacy across the vocational life span would require measures that tapped more advanced counseling skills and issues; at present, there are
few such measures (H. Roehlke, personal communication, Spring, 1993). The merit in such research would be to further the identification of counselor growth and developmental patterns as they relate to social cognitive theory.

Given that all research is flawed in some way, Heppner, Kivlighan & Wampold (1992) advise researchers to conduct investigations in a serial, rather than an isolated, fashion by devising related studies that can "successively extend our knowledge bases along a particular line of research on a particular topic" (p. 75). In this spirit, the present study built on Larson et al.'s (1992) work with counselor self-efficacy development by responding to their suggestion that "researchers... need to ascertain how informational sources of self-efficacy are related and how they affect counseling self-efficacy" (p. 118). The present study makes the following contributions to, or confirmations of, prior knowledge: (a) beginning trainees can be distinguished by their level of counseling confidence over time since some are confident in their clinical skills, and tend to remain so, while others exhibit an enduring lack of counseling confidence; (b) whether reporting high or low counseling confidence, trainees exhibit weekly shifts in counseling self-efficacy that are likely related to the fragility of new beliefs and trainee dependence on external sources for performance evaluation and validation of success; (c) the
degree of clinical challenge is a potent and complex predictor of counseling self-efficacy with opposing effects on self-efficacy level and growth; at high levels, challenge positively impacts trainee self-efficacy level but exerts a negative influence on self-efficacy growth; (d) while anxiety is a much maligned efficacy information source, this work suggests that there may be positive effects of anxiety in that introspection, mild pessimism, and sensitivity to internal and external affective stimuli seem to play a facilitative role in trainee self-efficacy levels; this finding also supports other theorists' conceptualization of the beginning trainee's developmental learning stance (Skovolt & Ronnestad, 1993); and (e) in combination, learning challenge and trainee negative affectivity effect levels, but not growth, of self-efficacy; these findings offer preliminary information regarding interaction effects between efficacy information sources for this population.
APPENDIX A

CONSENT FOR PARTICIPATION
CONSENT FOR PARTICIPATION

There are no significant risks associated with project procedures. There are, however, potential benefits, including an opportunity to monitor and think about your own development as a counselor and the receipt of a summary of final results (if requested). These benefits outweigh risks, which are negligible at most. If you wish to receive a summary of research results, please write your name and mailing address below.

CONSENT:

*I have been given an opportunity to ask questions about this study; answers to such questions (if any) have been satisfactory.

*The information in the study records will be kept confidential and will be made available only to persons conducting the study unless I specifically give my permission in writing to do otherwise. If the results of the study are published, I will not be identified.

*If I have questions regarding the study, the investigator, Becky De Graaf, can be reached at (314)449-2501.

*In consideration of all of the above, I give my consent to participate in this research study. I understand that my participation is completely voluntary and that I may withdraw from the study without fear of reprisal, including jeopardy to my practicum grade.

Please sign below, seal the consent in the provided envelope, and return to your practicum assistant or instructor.

Participant's Signature:

_________________________________________, Date:

Investigator's Signature:

_________________________________________, Date:

Mailing Address for Summary of Results:
BACKGROUND QUESTIONNAIRE

1. University: ________________________________
   Course Number/Title: ________________________

2. Age: ______

3. Sex: ______ Female, ______ Male

4. Ethnicity (please check one):
   ______ African American
   ______ Asian Indian
   ______ Asian/Pacific Islander
   ______ Caucasian
   ______ Hispanic
   ______ Native American
   ______ Other (please specify): __________________________

5. Prior clinical experience: ________ months (or ______ years)

6. Number of prior practice: ________ semester(s)

7. Practicum Site (please check one):
   ______ Counseling Center
   ______ Community Mental Health Center
   ______ Hospital
   ______ School
   ______ Other (please specify): __________________________

8. Average number of hours on site per week: ______

9. Primary Supervisor's approximate number of years since Ph.D.: ______

10. Supervisor's Primary Placement (please check one):
    ______ Counseling Center
        ______ Community Mental Health Center
        ______ Hospital
        ______ Private Practice
        ______ School

11. Is your supervisor a licensed psychologist (Clinical or Counseling)?
    ______ Yes, ______ No
APPENDIX C

COUNSELOR SELF-ESTIMATE INVENTORY (COSI)
COSI

Directions: Following are a number of statements that attempt to measure how counselors in training feel they will behave as counselors in counseling situations. Please respond to the items as honestly as you can so as to most accurately portray how you think you will behave as a counselor. Do not respond with how you wish you could perform each item, rather answer in a way that reflects your actual estimate of how you will perform as a counselor at the present time. Circle the number that best fits for each statement and please do not leave any unanswered.

Please Circle a Number for Each Statement Using the Following Scale:

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Slightly Agree</th>
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1. When using responses like reflection of feeling, active listening, clarification, probing, I am confident I will be concise and to the point. 1 2 3 4 5 6

2. When I initiate the end of a session I am positive it will be in a manner that is not abrupt or brusque and that I will end the session on time. 1 2 3 4 5 6

3. I am likely to impose my values on the client during the interview. 1 2 3 4 5 6

4. I am certain that my interpretation and confrontation responses will be concise and to the point. 1 2 3 4 5 6

5. I am confident that I will respond appropriately to the client in view of what the client will express (e.g., my questions will be meaningful and not concerned with trivial and minutiae). 1 2 3 4 5 6

6. I am worried that the wording of my responses like reflection of feeling, clarification, and probing may be confusing and hard to understand. 1 2 3 4 5 6

7. I feel that I will not be able to respond to the client in a non-judgmental way with respect to the client's values, beliefs, etc. 1 2 3 4 5 6

8. I feel I will respond to the client in an appropriate length of time (neither interrupting the client or waiting too long to respond). 1 2 3 4 5 6

9. I am worried that the type of responses I use at a particular time, i.e., reflection of feeling, interpretation, etc., may not be the appropriate response. 1 2 3 4 5 6

10. I am sure that the content of my responses, i.e., reflection of feeling, clarification, and probing, will be consistent with and not discrepant from what the client is saying. 1 2 3 4 5 6

11. I feel confident that I will appear competent and earn the respect of my client. 1 2 3 4 5 6
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<th>Strongly Disagree</th>
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12. I am confident that my interpretation and confrontation responses will be effective in that they will be validated by the client's immediate response. 1 2 3 4 5 6

13. I feel confident that I have resolved conflicts in my personal life so that they will not interfere with my counseling abilities. 1 2 3 4 5 6

14. I feel that the content of my interpretation and confrontation responses will be consistent with and not discrepant from what the client is saying. 1 2 3 4 5 6

15. I feel that I have enough fundamental knowledge to do effective counseling. 1 2 3 4 5 6

16. I may not be able to maintain the intensity or energy level needed to produce client confidence and active participation. 1 2 3 4 5 6

17. I am confident that the wording of my interpretation and confrontation responses will be clear and easy to understand. 1 2 3 4 5 6

18. I am not sure that in a counseling relationship I will express myself in a way that is natural without deliberating over every response or action. 1 2 3 4 5 6

19. I am afraid that I may not understand and properly determine probable meanings of the client's non-verbal behaviors. 1 2 3 4 5 6

20. I am confident that I will know when to use open or closed ended probes, and that those probes will reflect the concerns of the client and not be trivial. 1 2 3 4 5 6

21. My assessments of client problems may not be as accurate as I would like them to be. 1 2 3 4 5 6

22. I am uncertain as to whether I will be able to appropriately confront and challenge my client in therapy. 1 2 3 4 5 6

23. When giving responses, i.e., reflection of feeling, active listening, clarification, probing, I am afraid that they may not be effective in that they won't be validated by the client's immediate response. 1 2 3 4 5 6

24. I do not feel I possess a large enough repertoire of techniques to deal with the different problems my client may present. 1 2 3 4 5 6

25. I feel competent regarding my abilities to deal with crisis situations which may arise during the counseling sessions—e.g., suicide, alcoholism, abuse, etc. 1 2 3 4 5 6
26. I am uncomfortable about dealing with clients who appear unmotivated to work toward mutually determined goals.

27. I may have difficulty dealing with clients who do not verbalize their thoughts during the counseling session.

28. I am unsure as to how to deal with clients who appear non-committal and indecisive.

29. When working with ethnic minority clients I am confident that I will be able to bridge cultural differences in the counseling process.

30. I will be an effective counselor with clients of a different social class.

31. I am worried that my interpretation and confrontation responses may not over time assist the client to be more specific in defining and clarifying the problem.

32. I am confident that I will be able to conceptualize my client's problems.

33. I am unsure as to how I will lead my client toward the development and selection of concrete goals to work toward.

34. I am confident that I can assess my client's readiness and commitment to change.

35. I feel I may give advice.

36. In working with culturally different clients I may have a difficult time viewing situations from their perspective.

37. I am afraid that I may not be able to effectively relate to someone of lower socioeconomic status than me.
APPENDIX D

STOKES & LEVIN NEGATIVE AFFECTIVITY MEASURE (NA)
Directions: Following are a number of statements that reflect ways individuals can experience themselves and the world. Please indicate the extent to which you agree with each statement. Circle the number that best fits for each statement and to not leave any unanswered.

Please circle a number for each statement using the following scale:

<table>
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<tr>
<th>Disagree</th>
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<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

1. After an embarrassing experience I worry about it for days.
2. I know that things will continually improve in my life.
3. I feel that I have a great deal to be proud of.
4. I often feel restless and jittery for no apparent reason.
5. Things rarely work out the way I want them to.
6. I am not as well liked as most other people.
7. Every day seems exciting, new, and different.
8. My feelings are more easily hurt than most other people.
9. I can easily concentrate on things for as long as I like.
10. Whenever someone criticizes me I think about it for days.
11. I am hopeful and optimistic about the future.
12. When things go wrong I blame myself.
13. I rarely lose sleep over worrying about something.
14. I am a person of worth, at least as good as other people.
15. I always expect the worst to happen.
16. I am more content and happy than most other people.
17. Happy endings only occur in the movies and in fairy tales.
18. I am not as self-confident as most other people.
19. When I meet people for the first time I am tense and uptight.
20. If I could live my life over I would do many things differently.
21. The future seems rather bleak and unpromising.
APPENDIX E

PANAS QUESTIONNAIRE
PANAS QUESTIONNAIRE

This questionnaire consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you generally feel this way. Use the following scale to record your answers.

1  Very slightly or not at all  2  a little  3  moderately  4  quite a bit  5  extremely

_________ interested  _________ irritable
_________ distressed  _________ alert
_________ excited  _________ ashamed
_________ upset  _________ inspired
_________ strong  _________ nervous
_________ guilty  _________ determined
_________ scared  _________ attentive
_________ hostile  _________ jittery
_________ enthusiastic  _________ active
_________ proud  _________ afraid
APPENDIX F

PAR PERMISSION LETTER
October 24, 1995

Becky De Graaf
212 S. Garth, B
Columbia, MO 65203

Dear Ms. De Graaf:

In response to your recent request, permission is hereby granted to you to reproduce the Neuroticism Scale items from the NEO PI-R in the appendix of your dissertation entitled "Counselor Self-Efficacy Development: An Examination Over Time of the Influence of Trainee Exposure to Clients, Negative Affectivity and the Supervisory Alliance".

This Agreement is subject to the following restrictions:

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[Signature]

R. BOB SMITH, M.I., Ph.D.
President

RBS/bv

ACCEPTED AND AGREED:

[Signature]

BECKY DE GRAAF

DATE: __/__/95

NO LONGER INTERESTED: INITIAL HERE _____, AND RETURN UNSIGNED AGREEMENT.
APPENDIX G

NEO-PI-R NEUROTICISM SCALE
Please read each item carefully and circle the one answer that best corresponds to your agreement or disagreement.

Circle "SD" if the statement is definitely false or if you strongly disagree.

Circle "D" if the statement is mostly false or if you disagree.

Circle "N" if the statement is about equally true or false, if you cannot decide, or if you are neutral on the statement.

Circle "A" if the statement is mostly true or if you agree.

Circle "SA" if the statement is definitely true or if you strongly agree.

There are no right or wrong answers. Describe yourself honestly and state your opinions as accurately as possible. Please answer every item.

1. I am not a worrier.
2. I often get angry at the way people treat me.
3. I rarely feel lonely or blue.
4. In dealing with other people, I always dread making a social blunder.
5. I rarely overindulge in anything.
6. I often feel helpless and want someone else to solve my problems.
7. I am easily frightened.
8. I'm an even-tempered person.
9. Sometimes I feel completely worthless.
10. I seldom feel self-conscious when I'm around other people.
11. I have trouble resisting my cravings.

12. I feel I am capable of coping with most of my problems.

13. I rarely feel fearful or anxious.

14. I am known as hot-blooded and quick-tempered.

15. I am seldom sad or depressed.

16. At times I have been so ashamed I just wanted to hide.

17. I have little difficulty resisting temptation.

18. When I’m under a great deal of stress, sometimes I feel like I’m going to pieces.

19. I often feel tense and jittery.

20. I am not considered a touchy or temperamental person.

21. I have sometimes experienced a deep sense of guilt or sinfulness.

22. It doesn’t embarrass me too much if people ridicule and tease me.

23. When I am having my favorite foods, I tend to eat too much.

24. I keep a cool head in emergencies.

25. I’m seldom apprehensive about the future.

26. I often get disgusted with people I have to deal with.

27. I tend to blame myself when anything goes wrong.

28. I often feel inferior to others.

29. I seldom give in to my impulses.

30. It’s often hard for me to make up my mind.
31. I often worry about things that might go wrong.
32. It takes a lot to get me mad.
33. I have a low opinion of myself.
34. I feel comfortable in the presence of my bosses or other authorities.
35. I sometimes eat myself sick.
36. I can handle myself pretty well in a crisis.
37. I have fewer fears than most people.
38. At times I have felt bitter and resentful.
39. Sometimes things look pretty bleak and hopeless to me.
40. If I have said or done the wrong thing to someone, I can hardly bear to face them again.
41. Sometimes I do things on impulse that I later regret.
42. When everything seems to be going wrong, I can still make good decisions.
43. Frightening thoughts sometimes come into my head.
44. Even minor annoyances can be frustrating to me.
45. Too often, when things go wrong, I get discouraged and feel like giving up.
46. When people I know do foolish things, I get embarrassed for them.
47. I am always able to keep my feelings under control.
48. I'm pretty stable emotionally.
APPENDIX H

SUPERVISORY WORKING ALLIANCE INVENTORY
**SWAI**

*Directions:* Following are a number of statements that reflect various activities that can occur in supervision. Please indicate the extent to which the activity in each statement is characteristic of your supervisor in supervision. Circle the number that best fits for each statement and to not leave any unanswered.

**Please Circle a Number for Each Statement Using the Following Scale:**

<table>
<thead>
<tr>
<th>Almost Never</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

1. I feel comfortable working with my supervisor. 1 2 3 4 5 6 7
2. My supervisor welcomes my explanations about the client's behavior. 1 2 3 4 5 6 7
3. My supervisor makes the effort to understand me. 1 2 3 4 5 6 7
4. My supervisor encourages me to talk about my work with clients in ways that are comfortable for me. 1 2 3 4 5 6 7
5. My supervisor is tactful when commenting about my performance. 1 2 3 4 5 6 7
6. My supervisor encourages me to formulate my own interventions with the client. 1 2 3 4 5 6 7
7. My supervisor helps me talk freely our sessions. 1 2 3 4 5 6 7
8. My supervisor stays in tune with me during supervision. 1 2 3 4 5 6 7
9. I understand client behavior and treatment technique similar to the way my supervisor does. 1 2 3 4 5 6 7
10. I feel free to mention to my supervisor any troublesome feelings I might have about him/her. 1 2 3 4 5 6 7
11. My supervisor treats me like a colleague in our supervisory sessions. 1 2 3 4 5 6 7
12. In supervision, I am more curious than anxious when discussing my difficulties with clients. 1 2 3 4 5 6 7
13. In supervision, my supervisor places a high priority on our understanding the client's perspective. 1 2 3 4 5 6 7
14. My supervisor encourages me to take time to understand what the client is saying and doing. 1 2 3 4 5 6 7
15. My supervisor's style is to carefully and systematically consider the material I bring to supervision. 1 2 3 4 5 6 7
16. When correcting my errors with a client, my supervisor offers alternative ways of intervening with that client. 1 2 3 4 5 6 7
17. My supervisor helps me work within a specific treatment plan with my clients. 1 2 3 4 5 6 7
18. My supervisor helps me stay on track during our meetings. 1 2 3 4 5 6 7
19. I work with my supervisor on specific goals in the supervisory sessions. 1 2 3 4 5 6 7
CLINICAL SUMMARY SHEET FOR PRACTICUM

1. Please provide the following totals of the number of clients seen and number of counseling sessions during THIS semester of practicum:

_____ Total number of clients seen at least once
_____ Total number of counseling sessions

2. Please rate the overall quality of your experiences with clients during THIS practicum semester on the following scales. Please place a check mark on the segment of each scale that best fits your experience.

EXPERIENCE WITH CLIENTS

simple
stimulating
difficult
demanding
exciting
compelling
challenging
straight-forward

complicated
dull
facile
effortless
tedious
inspiring
easy
complex
REFERENCES


Journal of Counseling Psychology, 39, 105-120.


Worthington, E., Jr., & Roehlke, H. (1979). Effective supervision as perceived by beginning counselors in
The author, Rebecca De Graaf, was born in Grand Rapids, Michigan.

In September, 1981, Ms. De Graaf entered Miami University of Ohio, receiving the degree of Bachelor of Arts in psychology and political science. In 1985, while attending Miami University, she was elected a member of Phi Beta Kappa.

In September, 1987, Ms. De Graaf was granted a graduate fellowship in the Applied Social Psychology program of the Indiana University-Purdue University at Indianapolis. The fellowship enabled her to complete the Masters of Science in 1989.

In September, 1989, Ms. De Graaf entered the doctoral program in Counseling Psychology at Loyola University Chicago. She was awarded a teaching fellowship during her tenure there, prior to entering the predoctoral internship program at the University of Missouri-Columbia Counseling Center. Ms. De Graaf graduated with the degree of Doctor of Philosophy in May, 1996.
The dissertation submitted by Rebecca De Graaf has been read and approved by the following committee:

Dr. Steven Brown, Director  
Associate Professor  
Loyola University Chicago  

Dr. Jack Kavanagh  
Associate Professor  
Loyola University Chicago  

Dr. Dennis Kivlighan  
Associate Professor  
University of Missouri-Columbia  

The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of doctor of philosophy.

Date: 8/1/96  
Director's Signature: 