

THE COUNSELING TRAINING ENVIRONMENT SCALE (CTES):
DEVELOPMENT OF A SELF-REPORT MEASURE TO ASSESS COUNSELING
TRAINING ENVIRONMENT

by

Jared Miki Jun Kong Lau

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Approved by:

Dr. Kok-Mun Ng

Dr. Peggy Ceballos

Dr. Henry Harris

Dr. Claudia Flowers

Dr. Jonathan Crane

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ABSTRACT

JARED MIKI JUN KONG LAU. The Counseling Training Environment Scale (CTES): development of a self-report measure to assess counseling training environment. (Under the direction of DR. KOK-MUN NG)

Based on Bronfenbrenner's (1979, 1992) ecological framework, the Counseling Training Environment Scale (CTES) was developed as a self-report measure that assesses the learning and training environment of counseling and related mental health training programs as perceived by current students.

A two-phase mixed-methods design was used to create and psychometrically evaluate the CTES: (a) item development, and (b) assessment of the outcomes to examine for preliminary evidence of validity and reliability. The results of the item development and content validation process yielded 128 items, of which 34 were used for the final intact version of the CTES. A confirmatory factor analysis (CFA) was conducted on four models of the CTES: (a) 34-item single-factor model, (b) 34-item five-factor model, (c) 26-item modified five-factor model, and (d) 24-item modified single-factor model. Results of the CFA suggest that despite not conforming to the hypothesized model of Bronfenbrenner's (1979, 1992) ecological theory, the data gathered from the modified 24-item single-factor CTES demonstrated the best fit on the following fit indices: NNFI (.95), CFI (.96), SRMR (.04), and RMSEA (.04). The modified 24-item CTES was also found to demonstrate strong reliability and temporal stability as demonstrated through Classical Test Theory analyses ($\alpha = .92$) and test-retest reliability ($r = .90, p < .01$, two-tailed).

DEDICATION

To my grandpa Mikio “Mike” Takahashi (1916-2003), who showed me from an early age the true power of love, acceptance, forgiveness, genuineness, patience, honor, and unconditional positive regard. *Go for broke!*

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CHAPTER 1: INTRODUCTION

As early as the late 1960s considerable interest has been shown domestically and internationally in the conceptualization, measurement, and investigation of perceptions of psychosocial characteristics of the learning environment (Fraser & Treagust, 1986). Research assessing learning environments has grown exponentially to include both qualitative and quantitative methods of assessment and has served as sources of both independent and dependent variables in various studies (Fraser, 1998a). However, the research has been historically limited to primary and secondary school environments (Fraser, 1998a; Fraser & Treagust, 1986; Langenbach & Aagaard, 1990). Post-secondary or adult learning environments have not received adequate attention. Developmentally, the characteristics of adult learning environments are much different from those of children and adolescents; for example, adult learners are normally expected to have more independent work and integrate their life experience into their learning (Knowles, 1984).

The differences between adult learning environments and child learning environments appear to be particularly salient when considering developmental psychology theories such as Erikson's (1982) psychosocial development theory and Bronfenbrenner's (1979, 1992) ecological theory. Erikson's theory differentiates between developmental and learning stages of children and adults and states that adults experience unique stages that are not otherwise experienced by children.

Bronfenbrenner's theory expands this concept as he saw learning as a function of social interaction, thus suggesting that when compared to children, adults have much more complex social systems in place because they have experienced more diverse social interactions through the lifespan compared to children.

According to Papp, Markkanen, and Bonsdorff (2003), learning environments are diverse and consist of many elements. Astin (1993) contends that college student learning is impacted by many forces including academic, personal, social, and environmental variables; and thus, the domain of adult learning is diverse and encompasses adult learners at various training levels. Adult student learners and their training levels include technical and associate's degree student learners, baccalaureate undergraduate student learners, and graduate and professional degree student learners. As various training levels exist within the adult learning domain, the relevance and need for assessment instruments specific to the adult learning environment is warranted as adult learning is itself a separate and differentiated domain of learning when compared to primary and secondary student learning.

Studying the adult learning environment is important as learning environment research has historically been associated with predicting and improving student learning outcomes (Walker & Fraser, 2005). For example, Vermeulen and Schmidt (2008) found that high quality academic adult learning environments significantly contributed to the learning process and academic outcome of college graduates, which ultimately led to higher levels of career success. Unfortunately, studies that assess the adult learning environment are limited in both quantity and applicability to diverse disciplines of study.

A recent literature search using various databases including Google Scholar, the Mental Measurement Yearbook (MMY), PsycINFO, Academic Search Premier, ERIC, PsychARTICLES, Education Research Complete, Educational Administration Abstracts, Health and Psychosocial Instruments, and ProQuest Dissertation and Theses Online, revealed that there were significantly less studies that assessed the adult learning environment as compared to those that assessed primary and secondary student learning environments. The literature was also void of studies that assessed graduate level counselor training environments. In addition, previous studies that attempted to assess adult learning environments have focused almost exclusively on the classroom learning environment, thus limiting the body of knowledge on learning environment to only the classroom. For example, the Adult Classroom Environment Scale (ACES; Darkenwald & Valentine, 1986), the College and University Classroom Environment Inventory (CUCEI; Fraser & Treagust, 1986), and the College Classroom Environment Scale (CCES; Winston et al., 1994), three of the more widely referenced and utilized assessment instruments for adult learning environments, are designed to specifically measure the individual classroom learning environment of college classrooms. These assessments were also designed and normed specifically on adult undergraduate learners.

Conversely, assessments focusing on graduate adult learners have not utilized a comprehensive framework for assessing learning environments. For example, though the Research Training Environment Scale-Revised (RTES-R; Gelso, Mallinckrodt, & Judge, 1996) measures the research training environment of doctoral level counseling psychologists, it does not assess aspects of learning beyond the research environment of counseling psychologists (e.g., classroom, clinical, or supervision settings). The Medical

School Learning Environment Survey (MSLES; Marshall, 1978), one of the most cited and well-known learning environment assessment utilized by medical schools (Stewart, 2006), factors in classroom and student variables such as breadth of interest, student interaction, organization, flexibility, as well as psychosocial environmental variables such as meaningful experience, emotional climate, and nurturance. While the MSLES has been widely used with medical students for nearly three decades (Stewart, 2006), it cannot be used in other disciplines. As classroom training environments are unique reflections of their varied disciplines and fields of study (Astin, 1965), there is a need to develop a measure to facilitate the assessment of specific graduate and professional training environments that is based on a comprehensive framework that considers the various domains of adult learning environment. Unfortunately, to date, no such measure exists that focuses on the learning and training environments of counseling and related mental health training programs.

Statement of The Problem

Though the field of learning environment research has been steadily growing over the past few decades, the research has been primarily confined to the primary and secondary educational levels and has paid limited attention to adult learning environments. Furthermore, existing instruments that assess adult learning environments tend to be adapted from their primary and secondary learning environment counterparts and lack a comprehensive theory-based design that takes into consideration the uniqueness of adult learners in comparison to child learners. To date, there are no assessments instruments designed to specifically measure the training environment in counseling and related mental health training programs.

Purpose of the Study

Given the uniqueness and discipline-specific nature of adult learning environment (Astin, 1965) and the lack of assessment instruments specific to counseling and related mental health training programs, the purpose of this study was to develop a self-report measure that assessed the learning and training environment of counseling and related mental health training programs. Specifically, based on Bronfenbrenner's (1979, 1992) ecological framework, this study developed and preliminarily validated items of the Counseling Training Environment Scale (CTES), a self-report measure that can be used to assess graduate students' perceptions of their training environment in graduate level counseling and related mental health training programs.

The development of the CTES is expected to contribute to counseling and related training as follows:

1. Provide faculties of counseling and related mental health training programs with a measure to assess students' perceptions of their training environment.
2. Assist programs in evaluating their current practices and training environment by identifying variables that contribute to the training environments as perceived by students.
3. Aid training programs in conducting systemic program evaluations to improve student satisfaction and training outcomes by using the instrument.

Research Questions

The research questions for this study were broken into two phases and were as follows:

Phase 1: Item Development

1. What items operationalize the domains of Bronfenbrenner's (1979, 1992) framework in assessing students' perceptions of their training environment in a counseling and related training program?
2. What is the evidence for content validity of the CTES?

Phase 2: Preliminary Evidence of Validity and Reliability of Outcomes

1. Do the data obtained from the CTES demonstrate a good fit with the five domains of Bronfenbrenner's (1979, 1992) ecological framework?
2. Do the scores of the CTES demonstrate adequate internal consistency and test-retest reliability?

Overview of Methodology

A mixed-method design was used in this study. Permission to conduct the study was sought by and granted to the researcher of the study from the University of North Carolina at Charlotte (UNCC) Institutional Review Board. Permission was also sought from all participants for each research question of this study via informed consent forms. A detailed explanation of the methodology is included in Chapter 3.

Delimitations and Limitations

This study was delimited by the following:

1. Participation was limited to those who reside in the United States and are fluent in the English language.

2. Participants needed access to the Internet and needed to be familiar with email and word processing software (e.g., MS Word).
3. Bronfenbrenner's (1979, 1992) ecological theory was the exclusive theory used in conceptualizing the learning and training environment.

The results and conclusions of this study should be considered within the context of the following limitations:

1. Participants used in the target group were volunteers from the lead researcher's home institution and academic program.
2. Participants in the retest were eligible to enter a drawing to win 1 of 5 amazon.com gift cards.
3. The results are limited to students' perceptions rather than observations of their training environment.

Assumptions

This dissertation study made the following assumptions:

1. The participant sample is representative of graduate students in counseling and related mental health programs such as psychology and marriage and family therapy.
2. Participants responded truthfully to the self-report measure.
3. Counseling and related mental health training environments can be measured using a self-report survey instrument.
4. Counseling and related mental health trainees are able to assess characteristics of a training environment.
5. Counseling and related mental health trainees' perceptions of their training environment serves as a tool for assessment, evaluation, and feedback in the ongoing

professional development of faculty members and administrators in counseling and related mental health training programs.

Definition of Key Terms

Counseling and Related Mental Health Training Programs

Also referred to as counselor training programs, counseling and related mental health programs are defined as graduate level programs in counseling/counselor education, clinical/counseling/school psychology, and marriage and family therapy. These programs include both accredited and non-accredited programs in their respective discipline (e.g., Council for Accreditation for Counseling and Related Educational Programs [CACREP], American Psychological Association [APA], and Council for Accreditation for Marriage and Family Therapy Education [COAMFTE]).

Instrument/Measure/Scale

The terms “instrument,” “measure,” and “scale” are used interchangeably throughout the literature and thus, are also used interchangeably in this study. DeVellis (1991) defines a scale as “the collections of items intended to reveal levels of theoretical variables, not readily observable by direct means” (p. 8).

Adult Learners/Adult Students

Adult learners and adult students are used interchangeably in the literature, and thus are also used interchangeably in this study. For the purposes of this study, adult learners and students are adults who are engaged in post-secondary academic training and degree programs (e.g., college/university student, graduate student, medical student, etc.).

Summary

This chapter introduced the problem, described the background and significance of the problem, and presented the research purpose and questions. This chapter also included an overview of the methodology, delimitations, limitations, and assumptions, and defined the key terms pertinent to the study.

Overview of Chapters

There are five chapters in this dissertation. Chapter 1 introduces the problem, describes the background and significance of the problem, presents the research purpose and questions, the delimitations, limitations, and assumptions of the study and defines key terms pertinent to the study. Chapter 2 is a review of the literature relevant to the purposes of the study. Literature in the areas of learning environment, adult learning environment, graduate student learning environment, and counseling and related mental health training programs within the context of adult learning and instrument development are reviewed. Chapter 3 offers a detailed description of the research design and methodology that was used to collect and analyze the data. Chapter 4 presents the results of the data gathered in in Chapter 3. And finally, Chapter 5 discusses the implications of the results found in Chapter 4 and offers recommendations for future studies.

CHAPTER 2: LITERATURE REVIEW

Since the 1960s, the field of learning environment research has experienced great growth in popularity as evidenced by the development of various assessment instruments designed to measure classroom and learning environment (Fraser, 1998a, 2002, 2003). This chapter provides a review of the literature relevant to learning environment research and also discusses the conceptual framework that will guide the proposed study. While the field of learning environment research is broad, this literature review will only cover aspects of the topic within the scope of the study. The review will begin with a general overview of learning environment and related research. Specific attention will be given to adult learning environments, graduate student learning environment, counseling training learning environment, and learning environment assessment. Implications of the findings of the review will be discussed in relation to counseling and related mental health training. Finally, an introductory section on scale development and a review of existing measures of adult learning environments is included.

Learning Environment

Since Bloom (1964) first pointed to measurements of educational environments as decisive components for predicting and improving learning manipulation, a new field of research emerged that focuses on demonstrating how students' perceptions of their educational environments can be measured with survey instruments and how learning

environment assessments are consistent predictors of student outcomes (Anderson & Walberg, 1974; Fraser, 1998b, 2002; Goh & Khine, 2002; Moos, 1979). As a result, a paradigm shift occurred where the focus of evaluation shifted away from individual student achievement and directed toward the effectiveness of the learning environment of the learning organization (Walberg, 1974; Walker & Fraser, 2005).

Learning Environment Defined

The term “learning environment” has been variedly defined in the literature. For example, Fraser (1998b) defined it as the “social, psychological and pedagogical contexts in which learning occurs and which affect student achievement and attitudes” (p. 3). Maudsley (2001) defined it as an environment that “embraces numerous factors that contribute to effective education and is the background in which the curriculum resides” (p. 432). As the concept of the educational environment is subject to many definitions (Mulrooney, 2005) and consisting of many elements (Papp et al., 2003), the learning environment footprint is broad and can include classroom, school, and out-of-school milieus such as the home, science centers, museums, and television (Fraser, 1998b).

Non-traditional forms of learning environments include information technology environments such as multimedia, Internet, and World Wide Web instructional settings (Fraser, 1998b). Traditional forms of learning environments include pre-primary, primary, high school, college, and university settings. The psychosocial significance of the physical environment (e.g., school architecture, classroom design) has also been deemed relevant to the field of learning environment research (Fraser, 1998b; Moos, 1979).

Overview of Learning Environment Research

Historically, learning environment research has been conducted to assess students' perceptions of their classroom environment (Fraser, 2002). Such investigative focus has become one of the hallmarks of learning environment research (Fraser, 2002), resulting in many studies on predicting and improving student-learning outcomes (Walker & Fraser, 2005). Moos's (1979) hope to enhance the learning experience for students by providing educational staffs with an evaluation of students' perspectives of their learning environment illustrates the underlying intent of learning environment research. Descriptions of existing measures and their applications to learning environment research will be addressed later in the literature review.

Growth of Learning Environment Research

Learning environment research is diverse and consists of many domains and elements, including various disciplines and specialties (Papp et al., 2003; Walker & Fraser, 2005). Given the various arenas of learning environments (e.g., classroom, school, online, etc.), the research specific to this area has naturally experienced large growth to include utilization of learning environment assessments overseas and beyond the Western milieu (Fraser, 1998a). For example, since Yoon (1993) pioneered the first study in Korea that assessed the psychosocial learning environment of science classrooms, additional studies on learning environments in Korean classrooms have emerged (e.g., Kim, Fisher, & Fraser, 1999, 2000). As a result, the field of learning environment research has since been considered one of the crucial core factors affecting curriculum implementation in Korea (Lee & Kim, 2002).

In the nearly 30 years since its birth, the field of learning environment research has experienced great growth (Goh & Khine, 2002). The field has gained recognition in numerous ways by the last decade of the 20th Century. For example, learning environment research occupied 1 of the 10 sections in the *International Handbook of Science Education* (Fraser & Tobin, 1998), 1 of 19 chapters in the *Handbook of Research on Science Teaching and Learning* (Fraser, 1994), and a section in the *International Encyclopedia of Teaching and Teacher Education* (Anderson, 1996). The establishment of the American Educational Research Association (AERA) Special Interest Group (SIG) on the Study of Learning Environments in 1984 and the subsequent first program at an AERA annual meeting in 1985 (Fraser, 1998b) are further examples of the growth in popularity and relevance of learning environment research. The growth and popularity of learning environment research had also prompted the birth of *Learning Environments Research: An International Journal (LER)*, a scholarly and peer-reviewed journal dedicated solely to the field (Fraser, 1998b).

Conceptual Models of Learning Environment

Gruber (1993) defines a conceptual model as an explicit specification of a conceptualization that defines the terminology of a particular domain. Thus, conceptual models are customizable to meet the needs of its creator, which suggests that there is no limit to the number of conceptual models that can be created. Similarly, while numerous conceptual models of learning environments exist, there is no one universally accepted model (Walberg, 1979).

Examples of differing conceptual models of learning environments include Walberg (1971) and Vygotsky (1978). Walberg conceptualizes classroom learning

environments as being just one component of the learning process. However, Vygotsky's social constructivist learning model emphasizes embedding active learning methods within an environment. In his model, discussions and interactions between learners as well as between the educator and learners help to transform the learning context into a learner-centered environment.

Given the various conceptual models of learning environment, this review will cover two models: (a) Moos's (1974c) conceptual model of social environment, and (b) Bronfenbrenner's (1979, 1992) ecological model. Moos's model is one of the earliest and most referenced model for conceptualizing social learning environments, yet there are some limitations. Though not as popular as Moos's model, Bronfenbrenner's model appears to address the limitations of Moos's model and offers an alternative and more holistic view of conceptualizing the learning environment. Furthermore, scholars have advocated for the use of Bronfenbrenner's model to inform curricular design and teaching practices in the counseling and related training fields (e.g., Heppner, Leong, & Gerstein, 2008; Neville & Mobley, 2001).

Moos's Model of Social Environment

Focusing on the social environment within the environmental system, Moos (1974c) identified three underlying domains of social environment that he believed to be present in all environments: (a) relationship dimensions, (b) personal development dimensions, and (c) system maintenance and system change dimensions. Moos identified these domains based on over 15 years of empirical observations of various social environments including hospital-based treatment programs, military companies, high school classrooms, and families. Moos believed that, at minimum, all three domains

must be assessed to provide an adequate and reasonably complete picture of any environment. Therefore, Moos believed that by identifying these dimensions in various social environments, one would be able to directly compare social environments against each other regardless of how different they are. One possible application of comparing social environments to each other would be to identify the reasons why an individual does very well in one environment but very poorly in another. For example, comparing a student's family environment to his or her college living environment.

Relationship dimensions. These dimensions are concerned with the nature and intensity of personal relationship within the environment (Moos, 1974c, 1979). The relationship dimensions assess the extent to which people are involved in the environment and the extent to which they support and help each other within the environment. Relationship dimensions also assess the "extent to which there is spontaneity and free and open expression among them" (Moos, 1974c, p. 11).

Personal development dimensions. Personal development dimensions assess the basic directions in which personal growth and self-enhancement tend to occur within the particular environment (Moos, 1974c, 1979). Among different social environments, these dimensions may look very different in nature depending on the underlying purposes and goals of the social environment. For example, the personal growth goal of students in a university residential group would likely be to increase independence, academic achievement, competitiveness, and intellectuality, whereas the personal development goals of a member in a military unit would be to advance personal status and rank (Moos, 1974).

System maintenance and system change dimensions. These dimensions assess the extent to which the environment is orderly, clear in its expectations, maintains control, and is responsive to change (Moos, 1974c, 1979). Examples of these dimensions include order and organization, clarity, control, and innovation. Moos (1974c) found that the system maintenance and system change dimensions were relatively similar across all environments. For example, clarity in a treatment program is similar to that in a high school classroom as well as a college classroom in that it measures the extent to which patients (and students) know what to expect in the day-to-day routine. However, some dimensions such as innovation are not always found in all environments. For example, due to the relatively little personal innovation allowed in the military, this dimension may be limited. Alternatively, some environments that are high in innovation are strongly linked to, and thus also assessed as high in, expressiveness and spontaneity from the relationship dimension (Moos, 1974c).

Evaluation of Moos's Model

Based on his model, Moos developed and empirically validated six social climate scales for six different social milieus in 1974. Moos (1987) later developed an additional three scales, and examples of scales developed include the Ward Atmosphere Scale (WAS; Moos, 1974d), the Military Company Environment Inventory (MCEI; Moos, 1974b), and the Family Environment Scale (FES; Moos, 1974a). Moos (1974c) credited the high number and demand for empirically validated scales to be a testament to the quality of his model, and to the importance of having a model flexible enough to be used across settings. Moos (1974c) categorized each of his scales as belonging to one of four

major categories of environments: (a) treatment environments, (b) total institutions, (c) educational environments, and (d) community settings.

While Moos (1979) posits that all social settings can be classified by one of the major environment categories and that each setting can be assessed and evaluated based on his three domains, some concerns remain regarding his model. First, Moos acknowledges that his three domains are neither complete nor exhaustive. He acknowledges the incompleteness of this work: “But these dimensions are not the only ones by which social environments can be categorized. Additional dimensions and/or other conceptual frameworks need to be developed” (p. 266).

Second, there is little coverage or understanding on the conceptualization of coping skills and strategies of individuals in various environmental settings. While *descriptions* exist on how people cope with different environments, there is little *understanding* of how people adapt and handle everyday demands and pressure (Moos, 1979).

Third, Moos’s (1974c) model appears to emphasize that the person-environment relationship is one-way. That is, the social environment typically influences the individual person, but rarely does the person influence the environment. Thus, there is a lack of attention given to the processes by which “environments and people exert their influence on each other” (Moos, 1979, p. 273). Bandura (1978) counters that personal, environmental, and behavioral factors should be conceptualized as operating in an interlocking process. Bandura further argues that isolating personal or environmental causes of behavior is problematic, and perhaps impossible.

Despite conceptual issues in Moos's (1974c) model, it remains popular among learning environment researchers. Moos's model has been utilized by numerous learning environment researchers as a foundation for developing learning environment assessment instruments (e.g., Darkenwald & Valentine, 1986; Fraser, Giddings, & McRobbie, 1992; Fraser & Treagust, 1986; Laugksch, Aldridge, & Fraser, 2007; Walker & Fraser, 2005). For instance, despite being over 30 years since Moos first published his model, coverage of Moos's domains is discussed as criteria in developing and categorizing scales and instrument items for both the School-Level Environment Questionnaire-South Africa (SLEQ-SA; Laugksch, Aldridge, & Fraser, 2007) and the Distance Education Learning Environments Survey (DE-LES; Walker & Fraser, 2005). Given the noticeable conceptual issues in Moos's model, it is unclear why researchers continue to base their work on his model. A more comprehensive model for understanding and measuring learning environment is needed.

Bronfenbrenner's Ecological Model

Bronfenbrenner's (1979) ecological model, while developed as a conceptual model to understanding human development, can also be conceptualized as a systemic framework for understanding social and learning environments. Bronfenbrenner identifies his subject of interest as the "developing person" (p. 21). Bronfenbrenner's model utilizes a systemic framework where "the ecological environment is conceived as a set of nested structures, each inside the next" (p. 3). As a result, all of the environments are interdependent and contribute to each other in some way. In developing his ecological approach, Bronfenbrenner proposed that the "properties of the person and of the environment, the structure of environment settings, and the processes taking place

within and between them must be viewed as interdependent and analyzed in systems terms” (p. 41). Thus, Bronfenbrenner’s model suggests that the learning environment is made of multiple systems and sub-systems interacting with each other and contributing to the overall learning environment of the student.

Bronfenbrenner’s (1979) model is similar to Moos’s (1974c; 1979) model in that it acknowledges that different social systems exist in an individual’s life. However, Bronfenbrenner believes that environments should not be distinguished by reference to linear variables, but rather analyzed in terms of systems. In other words, Bronfenbrenner and Moos differ in that Moos identifies common underlying social dimension patterns across various social environments of an individual, whereas Bronfenbrenner believes that an individual’s total environment consists of multiple environmental subsystems that are interrelated to each other which exert a cumulative effect on an individual. This concept appears to be a major contrast to Moos’s (1974c) model and serves as an important piece in conceptualizing Bronfenbrenner’s (1979) model for use in evaluating learning environments. Bronfenbrenner labels the environmental subsystems as the: (a) microsystem, (b) mesosystem, (c) exosystem, and (d) macrosystem. Bronfenbrenner (1992) later added a fifth environmental subsystem, the chronosystem.

Microsystem. Bronfenbrenner (1979) defines the microsystem as a “pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting with particular physical and material characteristics” (p. 22). The microsystem consists of the immediate settings of the individual including the interpersonal relations and settings in which an individual lives (Heppner et al., 2008). Bronfenbrenner defines a setting as “a place where people can readily engage in face-to-

face interaction” (p. 22) that includes the home, family, peers, school, workplace, the neighborhood, and so forth.

Recognizing that individuals participate in various settings, Bronfenbrenner (1979) believes that development is “enhanced as a direct function of the number of structurally different settings in which the developing person participates” (p. 212). Thus, as the factors of activity, role, and interpersonal relations from the various settings constitute the elements and building blocks of the microsystem (Bronfenbrenner, 1979), the variety of joint activities, rather than isolated or solitary behaviors, among members of the group serves as an important condition to the learning growth and development of the person (McMillan, 1991). For example, as the developing person’s learning and development requires a variety of primary dyads (Bronfenbrenner, 1979), the learning and development of the individual is significantly influenced by the interactions among people who matter to each other (Bronfenbrenner, 1979; McMillan, 1991).

Bronfenbrenner (1979) defines the dyad as the basic unit of analysis and comprising of a two-person system involving the developing person and one other person.

An important aspect of the microsystem is its emphasis on the lived experienced or phenomenological aspect of the individual (Bronfenbrenner, 1979). Bronfenbrenner (1979) believes that the most powerful aspects of an environment are those that give meaning to the person in the given situation or environment. Therefore, the experience of the individual is salient as it emphasizes that relevant features of any environment include not only its objective properties (e.g., size), but also the way in which these properties are perceived by the persons in that environment (Bronfenbrenner, 1979).

Mesosystem. The mesosystem is a “set of interrelations between two or more settings in which the developing person becomes an active participant” (Bronfenbrenner, 1979, p. 209). For example, as individuals regularly move to and from different settings, say, school and internship site, a series of links are established between these settings (McMillan, 1991). Bronfenbrenner (1979) refers to these links as the mesosystem and emphasizes that it is the set of connections—not specific places or settings—that defines the mesosystem.

In conceptualizing the mesosystem, it is clear how the basic building blocks (e.g., settings and dyads) found in the microsystem are also present in the mesosystem. However, the difference between the microsystem and mesosystem lies in the nature of the interconnections involved (Bronfenbrenner, 1979). That is, whereas at the microsystem level dyads and other social connections occur within one setting (e.g., at school), at the mesosystem level these processes take place across setting boundaries (e.g., between school and the internship site). Therefore, as the mesosystem comprises the interactions between microsystems, numerous interconnections between microsystems are possible. Bronfenbrenner (1979) proposes four general types of interactions that occur between microsystems and within the mesosystem: (a) multisetting participation, (b) indirect linkage, (c) intersetting communications, and (d) intersetting knowledge.

Multisetting participation. This is the most basic and critical form of interconnections between two settings. The multisetting participation link occurs when the same person engages in activities in more than one setting (Bronfenbrenner, 1979). For example, a counseling student (i.e., the developing person) who spends time both at school and at his or her clinical internship site is engaged in multisetting participation.

Because participation in two or more settings requires a sequential process (e.g., must be a member of one system first, then enter the next), Bronfenbrenner (1979) also defines multisetting participation as “the existence of a direct or first-order social network across settings in which the developing person is a participant” (p. 209).

The existence of first-order networks, and thus the mesosystem, is established at the point when the individual first enters a new setting. At this point, Bronfenbrenner (1979) describes the instance and phenomenon of transitioning from one setting to another as an “ecological transition” (p. 210). For example, when a counseling student first begins his or her off-campus clinical internship, he or she experiences an ecological transition and consequentially establishes new connections and contributions to his or her mesosystem.

When the individual participates in more than one setting of a mesosystem, that person is considered to be the primary link. Other persons who participate in the same two settings are referred to as supplementary links (Bronfenbrenner, 1979). The counseling student’s professor who pays a visit to the student’s off-campus internship site would be referred to as the supplementary link. Similarly, the off-campus site supervisor may also pay a visit to the student’s internship class on campus. Thus, direct interactions between both the primary and supplementary links can operate in the direction of either setting (Bronfenbrenner, 1979).

Indirect linkage. Indirect linkage represents another form of relationship between microsystems that exists within the mesosystem. In indirect linkage, the same person does not actively participate in two specific settings; but a connection between the two may still be established through a third party who serves as an intermediate link

between persons in the two settings (Bronfenbrenner, 1979). An example of an indirect link would be the counseling student's client who discusses issues related to his or her work and family during counseling sessions. Though the counseling student is not a participant in the client's work and family setting, the student is indirectly linked to these settings through the client. Because the counseling student is not a participant in a face-to-face setting with the client's work or family system, this indirect link between the counselor and his or her client's work and family setting is referred to as a second-order network (Bronfenbrenner, 1979).

Intersetting communications. Intersetting communications refers to the messages “transmitted from one setting to the other with the express intent of providing specific information to persons in the other setting” (Bronfenbrenner, 1979, p. 210). The messages and communications may be both one-sided and/or occur in both directions. Intersetting communications can occur in a variety of ways including telephone conversations, face-to-face interactions, correspondence, and other written messages (e.g., email, letters, brochures), and notices or announcements (Bronfenbrenner, 1979). Intersetting communication links may also be established indirectly through chains in the social network. For example, the counseling student's site-supervisor may make a phone call to the student's professor informing the professor of the student's progress at the internship site.

Intersetting knowledge. This linkage refers to the information or experience that exists in one setting about the other setting (Bronfenbrenner, 1979). Bronfenbrenner (1979) states that intersetting knowledge “may be obtained through intersetting communication or from sources external to the particular settings involved” (p. 210). For

example, the counseling student's site supervisor may receive a packet in the mail from the student's internship professor informing the supervisor of the revised internship policies and standards that the student must follow.

As the mesosystem is a sophisticated network between various settings in the microsystem, its impact on the development and growth of the learner is equally sophisticated and important. Bronfenbrenner (1979) believes that the connections between the settings have valuable implications to the individual. He states:

The developmental potential of settings in a mesosystem is enhanced if the role demands in the different settings are compatible and if the roles, activities, and dyads in which the developing person engages encourage the development of mutual trust, a positive orientation, goal consensus between settings, and an evolving balance of power in favor of the developing person. (p. 212)

Exosystem. Bronfenbrenner (1979) defines the exosystem as “consisting of one or more settings that do not involve the developing person as an active participant but in which events occur that affect, or are affected by what happens in that setting” (p. 237). For example, a part-time counseling student may learn that his or her work unit is in jeopardy of losing their jobs resulting in the work environment becoming very tense and he or she experiences high levels of stress at work. Though the classmates of this student are not active participants in the workplace, the events at the workplace indirectly impact the classmates when the student brings the stress he or she experiences at work to the classroom. The operation of the exosystem requires that a causal sequence be established in at least two steps: first, connecting events in the external setting to processes occurring

in the developing person's microsystem; and second, linking the microsystem processes to developmental changes in a person within that setting (Bronfenbrenner, 1979).

Bronfenbrenner (1979) notes that this process may also occur in the opposite direction where the counseling trainee may start the motion process within the microsystem, thus creating an impact on the exosystem. For example, a counseling student who is working with a homosexual client who reports being discriminated against and bullied at the workplace might work with the client on social justice and advocacy issues. Through their work together, the client may become empowered by the counseling student and may choose to confront his or her boss and inform the boss of the discrimination and bullying occurring at work. As a result, the boss chooses to implement a zero tolerance policy towards bullying and discrimination at the work place.

Similarities exist between the mesosystem and the exosystem when considering the "links" that connect the individual to the different settings. However, differences exist when considering the active participation of the individual. For example, in a mesosystem, the individual is active in both settings along with the supplementary link (Bronfenbrenner, 1979). However, in the exosystem, the individual is not an active participant in both settings, but is still affected by the events of both settings. Thus, Bronfenbrenner (1979) proposes that the forms of linkage, communication, and availability of knowledge that define the optimal properties of a mesosystem also constitute the optimal conditions for exosystems.

Macrosystem. Bronfenbrenner (1979) defines the macrosystem as the "consistency observed within a given culture or subculture in the form and content of its constituent micro-, meso-, and exosystems, as well as any belief systems or ideology

underlying such inconsistencies” (p. 258). Bronfenbrenner emphasizes that in understanding the macrosystem, it is important to understand the contexts of the micro-, meso-, and exosystems as well. For example, Bronfenbrenner suggests that studies that look at participants from different backgrounds (e.g., race, ethnicity, and social class) and attempt to identify observed differences in methods of child rearing are incomplete. Instead, Bronfenbrenner believes that it is important to understand the entire macrosystem of the participants, including the contexts of their micro-, meso-, and exosystem.

As such, Bronfenbrenner (1979) suggests that cultures and subcultures can be expected to be different from each other, but also relatively homogenous from an internal structure. For example, from a cross-cultural perspective, Bronfenbrenner proposes that similarities can be identified in various areas to include:

The types of settings they contain, the kinds of settings that persons enter at successive stages of their lives, the content and organization of molar activities, roles, and relations found within each type of setting, and the extent and nature of connections existing between settings entered into or affecting the life of the developing person (p. 258).

In other words, while the macrosystem is unique to each individual, similarities also exist among all individuals as manifested through the ecological systemic framework.

Furthermore, Bronfenbrenner states that members of given cultures or subcultures find support for their behavior and values as the consistent patterns of organization and behavior are manifested by the members and thus work in a cylindrical pattern.

Chronosystem. As a result of self-critique, Bronfenbrenner (1992) later added a fifth subsystem to his ecological model, which he called the chronosystem. The chronosystem was added to reflect changes in patterns of environmental events and sociohistorical conditions (e.g., transitions over the life course of the individual). For example, the chronosystem accounts for sociohistorical conditions of children's development as lives of children today differ from the lives of their parents or grandparents due to changes in social, historical, and political movements. Similar to the macrosystem, in attempting to understand the chronosystem of an individual, it is also important to understand the contexts of his or her other subsystems (i.e., macro-, micro-, meso-, and exosystem).

Evaluation of Bronfenbrenner's Model

When used as a conceptual model for understanding the learning environment of students, Bronfenbrenner's (1979, 1992) ecological model is understandably comprehensive and complex. However, as his model suggests, as the developing person progresses through various settings and stages in his or her life, his or her learning and development is also expected to become increasingly comprehensive and complex with the introduction of new roles, settings, activities, and patterns of interrelationships. Thus, using Bronfenbrenner's model to conceptualize learning environments would appear to be appropriate as learning is also a dynamic, ongoing, and developing process within an individual (Sontag, 1996).

In addition, Bronfenbrenner's (1979, 1992) ecosystemic approach to conceptualizing the learning environment emphasizes the bidirectional nature of the impact and influence between the individual and his or her environmental subsystems.

This is in contrast to Moos's model (1974c), which places a lesser prominence of the individual's influence on the environment. The macro and chronosystem of Bronfenbrenner's model further highlights the importance of ideological components and influence on the environment. For example, political movements may shape the ideological views and values of people, thus influencing the macrosystem and ultimately the individual. However, as norms and values shift over time, the chronosystem's emphasis on temporal patterns of such phenomena is important in understanding the environment of a given time period. For instance, in response to the multiculturalism movement in the 1960s, 70s, and 80s, multicultural counseling competence has become accepted as a crucial aspect of counseling training since the early 1990s (Pedersen, 1991; Sue, Arredondo, & McDavis, 1992), resulting in training curricular changes in content, teaching, learning environment, and learning outcomes. Thus, the current counseling training environment has become very different from that which predated the formalization of multicultural competence training.

Furthermore, Bronfenbrenner's (1979, 1992) emphasis of the phenomenological or perceived lived experience of the individual in his or her environment helps address the understanding—and not just the descriptions—of the various strategies and coping skills that he or she utilizes to adapt to new environments, an area that is lacking in Moos's (1974c) model. The phenomenological aspect of Bronfenbrenner's model also emphasizes that human behavior is an act-in-context; that is, human behavior is highly contextual. The contextual emphasis of the model has important implications to the counseling profession, especially in regards to multiculturalism and increasing multicultural competence (Heppner et al., 2008). For the purposes of this study, the

Bronfenbrenner ecological model was used to guide the researcher in the development of CTES. The CTES is designed to take into account the various systems and subsystems found in a counseling training environment in order to provide a holistic assessment of the environment.

Finally, despite the wide use of Bronfenbrenner's (1979, 1992) ecological model, his model has come under criticism. For example, by adding the chronosystem to his ecological model, Bronfenbrenner (1992) himself regularly self-critiqued his work. Santrock (2004) cites that Bronfenbrenner's theory does not take biological and cognitive factors into consideration and overlooks step-by-step developmental changes, as does Erikson's and Piaget's theories. Engler (2007) criticizes the model for not including concepts of resiliency and protective factors in children, which she believes is salient due to recent traumatic events (e.g., September 11 terrorist attacks and hurricane Katrina) in the United States.

But, perhaps the biggest criticism of Bronfenbrenner's (1979, 1992) model is that due to its numerous variables and expansive reach, the model is often too complicated to fully understand and implement (McIntosh, Lyon, Carlson, Everette, & Loera, 2008; Tudge, Mokrova, Hatfield, & Karnik, 2009). McIntosh et al. (2008) note how due to its long history of use, Bronfenbrenner's model has been subjugated to various definitions and applied in various settings to meet the needs of the researcher, yet not all studies defined Bronfenbrenner's subsystems by their original and proper definition.

McIntosh et al. (2008) further note how Bronfenbrenner's mesosystem is much more comprehensive than how many researchers define it, thus making their studies flawed. Similarly, Tudge et al. (2009) reviewed 25 scholarly articles that used

Bronfenbrenner's model and found that only 4 of the 25 studies reviewed had adequately implemented the appropriate definition and uses of his theory. Nevertheless, both McIntosh et al. and Tudge et al. suggest that with proper review of Bronfenbrenner's ecological theory, conceptual issues in applying his model can be significantly reduced or avoided.

Adult Learning Environment

Though learning environment research has its roots in evaluating the classroom environments of primary and secondary schools (Fraser, 1998b; Fraser & Treagust, 1986; Moos, 1979), interest in adult and college learning environments followed soon after (e.g., Astin, 1965; 1993; Fraser & Treagust, 1986). Despite an established interest in adult and college learning environment research, relatively little work has been done from an assessment and measurement perspective compared to classroom environment research at the primary and secondary levels (Fraser, 1998b). While the spectrum of adult learning environment is broad, this section of the review focuses particularly on college/university and graduate student learning environment research and its implications to counseling and related mental health training program environments.

Principles of Adult Learning

Traditionally, researchers have known more about animal and child learning than adult learning (Knowles, 1984; Knowles, Holton, & Swanson, 2005). This is perhaps due to the influence of experimental psychology on learning theory. In experimental psychology, researchers isolate and control particular variables of interest (Knowles et al., 2005). However, because the conditions that animals and children learn under are much easier to control than those of adults (Knowles, 1984), many of the principles of learning

for adults have been derived from studying animals and children learn (Knowles, 1980; Knowles et al., 2005).

Comparing adult learners to child and animal learners has its criticisms. For instance, Lindeman (1926) believes that adult learning is a process through which learners become aware of significant experiences, a process that is different from children. Lindeman believes that adults do not learn by studying subjects in the hope that the information becomes useful; instead, they learn by giving attention to situations and current problems that they find themselves experiencing, including obstacles to their self-fulfillment.

As such, Lindeman (1926) proposes several key assumptions of adult learners, which authors (e.g., Knowles, 1980, 1984; Knowles et al., 2005) credit as serving as the foundation for modern adult learning theories. In conceptualizing adult learning, Lindeman assumes that: (a) adults are motivated to learn as they experience needs and interest that learning will satisfy, (b) adults' orientation to learning is life-centered, (c) experience is the richest source for an adult's learning, (d) adults have a deep need to be self-directing, and (e) individual differences among people increase with age. Bronfenbrenner (1979) also reflects upon this when he states: "the further one goes in school, the more likely one would be to experience freedom from close supervision, nonroutinized flow, substantially complex work, and opportunity for self-direction" (p. 248).

Adult learning environment defined. Knowles (1980) believes that an adult learning environment consists of two sub-environments: (a) the physical environment, which includes comfort, temperature, and space; and (b) the psychological environment,

which includes aspects of respect, support and caring, trust, and collaboration. However, despite proposing differences in the ways adults learn versus children, Knowles offers no differences in criteria for defining an adult learning environment from a child learning environment. This appears to be common practice. For instance, measurements that attempt to assess college student learning environments have historically been adapted from their primary and secondary education counterparts (Darkenwald, 1987; Darkenwald & Valentine, 1986; Fraser & Treagust, 1986). Nonetheless, Hiemstra (1991) broadly defines adult learning environments as “all of the physical surroundings, psychological or emotional conditions, and social or cultural influences affecting the growth and development of an adult engaged in an educational enterprise” (p. 8). Astin (1990), in even broader terms, defines the adult learning environment as the student’s “actual experiences during the educational program” (p. 18).

Through a meta-analysis of learning environment research studies, Fraser (2002) identifies six types of major learning environment research objectives and applications as: (a) associations between student outcomes and environment, (b) evaluation of educational innovations, (c) differences between students’ and teachers’ perceptions of the same classrooms and environments, (d) determinants of the classroom environment, (e) use of qualitative research methods, and (f) cross-national studies. Hiemstra’s (1991) and Astin’s (1990) definition of adult learning environments and Fraser’s meta-analysis suggests that the basic objectives of engaging in adult learning environment research appear to be no different to primary and secondary education learning environment research and assessment. Nonetheless, Lindeman’s (1926) assumptions of adult learners being different from child learners offer implications to differentiating between adult and

child learning environments. Therefore, germane to differentiating between learning environments of adult learners and child learners is understanding the conceptual differences between teaching and learning styles of adult learners and child learners (Knowles, 1984).

Paradigm of teaching and learning: pedagogy to andragogy. The earliest known theories and philosophies of adult learning, teaching, and practice were derived from the perspectives and experiences of the ancient Romans, Chinese, Hebrews, and Greeks (Knowles et al., 2005). These ancient teachers perceived learning to be a process of mental inquiry, as opposed to passive reception of transmitted information (Knowles et al., 2005). For instance, the Greeks invented the Socratic dialogue, where a leader (e.g., teacher or group member) poses a question or dilemma and the group members pool their thinking and experience to seek an answer or solution. Lindeman's (1926) assumption on adult learners reflects those of the ancient teachers mentioned. However, well into the twentieth century, these approaches had been largely ignored, while a singular theory of teaching and learning shared for both children and adults alike dominated the field of education: pedagogy (Knowles, 1984).

Pedagogy. Despite being utilized as the exclusive teaching and learning theory for educating adults well into the twentieth century, pedagogy literally means the art and science of teaching children (Knowles, 1980, 1984; Knowles et al., 2005). Pedagogy is derived from the Greek word "paid" meaning "child," which is the same stem from which pediatrics comes from. The pedagogical theory of education is based on assumptions about teaching and learning that evolved between the seventh and twelfth century when monastic and cathedral schools were tasked in teaching basic skills to

young boys preparing for priesthood (Knowles, 1984; Knowles et al., 2005). As more schools (secular and non-secular alike) were developed into the nineteenth century, pedagogical theory models remained the only existing educational model (Knowles, 1984). Thus, the entire enterprise of U.S. schools, including higher education, was governed by pedagogical theoretical assumptions (Knowles et al., 2005).

In pedagogical theory, the teacher is assigned full responsibility for making all decisions about what will be learned, how it will be learned, when it will be learned, and if it has been learned (Knowles, 1984; Knowles et al., 2005). Therefore, the learner's role is to be a submissive consumer of the teacher's instruction. Pedagogical theory (Knowles, 1980, 1984; Knowles et al., 2005) is based on six assumptions about learners:

- the need to know (i.e., learners only need to know what they are taught by their teachers; they do not need to know how what they learn will apply to their lives);
- the learner's self-concept (i.e., the learner is a dependent personality of his or her teacher);
- the role of experience (i.e., the learner's own experience is of little worth as a resource for learning; the experience that counts is that of the teacher, the textbook, videos, etc.);
- readiness to learn (i.e., learners are ready to learn what the teacher wants them to learn if they want to pass the class);
- orientation to learning (i.e., learners are subject-centered, meaning that learning is acquired through subject-matter content);
- motivation (i.e., learners are motivated to learn by external factors such as grades, the teacher's approval, or parental pressure).

Appropriately, transmittal and didactic techniques such as lectures and assigned readings assume the core teaching techniques of pedagogical methodology. However, these techniques and learner assumptions appear to be in contradiction to the adult learning philosophies of the ancient Romans, Chinese, Hebrews, Greeks (Knowles et al., 2005), and Lindeman (1926). As such, Knowles (1980, 1984) proposes a different perspective on adult teaching and learning, which he believes more appropriately addresses the assumptions of adult learners. Knowles refers to his theory of adult learning as andragogy.

Andragogy. Derived from Latin, Andragogy means “leader of man” (Knowles, 1980). Andragogy theory is based on the same learner assumptions as pedagogical theory; yet, it holds a different conceptualization for each assumption (Knowles et al., 2005). Knowles (1984) believes that as individuals mature, their need and capacity to be self-directing, to use their experience in learning, to identify their own readiness to learn, and their need and desire to organize their learning around current life problems increase steadily. Knowles believes that the increase occurs rapidly from infancy to preadolescence, then again during puberty. As such, Knowles’s theory echoes those of developmental psychologists such as Erikson (1982) and Bronfenbrenner (1979) who also saw learning as a lifelong process that increased in complexity as one advanced through life. Knowles et al. (2005) caution labeling pedagogy as “bad” for adults while andragogy is “good” (p. 69), or that they are antithetical to each other. Rather, recognizing the developmental nature of human learning, pedagogy and andragogy are seen as being on opposite ends of the teaching and learning paradigm yet also complementary to each other (Knowles et al., 2005).

Knowles's (1980) original andragogical theory featured only four assumptions of the adult learner; but he later modified his theory to more accurately reflect the assumptions of pedagogical theory. Therefore, the six assumptions of andragogical theory share the same names with those of pedagogical theory, yet are different in their interpretations. Through a review of the literature, a summary comparison between the pedagogical theory and andragogical theory are outlined in Table 1.

Table 1

Assumptions of the Learner: Pedagogy to Andragogy

Assumptions	Pedagogy	Theory Andragogy
The need to know	Learners only need to know what they are taught; what the teacher wants them to know	Become aware of their own "need to know;" self-directed; can see the potential benefits of learning the subject matter
Learner's self-concept	Learner is a dependent personality of the teacher	Responsible for own decisions, for own lives; a psychological and emotional need to be seen and treated by others as being capable of self-direction
Role of the learner's experience	Little worth as a resource for learning; teacher's experience is paramount	More valued, more diverse, higher number of experiences, and of different quality than children
Readiness to learn	Becomes ready if wants to pass	Becomes ready to learn in order to cope with real-life situations; can be modeled
Orientation to learning	Subject-centered; acquire subject-matter content	Life-centered (task-centered, problem-centered); knowledge is enhanced when presented in context to real-life situations
Motivation	External factors (e.g., grades, approval, parental pressure)	Internal factors (e.g., job satisfaction, self-esteem, quality of life)

The andragogical theoretical model is based on the assumption that when adult learners undertake something to learn, they do so assuming that they will benefit from their learning. The theory also assumes that adult learning is life-centered, that the learners will choose what is important to learn when it is an appropriate time for them to learn, that their personal experiences are worth taking into consideration, and are motivated to learn by internal pressures such as increased life-satisfaction. Andragogical theory takes into consideration the phenomenological perspective of the adult learner, which is similar to the phenomenological perspective of Bronfenbrenner's (1979, 1992) ecological theory. The phenomenological aspect of andragogical theory is also consistent with Lindeman's (1926) emphasis on adult learning being an individual and life-centered process, and not merely the receiving of standardized content.

When conceptualizing the learning environment that the andragogically-based teacher creates in his or her classroom, andragogical theory provides several implications to the adult learning environment (Knowles et al., 2005). For example, communicating and demonstrating respect and appreciation for the adult learner's life experience and attempting to integrate this into his or her lesson plan and curriculum is a hallmark of the andragogical teacher (Knowles et al., 2005), and is also a characteristic of an effective adult learning environment (Billington, 2000; Vella, 2002). As andragogical teachers strive to create environments that allow students to feel safe, cared for, accepted, trusted, respected, and understood by their teacher (Knowles et al., 2005), aspects of Rogers's (1951, 1961) humanistic person-centered counseling theory is also reflected in the andragogical model. The andragogical model also reflects multicultural counseling competencies (Sue et al., 1992), as the andragogical teacher strives to create an

environment that allows the individual and cultural differences of the students to be recognized and respected (Knowles et al., 2005).

However, andragogy theory has its limitations. Crawford (2009) states that in order for the andragogy model to be effective, the learner and training program must be in agreement in valuing self-directed learning. For example, beginning level counseling trainees often enter their graduate program with little prior knowledge, skill, or experience on the subject area, and desire didactic training and lecturing in class. Therefore, the andragogical model of drawing upon the lived experiences of inexperienced learners may cause learners to feel confused and uncomfortable resulting in resistance from the learners (Crawford, 2009).

Characteristics of effective adult learning environments. Pace (1962) believes that describing characteristics of adult learning environments goes beyond generic information such as average size of the class, size of the campus, the year it was formed, or the costs to attend. Instead, he believes that crucial to understanding the characteristics of effective adult learning environments is the need to identify “the kinds of things that are rewarded, encouraged, emphasized, the style of life which is valued in the community and is most visibly expressed and felt” (p. 45).

Through her research, Billington (2000) empirically identified seven characteristics of effective adult learning environments that facilitate growth. These are: (a) class environment of respect; (b) abilities and life achievements of learners are acknowledged; (c) encourages intellectual freedom, self-directed learning, experimentation and creativity; (d) learner treated fairly and as an intelligent adult; (e) class is perceived to be an intellectual challenge; (f) active involvement in learning, as

opposed to passively listening to lectures; and (g) regular feedback mechanisms for students and faculty to share what works best for the students and what the students want and need to learn; faculty who listen and make changes based on student input.

Billington's findings are similar to Vella (2002) who believes that through implementation of several core principles, adult educators are able to create effective adult learning environments. All seven of Billington's key factors are included by Vella; however, Vella's model includes additional principles that account for: (a) conducting needs assessment of the learners; (b) establishing a clear sequence of content and reinforcement of what is taught; (c) being immediate in teaching what is useful and relevant to the learners at the moment; (d) establishing clear roles among the learners and the teacher; (e) collaboration and working as a team of learners (e.g., group work); and (f) holding both the teacher and the learners accountable for the learning.

Both Billington's (2000) and Vella's (2002) model appear to reflect the key assumptions of andragogy (Knowles, 1980, 1984; Knowles et al., 2005) in assuming and respecting the adult learner as an active and relevant participant in the learning process. However, as some authors (e.g., Cooper & Henschke, 2004; Hartree, 1984) have noted that andragogy is too simplistic and not rooted in scientific research, Vella appears to build her premise around the basic principles of quantum physics and quantum thinking. Grounded in quantum physics and quantum thinking, Vella states, "all learners come with both experience and personal perceptions of the world based on that experience and all deserve respect as subject of a learning dialogue" (p. 27). Vella believes that when adult education and training programs honor the assumption of quantum thinking the more effective the educational and training environments are for the adult learner. Vella

defines quantum thinking as “looking at the world in a new way” (p. 29) based on the assumption that the universe and all of its elements are spontaneous and uncertain, yet interconnected to each other.

Billington’s (2000) findings build upon andragogy theory by introducing the underlying theme of “student-centered” as opposed to “faculty-centered” environments (p. 2). Billington believes that effective adult learning environments are considered to be student-centered when students’ thought process and growth is facilitated and enhanced. On the contrary, adult students in faculty-centered environments grow less in terms of their thought processes (Billington, 2000). In other words, faculty-centered learning environments contain characteristics of negative adult learning environments.

Billington (2000) describes faculty-centered environments as environments where students feel unsafe, threatened, are viewed as underlings, and where their life achievements are not honored. She also states that adult students in faculty-centered environments tend to regress developmentally, especially in self-esteem and self-confidence. Billington further cautions against programs that require adult students to take identical lockstep courses, whether relevant to professional goals or not, and expect students to invest their time working on a dissertation that is part of a professor's research agenda, not their own. Nevertheless, Craig (2001) emphasizes that prudent to creating an effective learning environment for adult students is remembering how “teaching has value only if it promotes student learning” (p. 198). As Craig believes effective adult learning must include conceptual growth, working collaboratively, and communicating with adult under- and postgraduate students, Craig’s beliefs also resonate with the assumptions of andragogy.

Graduate Student Learning Environment

Traditionally, research on graduate and professional students focuses on learning outcomes and centers around an input-environmental-outcome (I-E-O) model (Astin, 1993). That is, researchers attempt to identify and isolate particular variables (e.g., student characteristics; input) that they believe to be accurate predictors of academic success at the graduate level (e.g., graduation, completion of program; output) given the particular environment (e.g., academic program, policies, faculty, peers, etc. of the university) in which the student is a participant (Astin, 1993). A common example of the I-E-O model is using Graduate Record Exam (GRE) scores, undergraduate grade-point average, and letters of recommendation (i.e., input) of potential graduate students to predict how successful they will be in navigating the graduate program (i.e., environment) to eventually graduate and receive their degree (i.e., outcome). However, when studying graduate students, many researchers and administrators in colleges and universities primarily focus on the input and the outcome, and not as much on the environment (Allodi, 2010; Astin, 1993; Fraser, 1991).

The literature on graduate student learning experiences and learning environment is limited. Available research in this area seems to be typically based on descriptive reports that focused on instructional support such as library and research services (e.g., Agingu & Johnson, 1998). However, other variables such as psychosocial support in the form of faculty mentoring (Albrektson, 1995; Nuernberger, 1998) and orientation to graduate studies (Boyle & Boice, 1998; Poock, 2002) have also been found to be important to graduate students in creating satisfactory learning experiences and effective

learning environments. Comprehensive examination of graduate students' learning environments is a growing and needed area of research (Astin, 1993).

As graduate students have already received their bachelor's degree, graduate students are assumed to be older and have more academic and life experience than their undergraduate counterparts. This is consistent with Bronfenbrenner's (1979) and Lindeman's (1926) view of older students' tendencies to have unique needs and expectations of the learning experience that differ from younger and less experienced students. Hence, it is necessary to focus on the learning and training experiences of graduate students in order to better understand their learning environments (Cain, Marrara, Pitre, & Armour, 2003; Vermeulen & Schmidt, 2008).

Because the nature and intensity of graduate studies typically requires students and faculty to work more closely together than in undergraduate studies, enhancing and catering to the psychosocial needs of graduate students has been found to be effective in improving the learning experience and learning environment for graduate students (Hubschman, 1999). For example, Hubschman (1999) found that an experimental group of graduate students who received more personal and caring messages and instruction (i.e., mentoring) from their professors reported higher levels of satisfaction with their academic program than the control group who did not receive personal mentoring from the faculty. Hubschman's findings suggest that additional psychosocial support has the potential to help new graduate students with their adjustment to graduate school (Cain et al., 2003).

Marshall (1978) recognized that medical students reported high levels of stress and low levels of self-efficacy with their medical training. However, Marshall found that

low levels of support from medical school faculty and academic program greatly contributed to medical students' dissatisfaction with their learning environment and their perceived low self-efficacy; yet, it was not a true reflection of the students' aptitude to complete medical studies. Thus, in an effort to improve the learning experiences and outcomes of medical students, Marshall advocated that medical schools further examine how they could improve the learning and training environments for their students.

Similarly, Maudsley (2001) emphasized the need for both mentors and role models in medical schools to enhance the learning environment of medical students. Role models differ from mentors in that role models are individuals who may be unaware that they are serving in such a capacity to students, while mentors are usually assigned a mentee (Maudsley, 2001). Maudsley believes that the relationship between role models and the learning environment are "critical to effective education and must be thoughtfully and thoroughly considered by all teaching faculty" (p. 432). Thus, Maudsley recommends that in order to improve the learning environment of medical schools, medical school faculty should be cognizant of being possible role models to medical students and encourages medical schools to consider the potential of future faculty members to serve as appropriate role models to their students.

Counseling and Related Mental Health Training Programs

Also referred to as counselor training programs, graduate counseling and related mental health training programs can be found throughout North America, Europe, and Australia. A growing number of such programs can also be found in Asia and Africa (Heppner, Leong, & Chiao, 2008). Counselor training programs in the United States includes those with distinct professional identities such as counseling/counselor

education, psychology, and marriage and family therapy. In the United States, counselor training programs may choose to seek voluntary accreditation status. Seeking program accreditation highlights a program's commitment to a strong professional identity and toward seeking a national level of education, standards, and content as set by the profession (Council for Accreditation of Counseling and Related Educational Programs [CACREP], 2009). CACREP is the accrediting body for master and doctoral level counseling/counselor education programs. The Commission on Accreditation (COA) of the American Psychological Association (APA) and the Commission on Accreditation for Marriage and Family Therapy Education (COAMFTE) of the American Association for Marriage and Family Therapy (AAMFT) accredit doctoral programs in psychology, and master's and doctoral programs in marriage and family therapy, respectfully.

Though the professional identities and training philosophies are specific to each discipline, a review of various training programs in each discipline reveals that the training curricula and designs are nearly identical, suggesting that the training competencies and skills gained in each discipline are generally more similar to each other than they are different. For example, the 2009 CACREP accreditation standards (<http://cacrep.org/doc/2009%20Standards%20with%20cover.pdf>) state that accredited counseling/counselor education programs must have a curriculum that includes core counseling competencies (e.g., professional orientation and ethics, social and cultural diversity, human growth and development, career development, helping relationships/counseling theories and techniques, group work, assessment and appraisal, and research and program evaluation), clinical/experiential training (i.e., practicums and internships), and specialty area training (e.g., school counseling, clinical mental health

counseling, college counseling, and addiction counseling). Similarly, APA-accredited programs also require core coursework in psychological competencies, clinical/experiential training, and specialty area training (APA, 2008), and COAMFTE-accredited programs require core coursework in marriage and family work, clinical /experiential training, and specialty area training (AAMFT, 2005).

Thus, counselor and related mental health professional training consist of both classroom/academic training and clinical/field experience (Papp et al., 2003). Classroom and academic training include classroom lectures and seminars, class assignments, class-related research, and other responsibilities as assigned by the program faculty. The interactions between and among students and professors are also a characteristic of the classroom and academic training setting. Clinical training includes both on-campus and off-campus clinical experiences, such as introductory counseling techniques and off-campus clinical practicums and internships. The training settings include on-campus practice training labs and the counselor trainee's on-site clinical training location (e.g., school, community agencies, hospitals, etc.). In clinical training, counselor trainees receive training and supervision from both an on-campus faculty supervisor and an on-site training supervisor. Group clinical supervision is also a feature of on-campus clinical training, and is often times available on-site as well. Thus, in addition to individual supervision and training from the trainee's on-campus and on-site supervisor, the counselor trainee receives clinical training from fellow students and from other practitioners on-site.

Implications to Counseling Learning Environment

Literature in counseling and related training programs regularly reference the learning and training environment (e.g., Bradley & Whiting, 2001; Fujikura, 2008; McDowell & Shelton, 2002; Ng & Smith, 2009; Shurts et al., 2006; Simmons, 2008). While counseling references are commonly directed towards the general training “program” (e.g., overall environment), references are also made to the counseling academic environment (e.g., classroom environment) and the counseling clinical environment (e.g., supervisory environment). However, these references are generally made in broad and generic terms such as creating *safe* and *effective* environments for learning and supervision (e.g., Ladany, Friedlander, & Nelson, 2005; Shurts et al., 2006), and rarely offer descriptions or examples of such environments.

From a multicultural counseling perspective, Gloria and Pope-Davis (1997) proposed strategies for increasing multicultural competency in counseling programs by way of implementing changes to the learning and training environments. For example, because counseling students from underrepresented populations report high levels of stress, confusion, and dissonance with being a member of an academic culture that is incongruent with their own cultural attitudes, beliefs, and behaviors (Chi-Pearson & Gloria, 1995), Gloria and Pope-Davis recommend tending to multicultural issues by way of infusing multicultural discussions throughout all coursework and not limiting multicultural issues to a designated multicultural class. The authors also believe that implementing multicultural issues throughout the curriculum creates an academic environment where discussing multicultural issues is not something that is only

appropriate in a singular or designated multicultural class, but is appropriate and embraced in all aspects of the academic counseling learning environment.

Other multicultural variables of interest that influences the learning and training environment of counselors include race, gender, nationality, disability, sexual orientation, and age (Gloria & Pope-Davis, 1997; Fujikura, 2008; Ng & Smith, 2009). For example, Fujikura (2008) found that compared to male counseling trainees, female counseling trainees reported feeling more connected and supported in the female dominated profession of counseling. Conversely, male trainees reported feeling isolated and less supported as minorities in the female dominated learning environment (Fujikura, 2008). Similarly, Ng and Smith (2009) found that international counseling trainees experienced more discrimination in their learning environment compared to domestic trainees.

From a clinical supervision perspective, Blocher (1983) proposed several strategies to increase the supervisory process by way of addressing the supervisory environment set by the supervisor. In terms of the supervisory environment, Blocher posits that the learning environment can be conceptualized in terms of seven basic dynamics (i.e., challenge, involvement, support, structure, feedback, innovation, integration) involving the interaction of supervisee in the supervision environment. Because each supervisee has an optimal band or level of interaction that takes place within supervision, individually addressing and catering each dynamic to each supervisee creates not only an effective supervision environment, but also contributes to the professional growth of the supervisee (Blocher, 1983). For instance, certain supervisees may function more efficiently in a supervision environment that offers high support (e.g.,

warmth, empathic relationship), and less structure (e.g., clear strategies that address the clinical concerns of the client), while others may benefit from the opposite.

Elements of andragogical theory can be found in counseling training literature. For example, recognizing that adult learners are self-directed and internally motivated has similarities to constructivist counseling theories such as Solution-Focused Brief Therapy (De Jong & Kim Berg, 2007), which posits that clients are self-motivated and know best what is needed for themselves. However, despite andragogy and constructivism being primarily theories of learning and not necessarily theories of teaching (Knowles et al., 2005; Reese, 2009), based on an understanding of these learning theories, educators and/or counselors are able to develop applicable teaching and/or intervention strategies appropriate for students and/or clients. Examples of this would be the growing number of books, articles, and training manuals for constructivist-influenced teaching strategies for counselor training programs (e.g., Eriksen & McAuliffe, 2001, 2006; McAuliffe & Eriksen, 2000; Schermer & Hinkle, 2010). As constructivist-teaching methods have begun gaining popularity in counselor training programs, it appears that andragogical methods also have occupied an increasingly important place in counselor training.

Scale Development

Scale development is a popular practice among social science researchers (Clark & Watson, 2003; DeVellis, 2012). Using key words such as “scale development” and “test construction,” a review of scholarly databases such as Google Scholar, PsycINFO, and ProQuest Dissertations Online revealed a plethora of studies focused on instrument and scale development. This section highlights the literature salient to scale development and is broken into six sections: (a) use of theory, (b) planning for the scale, (c)

constructing the scale, (d) quantitative evaluation, (e) scale validation, and (f) use of factor analysis.

Use of Theory in Measurement

In social science research, the phenomena researchers attempt to measure are often derived and driven by theory (DeVellis, 2012). DeVellis argues that many, if not most, variables of interest to social and behavioral scientists are not directly observable, and thus, the researchers' knowledge of the phenomena to be studied and the theory driving the inquiry are of the highest importance. However, as the social sciences are relatively young compared to the natural sciences and are still developing and evolving, finding the most appropriate theory for use in research is a regular challenge (DeVellis, 2012).

Clark and Watson (2003) highlight how approaches to measuring psychological constructs too often lack application of principles of measurement theory. They further argue that the consequences of such practice not only compromise the quality and integrity of the work created, they also contribute little to the development of the field in which the construct is intended to represent. Using a sound measurement is especially fundamental in social science research where the phenomena under investigation are often complex and intangible (Clark & Watson, 2003; DeVellis, 2012), thus proper use and implementation of theory is especially important. DeVellis states that thinking clearly about the content of the scale requires thinking clearly about the construct being measured. Thus, the use of theory in developing a scale serves as an aid to clarity (DeVellis, 2012).

The development of reliable and valid measures is a multi-phase process in which numerous steps are involved in each phase. Various authors (e.g., Benson & Clark, 1982; Clark & Watson, 1995; Cox et al., 2006; DeVellis, 2012) have presented guidelines for instrument development and validation. While some variance exists among authors, there appears to be considerable agreement in regards to the major processes and tasks involved, including the appropriate inclusion of implementing theory into the development of the instrument. In each of the pieces reviewed, a common theme of enhancing construct validity emerges. However, establishing validity for an instrument is rarely a singular or complete process; it is an ongoing and continuous process (Benson & Clark, 1982; Clark & Watson, 2003).

Planning

One of the first critical steps in establishing preliminary validity in scale development is the detailed conceptualization of the target construct (Benson & Clark, 1982; Clark & Watson, 2003; Cox et al., 2006). Benson and Clark (1982) suggest that instrument developers construct a statement of purpose that offers a detailed description of the construct the measure wishes to assess. However, DeVellis (2012) warns that arriving at a clear definition of what one wants to measure is often more difficult than it appears, for measuring a construct that is vaguely defined can present a number of problems later on in the process. Thus, DeVellis argues that researchers should thoroughly review the theory related to the target construct as it can provide a framework and to help guide the scale development.

Another important aspect in regards to conceptualization is the degree of specificity or generality at which a construct will be measured (DeVellis, 2012). For

example, due to uniqueness of human experiences, social science constructs tend to relate strongly to one another when they match with respect to level of specificity (DeVellis, 2012). The level of specificity should match the intended function or purpose of the scale because a scale can have the intent to relate to very specific construct(s) or to a more general or global construct (DeVellis, 2012). The use and implementation of theory can serve as a guide to help decide at what level of specificity a construct will be measured (Bahraini, 2008; DeVellis, 2012).

Researchers emphasize the importance of a comprehensive literature review to address the tasks described above. In addition to clarifying the nature of the construct and determining the level of specificity at which the construct should be measured, a thorough review of the literature can help identify measurement issues or problems with existing measures of the target construct; and it can also clarify whether or not the proposed measurement is necessary (Clark & Watson, 2003). Clark and Watson (2003) argue that in order to justify the creation of a prospective measure, the measure must represent a theoretical and/or empirical improvement over current measures of the construct. If measures of the construct of interest do not exist, then justification for creating such a measure and its contribution to the field must be articulated (Clark & Watson, 2003).

Test Construction

Generating an item pool is another important aspect of scale development. Clark and Watson (2003) state that the primary goal of an item pool is to “sample systematically all content that is potentially relevant to the target construct” (p. 212). Content domains comprising the construct must be identified and researchers should

ensure a sufficient number of items within each content domain (DeVellis, 2012). Clark and Watson offer two recommendations to item development: (a) item pools should be broader and more comprehensive than one's own theoretical view of the target construct and (b) items should include content that ultimately will be shown to be tangential or even unrelated to the core construct. Thus, *overinclusiveness* is recommended to avoid leaving out items that should have been included. The logic underlying the overinclusiveness is simple: Items that are weak, redundant, and unrelated will later be detected through statistical analyses and can then be dropped from the scale (Clark & Watson, 2003). Besides, it is much easier to delete weak items than to create newer ones (Clark & Watson, 2003). Clark and Watson's position on item overinclusiveness is echoed by other researchers. For example, Cox et al. (2006) suggest writing three times as many items as needed while Benson and Clark (1982) suggest writing twice as many as needed.

DeVellis (2012) highlights the basic principles of writing "good" items. Good items are those that have clarity (Benson & Clark, 1982; DeVellis, 2012). Benson and Clark (1982) note that the language of the items should be clear, concise, and easily understood by the population for whom the measure is intended. Furthermore, the items should also be simple. Clark and Watson (2003) state that complex items may tap into multiple characteristics and may be open to a variety of different interpretations leading to poor reliability and validity. For example, an instrument designed for elementary school children should use language that is appropriate for their level. Slang and colloquialisms should also be avoided as the context may shift over time and has the

potential to discriminate against participants who are unfamiliar with local colloquialisms (Clark & Watson, 2003).

In addition to creating an item pool, a response format must be chosen. A number of response formats exist. DeVellis (2012) suggests that the process of choosing a response format should occur simultaneously with the creation of an item pool to ensure that the two are wellsuited for each other. Benson and Clark (1982) state that in establishing the response format it is important to consider the format that best suits the intended respondent in relation to age and ability.

The steps described thus far are designed to enhance the overall reliability and validity of the measure. Following item construction, the actual process of content validation begins (Benson & Clark, 1982; Cox et al., 2006). Content validity refers to the degree to which a specific set of items represent a specific content domain (DeVellis, 2012). Review of the items by a panel of experts who have a substantial knowledge base in the target area is designed to help enhance content validity (Benson & Clark, 1982; Clark & Watson, 2003; Cox et al., 2006; DeVellis, 2012). In addition to assessing clarity of the items, the panel of experts can evaluate how relevant each item is to the content domains and the overall construct intended to measure (Benson & Clark, 1982). The panel of experts can also offer other ways of assessing the target construct that may have not been included in the measurement (DeVellis, 2012).

Quantitative Evaluation

Quantitative evaluation of a measure commences when the construction of the initial version of the measure is completed (Benson & Clark, 1982). The quantitative process revolves around evaluating the psychometric properties of the measure and

serves as a method to begin the process of validating the measure (Benson & Clark, 1982; Cox et al., 2006). In order to attain the initial psychometric properties of the measure, it must be administered to a sample of individuals representing the target population in a pilot study (Benson & Clark, 1982; Cox et al., 2006; DeVellis, 2012).

Benson and Clark (1982) state that the sample used in the pilot study should represent the scope of individuals within the target population. The data collected from the first administration (i.e., pilot) of the measure is used to conduct item analysis and to derive reliability estimates to determine how well the items fit with the measure or relevant content domain (DeVellis, 2012). Reliability refers to the consistency of the measure over time or the precision of the measurement (Benson & Clark, 1982).

Conducting these analyses can help researchers identify which items should be revised, deleted, and/or if items should be added to any of the content domains (Bahraini, 2008). The revised measure can then be administered a second time to a development sample from which new reliability estimates are derived for the subscales and total scale.

Test Validation

The process of validation is one of the most important aspects of scale development (Clark & Watson, 2003). While authors' (e.g., Chartrand, Robins, Morrill, Boggs, 1990; Kim, Atkinson, Yang, 1999; Seo et al., 2006) thoughts, opinions, and procedures vary regarding the meaning of validity, what constitutes validity, and how to obtain validity, a common agreement to the various types of validity discussed is the concept of construct validity. Messick (1995) argues that traditional views of dividing validity into three categories of content, criterion, and construct is inaccurate. He proposes, instead, a "unified validity" (p. 1) where construct validity serves as an

umbrella under which various types of validity including content and criterion-related validity fall.

Cronbach and Meehl (1955) suggest that examining the construct validity of a measure should consist of the following steps: (a) define a set of theoretical concepts and their interrelations, (b) develop ways to measure the constructs reflected in the theory, and (c) empirically test the hypothesized relations among the proposed constructs and their behavioral manifestations. Validity is addressed in the current version of *Standards for Educational and Psychological Testing (Standards)*; American Educational Research Association [AERA], American Psychological Association [APA], & National Council on Measurement in Education [NCME], 1999) which describes five distinct types of validity as evidence based on (a) test content, (b) response processes, (c) internal structure, (d) relations to other variables, and (e) consequences of testing. Goodwin and Leech (2003) noted how validity addressed in the 1999 version of *Standards* is significantly different from the preceding version. Goodwin and Leech highlighted how the types of validity identified do not necessarily represent different types of validity, but instead serve as sources of evidence that further enhance the different components of construct validity.

Use of Factor Analysis in Scale Development

An important aspect in both the evaluation and validation process is conducting the statistical procedure known as factor analysis. There are two major forms of factor analysis: (a) exploratory factor analysis (EFA), and (b) confirmatory factor analysis (CFA). EFA is commonly used in the evaluation and initial validation process of the scale's development and is accomplished by identifying groups of items that covary with

one another and appear to define meaningful underlying latent variables (DeVellis, 2012). EFA serves multiple functions including assisting scale developers to: (a) determine how many latent variables underlie a set of items, (b) provide means of explaining variation among the variables, (c) condense information so that variation can be accounted for by using a smaller number of variables, and (d) help define the meaning of the factors (i.e., variables) that account for the variation among the set of items (DeVellis, 2012). Consequently, EFA is an effective method for item evaluation and in reducing the number of overall items of a scale.

Building upon the results of the EFA, the purpose of CFA is to assess and confirm whether or not the observed factor structure is in line with the hypothesized model, and whether the items load on the factor or subscale they were intended to represent (Bahraini, 2008). Thus, CFA offers further evidence of validation of the developed scale. The confirmation of the scale's factorial structure is based on a particular pattern of relationships predicted on the basis of theory or previous analytic results (DeVellis, 2012). For example, CFA allows scale developers to assess whether or not the factorial structure of their scale is comparable or fit with the theory they had in mind while developing the scale. Thus, CFA is a commonly used method by scale developers to enhance the scale's utility and to offer further and ongoing evidence of validity with various populations and with other established measures or theories relevant to the scale of interest (Ullman, 2009).

Implications of the Current Study

This study was designed to develop and provide evidence of validity for the CTES. Evidence of validity for the CTES was established through content validity and CFA. Details of the process involved in this study are presented in Chapter 3.

Existing Measures of Adult Learning Environment

Using research databases including Google Scholar, the Mental Measurement Yearbook (MMY), PsycINFO, Academic Search Premier, ERIC, PsychARTICLES, Education Research Complete, Educational Administration Abstracts, and Health and Psychosocial Instruments, an examination of the adult learning environment literature reveals a number of regularly used instruments to measure adult learning and training environment. Among the measures most commonly discussed and used include those designed for academic settings such as the College and University Classroom Environment Inventory (CUCEI; Fraser & Treagust, 1986), the College Classroom Environment Scale (CCES; Winston et al., 1994), the Adult Classroom Environment Scale (ACES; Darkenwald & Valentine, 1986), and the Research Training Environment Scale-Revised (RTES-R; Gelso, Mallinckrodt, & Judge, 1996), and in medical settings such as the Medical School Learning Environment Survey (MSLES; Marshall, 1978), and the Dundee Ready Educational Environment Measure (DREEM; Roff et al., 1997). Despite the fact that all of these instruments were developed to measure the classroom learning and/or clinical training environment, some differences appear in their application to populations and training levels. The diversity of such measures reflects the diversity of conceptualization concerning the components of adult learning environments.

Adult Academic Learning Environment Measures

A feature of many of the classroom environment instruments is the availability of four distinct forms for each instrument which measure: (a) student perceptions of the “actual” or “real” classroom environment, (b) student perceptions of the “preferred” or “ideal” classroom environment, (c) teacher perceptions of the “actual” or “real” classroom environment, and (d) teacher perceptions of “preferred” or “ideal” classroom environment. The “real” or “actual” forms are concerned with students and teachers’ perceptions of the actual classroom and learning environment (Fraser & Treagust, 1986). The preferred forms are concerned with goals and value orientations and measure perceptions of the classroom environment ideally liked or preferred by students and teachers (Fraser & Treagust, 1986). The differences in forms allow for a range of research and practical applications (Fraser & Treagust, 1986). For instance, assessing the differences between students' perceptions of their actual and preferred classroom environment can be a basis for teachers in identification and discussion between the discrepancies of the actual and preferred classroom (Fisher & Fraser, 1983).

College and University Classroom Environment Inventory (CUCEI). The CUCEI (Fraser & Treagust, 1986) was developed and designed for use in small higher education classes often referred to as seminars. It was designed to include coverage of Moos’s (1974c) dimensions of social environment and includes four forms: (a) student-actual, (b) student preferred, (c) instructor-actual, and (d) instructor-preferred. The actual and preferred forms are nearly identical to each other except for the use of words such as “would” in the preferred form. For example, the item “The instructor goes out of his/her

way to help students” in the actual form is reworded in the preferred form to read, “The instructor *would* go out of his/her way to help students.”

The CUCEI contains 49 items equally divided by seven scales: (a) personalization, (b) involvement, (c) student cohesiveness, (d) satisfaction, (e) task orientation, (f) innovation, and (g) individualization. Items are responded to on a 4-point Likert-type scale with the alternatives of *Strongly Agree*, *Agree*, *Disagree*, and *Strongly Disagree*. Estimates of the internal consistency of the actual and preferred forms of each CUCEI scale were calculated using Cronbach's alpha coefficient (α), and across all four forms the alpha values obtained ranged from .63 (task orientation) to .90 (student cohesiveness) with the individual as the unit of analysis, and from .78 (satisfaction) to .96 (task orientation) with the class as the unit of analysis (Fraser & Treagust, 1986). The CUCEI is psychometrically sound, and is a regularly referenced instrument for assessing adult classroom environments (e.g., Booth, 1997; Goyak, 2009; Lawson, 1988; Powers, Davis, & Torrence, 1999; Pulvers & Diekhoff, 1999).

However, the CUCEI is limited in its application. It is not intended for use in large lecture style classrooms or in laboratory classroom environments, and is designed specifically for undergraduate students, thus eliminating a large group of potential users. The CUCEI's range is also exclusively limited to the classroom environment and therefore does not consider the entire learning environment of the student.

College Classroom Environment Scale (CCES). The CCES (Winston et al., 1994) was developed and designed to assess students' perceptions of the social climate of their classroom, and comprises of six scales: (a) cathectic learning environment, (b) professorial concern, (c) inimical ambiance, (d) academic rigor, (e) affiliation, and (f)

structure. The CCES is comprised of 62 items and students respond to each item using a 5-point Likert-type scale: 1 = *Never or almost never true*, 2 = *Seldom true*, 3 = *Occasionally true*, 4 = *Often true*, and 5 = *Always or almost always true*. Sample items include: “This class seems to go fast,” “The professor follows the syllabus very closely,” and “Students often help each other with assignments or in understanding difficult material.”

The CCES comes in a “real” and “ideal” form. The items on the ideal form are identical to the real form; however, the items are rearranged on the ideal form and students are instructed to respond to the items by describing their “ideal” classroom environment. The CCES demonstrates adequate reliability with internal reliability estimates through all subscales ranging from $\alpha = .61$ (inimical ambiance) to $.92$ (cathetic learning environment), and a two-week test-retest reliability coefficient ranging from $r = .38$ (structure) to $.81$ (cathetic learning environment) (Winston et al., 1994). The CCES’s subscales also correlate high to moderately high with the CUCEI (Winston et al., 1994). However, there appears to be very little difference in the purpose and uses of the CCES compared to the CUCEI, and Winston et al. (1994) had made little argument for developing a new classroom environment scale to be used in college classrooms.

Adult Classroom Environment Scale (ACES). While scales such as the CUCEI and the CCES were designed to assess the classroom psychosocial learning environment of undergraduate college students, the ACES (Darkenwald & Valentine, 1986) was the first to be specifically designed to measure the psychosocial learning environment of adult education classrooms in general. The ACES is designed to be used with adult learners of all educational levels and ages, including those in technical and trade schools,

colleges, and universities. The theoretical background of the ACES was derived from the work of Moos (1979). The scale includes 49 items divided into seven subscales: (a) affiliation, (b) teacher support, (c) task orientation, (d) personal goal attainment, (e) organization and clarity, (f) student influence, and (g) involvement. Adult students respond to each item on a 4-point Likert-type scale (1 = *Strongly disagree*...4 = *Strongly agree*).

Three forms of the ACES are available: (a) student ideal, (b) student real, and (c) teacher real. The “real” forms refer to perceptions of the actual or enacted environment. The three forms are identical to each other except for tenses and directions to the respondents. For instance, teachers and students taking the “real” form are directed to respond to each item based on their perceptions of the “real” classroom environment, while students taking the ideal form are directed to consider their ideal classroom environment. Reliability coefficients for each subscale on each of the three forms ranged from $\alpha = .58$ (task orientation) to .89 (student influence), and total reliability coefficients for each form ranged from .90 (teacher-real) to .94 (student-real) (Darkenwald & Valentine, 1986).

However, the ACES has been criticized by authors (e.g., Langenbach & Aagaard, 1990) for its relatively weak internal factorial structure. For example, though Darkenwald and Valentine (1986) described the ACES as comprising of seven subscales, when developing the ACES, they did not employ any statistical analyses (e.g., factor analysis) to assess its factorial structure. Adding to the confusion, Darkenwald (1987) later described the ACES as being a unidimensional scale while claiming that the low intercorrelations between the seven dimensions (i.e., factors) suggested that they were not

measuring the “same thing” (p. 131). In their own study, Langenbach and Aagaard (1990) conducted two factor analyses and found that the seven-factor model of the ACES was not supported; but rather, a six-factor model was supported.

Research Training Environment Scale-Revised (RTES-R). Recognizing that many doctoral students in counseling psychology reported negative attitudes towards conducting research, the Research Training Environment Scale (RTES; Royalty, Gelso, Mallinckrodt, & Garrett, 1986) was created to assess the research training environment of graduate psychology students and to better understand their attitudes towards conducting research and their efficacy as researchers. The research training environment is conceptualized as the “forces in graduate education programs that reflect attitudes towards research and science” (Gelso, 1983, p. 470). However, due to internal design flaws of the RTES, the revised version (RTES-R) (Gelso, Mallinckrodt, & Judge, 1996) was developed to further evaluate and improve the internal reliability structure of the original measure.

The RTES-R has 72 items and nine subscales: (a) faculty modeling, (b) positive reinforcement, (c) early involvement, (d) relevant statistics, (e) looking inward, (f) science as a social experience, (g) all experiments flawed, (h) varied investigative styles, and (i) wedding of science and practice. Internal reliability for each of the RTES-R nine subscales was calculated using Cronbach’s alpha and ranged from $\alpha = .57$ (all experiments flawed) to $.85$ (varied investigative styles). The total scale alpha coefficient was $.90$. A 4 to 6 week test-retest of the RTES-R yielded reliability coefficients for each subscale ranging from $r = .74$ (all experiments flawed) to $.88$ (relevant statistics), and a total test-retest reliability coefficient of $r = .94$. Comparatively, the original RTES had

internal reliability coefficients for each of its subscales ranging from $\alpha = .24$ (all experiments flawed) to $.82$ (faculty modeling), an α of $.92$ for the total scale, a 2 to 4 week test-retest reliability coefficient for each scale that ranged from $r = .47$ (varied investigative styles) to $.86$ (science as a social experience), and a total test-retest reliability coefficient of $r = .83$. The RTES-R is an improved version at the subscale level (Gelso et al., 1996).

Unfortunately, the RTES-R is still limited in its application to assess the learning and training environment of graduate students. For example, though research training is integral to a graduate psychology program (Gelso et al., 1996), research training only accounts for part of the total training environment of graduate psychology students and does not account for other areas of training (e.g., clinical, academic, supervision). Furthermore, because the RTES-R was designed for doctoral level counseling psychology trainees, the RTES-R does not account for other clinical and research training programs at the master's level, such as counseling and marriage and family therapy.

Medical School Learning Environment Measures

Measures designed to assess the medical school learning environment focus on the academic learning environment and on the clinical training environment. However, not every measure is designed to assess both the academic environment and the clinical training environment, but rather treats each setting as an independent environment. Also, because medical training occurs at both the undergraduate (e.g., nursing) and graduate level (e.g., medical doctor), measures designed to assess the learning environment of medical schools are available at both training levels. For the purposes of this study, the

focus will be on graduate-level learning environments in medical education and training settings.

Medical School Learning Environment Survey (MSLES). In response to medical students reporting high levels of dissatisfaction and adjustment issues in medical school training, the MSLES (Marshall, 1978) was developed to assess medical students' perceptions of their medical school's learning environment. The setting of interest to the MSLES is primarily the academic setting and not on the clinical setting. MSLES is comprised of 50 items scored on a 4-point scale (i.e., *seldom*, *occasionally*, *more-often-than-not*, *very often*) and assesses the learning environment of medical schools on the following seven scales: (a) breadth of interest, (b) student interaction, (c) organization, (d) flexibility, (e) meaningful life experience, (f) emotional climate, and (g) nurturance.

Internal consistency of the MSLES was conducted using Cronbach's alpha. The alpha for the total scale score was .92. Individual reliability estimates for each scale ranged from $\alpha = .70$ (breadth of interest) to .85 (emotional climate). Additionally, split-half reliability tests with the total scale being split into odd items and even items yielded a Pearson correlation of .86, indicating a strong correlation between the two tests.

Though originally developed in 1978, the MSLES continues to be one of the most widely referenced and used instruments in medical education today (Stewart, 2006). However, its uses are limited to medical education, as no studies have attempted to validate the MSLES for use in other educational and training contexts.

Dundee Ready Educational Environment Measure (DREEM). In response to the growing popularity of learning environment research in medical and health science education, and coupled with changes in the format and delivery of medical education

program goals and teaching strategies, Roff et al. (1997) developed the DREEM. The DREEM claims to be a universal, generic, non-culture-specific instrument that measures medical and health science education schools' learning and teaching climates on the following five subscales: (a) teaching qualities, (b) characteristics of teachers, (c) involvement, (d) affiliation, and (e) school climate or general affect. Using Cronbach's alpha, the DREEM has an internal consistency reliability of .91 across all subscales. As of 2005, the DREEM has been translated into Spanish, Portuguese, Arabic, Chinese, Dutch Swedish, Norwegian, Malay, and Thai, and has been used in North America, Europe, Asia, Middle East, Africa, and the West Indies (Roff, 2005).

A unique feature of the DREEM is its "generic" (Roff, 2005, p. 1) personality that allows it to be used in various training programs (e.g., dental technology, general medical, dental nursing, nursing), in both undergraduate (e.g., nursing) and graduate level (e.g., medical school) training levels. However, Roff et al.'s (1997) rationale for developing the DREEM has been criticized for failing to acknowledge or review salient instruments, such as the MSLES (Marshall, 1978), in their literature review for articulating the need for a new instrument. For example, Stewart (2006) criticized Roff et al. for being overly subjective in their perspective that simply because an instrument is old, it is deemed no longer valid or worthy. Stewart argued that despite changes in program delivery and teaching strategies in modern medical education, the MSLES continues to be one of the most widely used and referenced learning environment instruments and has continuously yielded valid results. Roff (2005) countered that her research team could not locate any information on the MSLES during the developmental phases of the DREEM.

The Counseling Training Environment Scale (CTES)

While the relevance, significance, and use of learning environment research and its associated instruments is well documented in various programs of study and at various training levels, a review of scholarly databases including Google Scholar, the Mental Measurement Yearbook (MMY), PsycINFO, Academic Search Premier, ERIC, PsychARTICLES, Education Research Complete, Educational Administration Abstracts, and Health and Psychosocial Instruments, did not reveal any measure developed specifically targeting the counseling and related mental health training environment. As learning environments are unique reflections of their disciplines of study (Astin, 1965), the absence of such a measure is believed to inhibit meaningful empirical investigation as well as evaluation of the counseling training environment and its correlates. Therefore, this study sought to address the gap in the literature for counseling and related training.

Based on the information gathered in the literature review, and utilizing Bronfenbrenner's (1979, 1992) ecological theory as a conceptual framework, the current study aimed to develop a measure that assessed graduate counseling trainees' perceptions of their counseling training environment. As a result, the Counseling Training Environment Scale (CTES) was developed and is believed to be the first of its kind. The CTES is expected to contribute to the field of counselor training by providing educators and supervisors of counseling and related mental health training programs with a validated measure to (a) assess students' perceptions of their training environment specific to counseling and related disciplines and (b) conduct systemic program evaluation that focuses on their training environment. Researchers may also use the CTES to identify predictor variables for counseling training environments.

CHAPTER 3: METHODOLOGY

This chapter describes the methods and procedures that were followed in developing the Counseling Training Environment Scale (CTES) and in examining its outcomes for evidence of score reliability and validity. Details of the research design, sample participants, instrument development, and data analysis methods are included.

Design Overview

A mixed-method design was used in this study. The study comprised of two phases designed to develop the CTES: (a) item development and (b) assessment of the measure's preliminary evidence of validity and reliability. An overview of both phases is included in this chapter. Prior to Phase 1, a statement of purpose of the CTES was drafted. A literature review followed and was used to formulate the conceptual definition of the construct of training environment for counselors and other mental health trainees. A detailed discussion of this literature and construct is included in Chapter 2. The literature review provided a conceptualization of training environment for graduate students in counseling and related mental health training programs on which the CTES is based.

Based on Bronfenbrenner's (1979, 1992) ecological theory of human development, the CTES was designed to include five subscales or domains that comprise and represent the total training environment: (a) microsystem, (b) mesosystem,

(c) exosystem, (d) macrosystem, and (e) chronosystem. A detailed discussion of Bronfenbrenner's model is found in Chapter 2. The specific aim of this study was to develop the CTES as an instrument that measures counseling trainees' perceptions of their training environment in counseling and related mental health training programs. In relation to the two phases of this study, and within the context of Bronfenbrenner's (1979, 1992) ecological theory, the following sequential research questions guided this study:

1. What items operationalize the domains of Bronfenbrenner's (1979, 1992) framework in assessing students' perceptions of their training environment in a counseling and related training program?
2. What is the evidence for content validity of the CTES?
3. Do the data obtained from the CTES demonstrate a good fit with the five domains of Bronfenbrenner's (1979, 1992) ecological framework?
4. Do the scores of the CTES demonstrate adequate internal consistency and test-retest reliability?

Research Questions 1 and 2 fall under Phase 1, while Research Questions 3 and 4 are part of Phase 2. Following an overview of each phase of this study, each research question and its procedures including participants, instruments used, and analysis will be addressed.

Overview of Phase 1: Item Development for the CTES

Phase 1 of this study was item development which was broken into three steps: (a) development of the test specifications, (b) generation of the item pool, and (c) selection of specific items to be included in the intact CTES. In creating the item pool, items for the CTES were developed based on the literature and conceptual definition of the

counseling training environment. This literature can be found in Chapter 2. The development of items followed the guidelines recommended by DeVellis (2012). DeVellis contends that ideally written items are those that have clarity, are relevant, are simple and concise, and can be easily understood by the population for which the instrument is intended.

Additionally, Benson and Clark (1982) and DeVellis (2012) recommend that in developing items for an instrument, all items should be generated with consideration given to the response scale format. Thus, the establishment of the response scale format was completed prior to the development of the test specifications (i.e., step one) and prior to generation of any items (i.e., step two). In determining the response scale format, it was decided that Likert-type scales, one of the most common forms of response scales used in surveys (DeVellis, 2012), be used as the response format for the CTES.

In a Likert-type scale, the item is presented as a declarative sentence and is followed by response options that indicate varying degrees of agreement with or endorsement of the statement (DeVellis, 2012). Likert-type scales are used in established instruments that measure adult learning environments such as the Adult Classroom Environment Scale (ACES; Darkenwald & Valentine, 1986) and the College and University Classroom Environment Inventory (CUCEI; Fraser & Treagust, 1986). The response format adopted for the CTES is a 5-point Likert-type scale with the options of *1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree, 5 = not applicable*.

In step three, each item developed in step two underwent evaluation by way of expert review. The objective of this step was to select items for inclusion in the CTES by way of identifying only those items that had received approval from the expert review,

thereby reducing the number of items in the intact CTES to meet the desired number of items as specified by the test specifications. Thus, the overall goal of this step (and Phase 1) was to establish evidence of content validity for the items that would be included in the intact CTES.

Overview of Phase 2: Preliminary Evidence of Validity and Reliability of Outcomes

Phase 2 of this study assessed some of the psychometric properties of the intact CTES. Following item development and establishment of evidence of content validity of the CTES in Phase 1, the intact CTES was administered to a large national sample of current graduate students at the master's and doctoral level in counseling and related mental health training programs. The data gathered from this national field administration was used to calculate the CTES's reliability coefficients, examine its underlying dimensions, and assess its fit with the hypothesized model of Bronfenbrenner's (1979, 1992) ecological theory. Additionally, to further assess for evidence of reliability and temporal stability, a test-retest administration of the CTES was conducted.

Research Questions and Procedures

Each research question and its associated procedures and methods are discussed in detail below.

Research Question 1 (RQ1)

“What items operationalize the domains of Bronfenbrenner's (1979, 1992) framework in assessing students' perceptions of their training environment in a counseling and related training program?”

To answer RQ1, the following procedures were conducted: (a) development of the test specifications, and (b) generation of the item pool. The objective of these procedures was to obtain an initial set of items that operationalize the domains of Bronfenbrenner's (1979, 1992) framework in assessing students' perceptions of their training environment in a counseling and related training program for inclusion in the CTES.

Test specifications. A test specification serves as an outline or blueprint in aiding the developer delineate as clearly as possible the scope and emphasis of the test (Benson & Clark, 1982; Professional Testing Inc., 2010). The test specification is typically comprised of two parts: (a) test description and (b) test blueprint. The following steps were conducted in developing the test specifications for the CTES.

Test description. The test description developed for the CTES included information regarding the target group, the purpose of the CTES, test length (i.e., total number of desired items), desired administration time required, item type, and the mode of administration.

Test blueprint. Also called the table of specifications, a test blueprint allows developers to ensure that when developing items, all the items are derived from and are appropriate to the objectives of the instrument (Benson and Clark, 1982; Professional Testing Inc., 2010). The test blueprint is developed as a table with a number of cells. The horizontal axis lists the content areas or domains and sub-categories that are to be examined within the domains. Thus, each cell in the test blueprint represents the intersection of a content area and a content category. Because each item is to be constructed with only one content area and one content category in mind, it should "fit" in only one cell of the table of specifications (Benson and Clark, 1982). The purpose of

the test blueprint is to help identify how many items will be desired in each domain and content category. Results of the test blueprint for the current study are presented in Chapter 4.

Generation of item pool. Once the test specifications were established, the item development stage began. Test developers (e.g., Benson & Clark, 1982; Cox et al., 2006; DeVellis, 2012) recommend that when generating an instrument's item pool, developers should generate about two to three times as many items as desired for the final intact form of the instrument. Thus, in accordance to the test blueprint developed for the CTES, this researcher sought to generate at least thrice as many items for the initial item pool. All items were developed in consideration to the previously mentioned criteria recommended by DeVellis (2012) and were handled by a 3-member item-development team: (a) lead researcher (i.e., developer), (b) dissertation Chair, and (c) outside expert writer. The item pool generation occurred in two steps: (a) lead researcher and dissertation chair-developed items and (b) outside expert-developed items.

Lead researcher and dissertation chair-developed items. The lead researcher and dissertation chair developed an original set of items (Appendix O) in accordance to the test blueprint developed for the CTES and following the recommendations of DeVellis (2012).

Outside expert-developed items. The items generated by the lead researcher and dissertation Chair were forwarded to an outside expert in the mental health field who was experienced and familiar with counseling training environments and Bronfenbrenner's (1979, 1992) ecological theory. This outside expert was asked to create additional items for the CTES in accordance to its test specifications. Additionally, the outside writer was

asked to review, move (i.e., into appropriate cell), revise/re-write, and/or remove the items previously generated by the lead researcher and chair as she saw appropriate and in accordance with her understanding of the CTES's objectives and conceptual framework. The lead researcher of this study informed and trained the outside expert on the desired criteria to be used in developing her items.

Participants. The lead researcher of this study was a doctoral student in a counseling program located in a Southeastern university. At the time of this writing, this study was being completed as his dissertation in partial fulfillment of the Doctor of Philosophy degree. The lead researcher was a Licensed Professional Counselor (LPC) and experienced in systems-based counseling theories and practice, including marriage, family, and couples counseling and Bronfenbrenner's (1979, 1992) ecological model.

The dissertation chair was a tenured Associate Professor in Counseling in a master's and doctoral level counseling program in a Southeastern university. This writer held a professional counseling license as a Licensed Professional Counselor (LPC), was trained in the application of systems theories including Bronfenbrenner's (1979, 1992) ecological theory, and regularly practiced as a mental health counselor specializing in marriage, family, and couples counseling.

In an effort to enhance the utility of the CTES's items, an outside expert was sought to participate as an external item writer. The criteria used in identifying and selecting the outside expert item writer was one who (a) held an appointment as a faculty member in a graduate counseling or related mental health training program for at least 3 years, (b) held a professional license or credential to practice counseling or other related mental health therapies (i.e., psychology, marriage and family therapy), (c) was

experienced and familiar in using Bronfenbrenner's (1979, 1992) ecological theory, and (d) was willing to commit to the time requirements for participation as an item writer.

A professional contact of the dissertation Chair was identified and recruited to participate as an outside expert writer. This outside expert writer was a tenure-track Assistant Professor in Counseling in a master's level counseling program located in a Southeastern university. This expert had been teaching in the university's Marriage, Couple, and Family Counseling program for four years, and held professional licenses as a Licensed Mental Health Counselor (LMHC) and a Licensed Marriage and Family Therapist (LMFT). Furthermore, this expert had published research in the area of Bronfenbrenner's (1979, 1992) theory. She was also a regularly practicing counselor. This outside expert also agreed to the time requirements of serving as an item writer. As a token of appreciation, a small gift in the form of gift card was given to this expert item writer.

Instruments. A recruitment letter (Appendix A) was sent to the outside expert item writer informing her of the purpose of the study, her role and responsibilities in the study, and inclusion criteria for participation in this study. Upon agreement to serve as an outside expert writer, this expert was forwarded the item generation form (Appendix B) which included: (a) the objective and conceptual definition of the CTES and its content domains and content categories, (b) instructions and criteria to be used in developing items, and (c) a "working" test blueprint.

The "working" test blueprint was the previously constructed test blueprint and all of the items previously generated by the lead researcher and Chair. The outside expert item writer was tasked with generating as many additional items as she could in relation

to each of the cells found on the test blueprint and based on her understanding of the CTES's objectives and conceptual framework. Additionally, this outside expert writer was asked to review each of the previously generated items and to revise/re-write, remove, and/or "move" the item(s) to a more appropriate domain/content category as she saw appropriate. The expert was asked to contribute her items and return the material to the lead researcher via e-mail within seven days of receipt of the item generation form.

Analysis. Once all of the revised and additional items from the outside expert item writer were collected, the lead researcher reviewed the items for clarity, redundancy, conciseness, and conformity to the response format. Items that were unclear, redundant, lengthy, incomplete, or did not conform to the response format were discarded. The remaining items constituted the complete initial item pool (see Appendix O).

Research Question 2 (RQ2)

"What is the evidence for content validity of the CTES?"

In order to answer RQ2, evidence for content validity needed to be established for each of the items of the CTES. Content validity refers to the degree to which specific sets of items represent a specific content domain (Benson & Clark, 1982; DeVellis, 2012) and is easiest to evaluate when the domain is well-defined (DeVellis, 2012). Evidence for content validity was assessed and established for the CTES using a three-step process: (a) target group review, (b) item-development team review, and (c) outside expert review. The first step involved validation of the items through conducting a focus group "read aloud" with a small group of counseling students. The target group comprised of current graduate students in counseling and related mental health training programs who were at least in their second clinical field placement portion of their training. In the second step,

upon completion of the focus group “read aloud” procedure, the item-development team conducted a “consensus review” of all of the items. The third and final step involved using an outside expert reviewer to review and confirm the validity of all of the items. The intent of assessing content validity via this multi-step process was to increase the chances of the items being valid (Benson & Clark, 1982; DeVellis, 2012). The resultant items after the three-step process constituted the final set of validated items. In order to reduce the number of validated items to meet the desired number of items for the intact CTES as delineated by the test blueprint, an “item rating review” was conducted. The items selected after the rating review constituted the final intact CETS that was further examined quantitatively in Phase 2 of this study. Details of the procedures used to establish evidence of content validity of the items and the rating review process are described below.

Target group review. The target group review involved conducting a “read aloud” focus group administration of the items generated in RQ1 to a purposeful sample of graduate students in counseling. In the “read aloud” administration, participants in the target group were given a hard copy of the CTES’s directions, response format, and preliminary items printed as they would appear on the final intact CTES. Participants were asked to read and evaluate the CTES’s directions, response format, and individual items and to provide qualitative feedback regarding the clarity, usefulness, and relevancy of its contents. Recommendations for revisions and removal of specific items were also solicited. The “read aloud” was conducted live and the researcher took notes on the comments provided by the target group.

Participants. A purposeful sample of target group reviewers who were current graduate students and at least in their second clinical field placement portion of their training in a Department of Counseling at a Southeastern university were invited electronically to participate as members of the target group review panel (see Appendix C). The researcher coordinated a meeting time for the students to participate in the read aloud administration. Participants for the target group included one master's level and two doctoral level students.

Target group review form. The "Target Group Review Form" (Appendix D) was used to solicit the opinions and reactions of the participants in the target group toward the items generated for this study. The review form included the directions, the response format, and the individual items of the CTES as they would appear on the final intact CTES.

Analysis. Qualitative data from the sample target group was solicited to provide additional evidence for content validity. The sample target group participants offered their comments and suggestions regarding the CTES's directions, response format, ease of use, and the usefulness, clarity, and relevancy of individual items. Based on the feedback from the target group reviewers, individual items were revised immediately to meet their satisfaction (Benson & Clark, 1982). Furthermore, based on the feedback from the target group reviewers, items recommended for removal by two of the three reviewers were removed.

Item development team review. In this phase, the item development team conducted a consensus review of the items by way of reviewing and evaluating the items remaining (Appendix P) after the read-aloud focus group completed their review process.

In the consensus review, each member of the item development team received a copy of the originally generated items and a copy of the revised and remaining items after the read-aloud. Members of the item development team were asked to review the new list of items. Members who were satisfied with the resultant items were asked to provide their consensus to the items. Alternatively, if members had concerns regarding the outcome of the read-aloud focus group, they were asked to share their concerns with each member of the item development team. The remaining items after the analysis and upon consensus of the item development team constituted the revised item pool and these items were subsequently forwarded to the next step in assessing for content validity.

Outside expert review. After the completion of the item development team review, the resultant items were sent to an outside expert reviewer to begin the third and final phase of the content validation process. As review of the items by an expert who has a substantial knowledge base in the target area helps enhance content validity (Benson & Clark, 1982; Clark & Watson, 2003; Cox et al., 2006; DeVellis, 2012), this expert was targeted due to her expertise in the target area of counselor training and Bronfenbrenner's (1979, 1992) ecological systems theory.

Participant. The outside expert reviewer was an Associate Dean for Academic Affairs in a College of Education in a Northwestern university. This expert also held an appointment as a faculty member in the college's master's level counseling program and doctoral level psychology program. This expert's area of specialty included counselor training and supervision, and marriage and family therapy that includes system theories such as Bronfenbrenner's (1979, 1992) ecological theory. This expert was also well-published in the area of family and systems counseling.

The invited expert reviewer was informed of the purpose and the nature of her role in the study through a recruitment email (see Appendix E). Once the reviewer agreed to participate as an expert reviewer, the lead researcher emailed a detailed explanation of the rules and instructions for evaluating the items (see Appendix F).

Expert review form. The expert reviewer used the “Expert Review Form” (see Appendix F) to evaluate the content validity of the item pool. The expert review form included the conceptual definition of the specific counseling training environment subsystem and their content categories, each item typed as it would appear on the final intact CTES, and a blank test blueprint. The expert reviewer was instructed to place each item into the corresponding domain/environmental subsystem that she believed the item to best fit or represent. The expert reviewer was instructed to return the Expert Review Form within seven days of receipt.

Analysis. Because each item was created with only one content domain area and one content category in mind, each item should “fit” in only one cell of the table of specifications (i.e., test blueprint) (Benson and Clark, 1982). However, because each item’s placement in the test blueprint’s cells had already been reviewed and agreed upon by the item development team, the outside expert reviewer was asked to confirm the item placements by placing each item into its appropriate domain on the blank test blueprint. Items that the expert reviewer could not accurately place into a domain were removed from the item pool. Conversely, items that could be accurately placed by the expert reviewer were retained. Because the remaining items survived evaluation by the target group reviewers, the item development team, and the outside expert reviewer, these items were now considered content valid (Appendix Q).

Item rating review. In order to reduce the number of content-validated items to meet the desired number of items delineated by the test blueprint, the members of the item development team and the outside expert reviewer participated in an “item rating” review. Using a scale of 1 to 5 (1 = *least important*, 5 = *most important*), the each person was asked to rate each item’s “importance” to be included in the intact CTES. Item rating means were calculated for each item and were used to identify items with high and low importance ratings (see Appendix R). Items with higher ratings were assigned higher priority in being selected for the final intact version of the CTES.

All the items were then cross-referenced with the original test blueprint. The lead researcher selected and retained the appropriate number of higher-rated items for each cell in order to meet the desired number of items as delineated in the original test blueprint. This final set of items comprised the intact CTES (see Appendix S).

Research Question 3 (RQ3)

“Do the data obtained from the CTES demonstrate a good fit with the five domains of Bronfenbrenner’s (1979, 1992) ecological framework?”

In order to answer RQ3, a field administration of the intact CTES to a national sample of counseling trainees was conducted. Data gathered from the field administration was used to assess and examine the CTES’s fit with Bronfenbrenner’s (1979, 1992) ecological theory. In order to examine the model structure and fit of the CTES to the hypothesized model, the statistical procedure known as confirmatory factor analysis (CFA) was conducted. Details of the field administration are described below.

Field administration-confirmatory factor analysis (CFA). The use of exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) are two of the

most popular methods used by instrument developers in developing a new instrument (DeVellis, 2012). However, opinions differ on the applicability and rigor of choosing one method over the other. DeVellis (2012) contends that procedures such as EFA may be more rigorous compared to CFA due to the relatively low control that the developer has in determining the hypothesized factorial structure in EFA. In CFA, DeVellis posits, the developer is allowed to give the computer a “heavy hint” (p. 153) as to how the factorial model and its related variables should “turn out” (p. 153), and that such is not the case in EFA.

Conversely, Schumacker and Lomax (2004) outline a number of advantages of CFA over EFA. First, they note that whereas EFA does not allow researchers to assess and examine the relative goodness of fit of several different and specific models, CFA does. Second, although EFA is thought to be useful when researchers have no idea how the variables are related, such is rarely the case. Instead, researchers typically have ideas based on theory or past empirical work regarding what factor structures are present (Long, 1983). Therefore, CFA allows specific testing of these ideas; such is not the case with EFA. Third, as the goal of factor analysis is to obtain a simple structure, EFA accomplishes this by using an arbitrary factor-loading cutoff. Loadings below this cutoff are assumed to be equal to zero. However, in CFA these factor loadings can be intentionally set to zero and tested statistically to see if they actually are equal to zero. Finally, CFA enables the examination of hierarchical models; such is not possible in EFA.

In CFA, the researcher uses a hypothesized model to estimate a population covariance matrix that is compared with the observed covariance matrix (Schreiber, Stage, King, Nora, & Barlow, 2006). The confirmation of the scale’s factorial structure is based

on a particular pattern of relationships predicted on the basis of theory or previous analytic results (DeVellis, 2012). Because development of the CTES was guided by Bronfenbrenner's (1979, 1992) ecological theory, the use of CFA to analyze the CTES's factorial structure was appropriate. Therefore, CFA was the statistical procedure used to analyze the factorial structure of the CTES.

Participants and Procedures. Approval to conduct the field administration was received from the lead researcher's home institution's Institutional Review Board (IRB). Participants were recruited nationwide and included current graduate students at the master's, educational specialist, and doctoral level in counseling and related programs, including counselor education, counseling/clinical psychology, rehabilitation counseling, and marriage and family therapy. Due to the nature of some of the CTES's items, participants were required to have been at least in their second clinical field placement portion (e.g., second practicum, internship, advanced internship) of their training program.

Participants were recruited electronically via the following Internet listservs: (a) the Counselor Education and Supervision Network (CESNET-L; CESNET-L@LISTSERV.KENT.EDU), (b) the International Counselor Network (ICN; ICN@LISTSERV.UTK.EDU), and (c) the COUNSGRAD network (COUNSGRAD; COUNSGRADS@lists.acs.ohio-state.edu) (see Appendix G). Invitation to participate in the study was also sent electronically to coordinators and faculty members of counseling and related training programs identified through program directories including the Council for Accreditation of Counseling and Related Educational Programs (CACREP) Directory (<http://cacrep.org/directory/directory.cfm>), the American Psychological Association (APA) Directory (<http://www.apa.org/ed/accreditation/programs/index.aspx>),

the American Association for Marriage and Family Therapy (AAMFT) program directory (http://www.aamft.org/cgi-shl/twserver.exe?run:COAPRGS_1), and the Council on Rehabilitation Education (CORE) program directory (<http://www.core-rehab.org/PDF%20Documents/COREGradPrograms11.12.pdf>).

Interested participants were directed to the study's website hosted at surveyshare.com which included a description of the study and informed consent information (see Appendix H). The participants were told that their responses would not be linked to any personal identifying information, nor would they be asked to reveal any information that could potentially be used to identify or locate them. Since responses to the questionnaire were anonymous, upon reading the informed consent information, participants demonstrated their implied consent by clicking the "accept" button, thus allowing entry to the survey website and participation in the study. A total of 284 unique responses were collected, however seven of these cases were blank/incomplete and were thus removed. After removal of the incomplete cases, total participants in the field administration of the CTES equaled 277. Table 2 shows the participant demographics from the field administration of the CTES.

Table 2

Participant Demographics: CTES Field Administration (N=277)

Characteristic	N (%)	Characteristic	N (%)
Sex		Highest Degree Earned	
Female	235 (84.8)	Bachelor's Degree	152 (54.9)
Male	41 (14.8)	Doctoral Degree	4 (1.4)
Genderqueer	1 (.4)	Educational Specialist	2 (.7)
		Master's Degree	117 (42.2)
Age (In years)		Post-master's	1 (.4)

25 or Under	87 (31.4)	Skipped	1 (.4)
26-40	145 (52.3)		
41-55	36 (13)	Sexual Orientation	
56 or Older	9 (3.2)	Bi-sexual	13 (4.7)
		Gay	9 (3.2)
Race/Ethnicity		Heterosexual	248 (89.5)
African American/Black	24 (8.7)	Lesbian	4 (1.4)
Asian/Pacific Islanders	11 (4)	Questioning	1 (.4)
Caucasian and Puerto Rican	1 (.4)	Transgender	1 (.4)
Hispanic	1 (.4)	Skipped	1 (.4)
Indian National	1 (.4)		
Jamaican American	1 (.4)	Region	
Latino/Latina	1 (.4)	North Atlantic	45 (16.2)
Multi-heritage	8 (2.9)	North Central	58 (20.9)
Native American & White	12 (4.3)	Rocky Mountain	9 (3.2)
White, But not American	1 (.4)	Southern	142 (51.3)
White/Caucasian American	215 (77.6)	Western	22 (7.9)
		Skipped	1 (.4)
US Citizen/Permanent Resident			
No	10 (3.6)	Program Accreditation	
Yes	266 (96)	AATA	1 (.4)
Skipped	1 (.4)	APA	43 (15.5)
		CACREP	163 (58.8)
Degree Being Sought		COAMFTE	17 (6.1)
Master's	172 (62.1)	CORE	25 (9)
Educational Specialist	3 (1.1)	MPCAC	10 (3.6)
Doctoral	96 (34.7)	Not Accredited	16 (5.8)
Other	4 (1.4)	Skipped	2 (.7)
Skipped	2 (.7)		

Note. AATA = American Art Therapy Association; APA = American Psychological Association; CACREP = Council for Accreditation of Counseling and Related Educational Programs; COAMFTE = Commission on Accreditation for Marriage and Family Therapy Education; CORE = Council on Rehabilitation Education; MPCAC = Masters in Psychology and Counseling Accreditation Council.

Instruments. *Counseling Training Environment Scale (CTES).* An online version of the intact CTES (Appendix S) was hosted at <http://uncc.surveymshare.com/s/AQA92WA> and was utilized to conduct the field administration study.

Demographic questionnaire. A demographic questionnaire (Appendix I) accompanied the intact online CTES and was used to obtain demographic and background data of participants including program of study, program specialty, and current student status (i.e., master's or doctoral level.).

Data screening. Prior to any statistical analyses, data cleaning and screening was employed. All data were double-checked for accuracy prior to statistical analysis. Data were screened using AMOS 18 and the Statistical Program for the Social Sciences (SPSS) statistical software programs for normality, linearity, skewness, kurtosis, and both univariate and multivariate outliers (Tabachnik & Fidell, 2007). Multicollinearity and singularity of variables was assessed and were found to be acceptable.

A total of 284 responses were recorded through the online survey. However, of the 284 responses, 7 contained too many (i.e., > 10%) incomplete responses to the survey's items and were thus removed, bringing the total number of responses to 277. Of the 34 items in CTES, 15 items had no missing values and 19 had missing values. The items with the most amount of missing values were Micro4 and Chrono1 with five each. Micro2, Micro3, Micro7, Micro9, Meso2 Meso3, Meso5, Macro2, Macro3, Macro4, and Chrono2 each had one missing value, while Micro1, Micro5, Micro8, Micro10, Exo5, and Macro6 each had two missing values. The patterns of the missing data were analyzed and were determined to be missing at random (MAR). A multiple imputation technique was used to address the missing data.

Confirmatory factor analysis (CFA). The major steps in conducting a CFA are: (a) specification of the confirmatory factor model, (b) identification of the confirmatory factor model, (c) estimation of the confirmatory factor model, (d) assessing the fit in the

confirmatory factor model, and (e) model modification (Long, 1983; Tabachnik & Fidell, 2007; Schumacker & Lomax, 2004).

Specification of the confirmatory factor model requires making a formal and explicit statement about: (a) the number of common factors, (b) the number of observed variables, (c) the variances and covariances among the common factors, (d) the relationships among observed variables and latent factors, (e) the relationships among unique factors and observed variables, and (f) the variance and covariance among the unique factors (Long, 1983).

Identification of the confirmatory factor model is concerned with whether the parameters of the model are uniquely determined. This is done to allow for the estimation of the parameters of the model. However, Long (1983) states that if no model is identified, it is “impossible to uniquely determine the parameters even if the values for each observed variable are known for the entire population” (p. 35). Additionally, restrictions must be imposed on the parameters. If no restrictions are imposed, Long cautions that an infinite number of equations could be identified. Finally, Long emphasizes that identification must be established before estimation proceeds. The objective in estimating the factor model is “to find estimates of the parameters that reproduce the sample matrix of variances and covariances of the observed variables as closely as possible in some well-defined sense” (p. 56).

Assessing the fit in the confirmatory factor model is the next step in CFA. This involves testing specific hypotheses that the researcher has regarding his or her gathered data. For example, one can analyze the gathered data from the study’s sample and assess its fit to the model predicted on the basis of a particular theory. As each goodness-of-fit

indicator has its own criteria in determining an appropriate fit, Schreiber et al. (2006) recommend using various measures of fit indices to assess the model's fit. Common fit indexes include the Normed Fit Index (NFI), Non-Normed Fit Index (NNFI, also known as TLI), Incremental Fit Index (IFI), Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root-Mean-Square Residual (SRMR) (Hu & Bentler, 1999; Schreiber et al., 2006).

When a specified model has poor model fit indices, changes to the model can be considered. This final step in CFA is called model modification and typically occurs when researchers discover that the fit of the specified model is less than satisfactory (Schumaker & Lomax, 2004). In this step, the researcher performs a specification search to find a better fitting model. For example, the researcher may eliminate parameters that are not statistically significantly different from zero, or may include additional parameters to arrive at a modified model. In the present study, CFA and its associated procedures were computed using the computer software program AMOS 18 (Arbuckle, 2009).

In a CFA path diagram, latent variable(s) are identified by ovals. The latent variable(s) underlies the theory and is indirectly observed or measured and is therefore inferred (Tabachnick & Fidell, 2007). Individual items represent the observed variables and are identified by their rectangular shape. Observed variables are a set of variables that are used to define or infer the latent variable or construct. The small circles connected to each rectangle represent the unique variables or error terms that are responsible for the random variations in scores (Tabachnick & Fidell, 2007).

The single-headed arrows extending from the latent variable into the observed variables represent the direction of the effects that the latent variable has on the observed variables. The numbers on the line connecting the latent variable to the observed variables represent the standardized regression weights or the item loadings, while the numbers located directly next to each observed variable represents the squared multiple correlations.

Fit indices. In assessing model fit, it is recommended that various fit indices chosen from different classes be used. Specifically, Garson (2011) suggests that at least one fit index be chosen from the incremental, absolute, and parsimonious class. To evaluate the fit of the CTES to its hypothesized model, two fit indices were chosen from each class. Table 3 outlines the fit indices and their acceptable levels used to answer RQ3. Specifically, following fit indices were used:

1. The Tucker-Lewis index (TLI). Also known as the Non-Normed Fit Index (NNFI), or the Tucker-Lewis *rho* index, the TLI is an adjustment of the Normed Fit Index (NFI). Unlike the NFI, the TLI incorporates the degrees of freedom into the model (Garson, 2011). The TLI is preferred over NFI due to NFI's tendencies to underestimate fit for small samples (Ullman, 2007) and because NFI does not reflect parsimony (Garson, 2011). TLI values range from 0 to 1, with values closer to 1 indicating a better fit. A TLI value of $>.95$ is considered to be the cutoff for a good model fit (Hu & Bentler, 1999; Schreiber et al., 2006; Schumacker & Lomax, 2004).
2. Comparative Fit Index (CFI). The CFI fit index compares the covariance matrix predicted by the model to the observed covariance matrix, and compares the null model with the observed covariance matrix (Garson, 2011). CFI values vary from 0

- to 1 with values close to 1 indicating a very good fit. Ullman (2007) suggests values greater than .90 indicating a good fit of the model.
3. Chi-square. The chi-square (χ^2) fit index computes a maximum-likelihood chi-square value that estimates the probability that the differences between the predicted and actual observed correlations would occur by chance, assuming the hypothesized model is correct (Bryant, Yarnold, & Michelson, 1999). A statistically significant chi-square value denotes a model that fails to predict the observed data accurately, thus a non-significant chi-square value is desired (Bryant et al., 1999). A non-significant chi-square value suggests that the model fits the data well and that there is no statistically significant difference between the two. The significance level for the present study was set at .05.
 4. Standardized Root Mean Square Residual (SRMR). SRMR is the average difference between the predicted and observed covariances in the model, based on standardized residuals (Garson, 2011). SRMR assumes a large enough sample to assume stability of the standard error. The smaller the SRMR, the better the model fit, where a SRMR value of 0 indicates a perfect fit. Schreiber et al. (2006) suggests SRMR values of $\leq .08$ as demonstrating adequate fit.
 5. Akaike Information Criterion (AIC). AIC is a goodness-of-fit measure that adjusts model chi-square to penalize for model complexity (Garson, 2011). Thus, the AIC compares values in alternative models (Schumacker & Lomax, 2004). Lower AIC values are generally considered to be better, with AIC close to zero reflecting a good fit (Schreiber, et al., 2006), AIC of zero indicating a perfect fit, and a negative AIC indicating a poor fit (Schumacker & Lomax, 2004).

6. Root-Mean-Square Error of Approximation (RMSEA). RMSEA is a popular method of choice because model complexity and sample size have little influence on its value and because RMSEA does not require comparison with a null model (Garson, 2011; Schumacker & Lomax, 2004). Schumacker and Lomax (2004) suggest an RMSEA value of $\leq .05$ as an acceptable level indicating good model fit.

Table 3

Model Fit Criteria and Acceptable Levels

Indexes	Shorthand	Acceptable Level
Incremental		
Tucker-Lewis Index	NNFI	$>.95$; closer to 1 = better fit
Comparative Fit Index	CFI	$>.90$; closer to 1 = better fit
Absolute		
Chi-square	χ^2	Non-significant value; $> .05$
Standardized Root Mean Square Residual	SRMR	$\leq .08$; Smaller the better
Parsimonious		
Akaike Information Criterion	AIC	Lower the better; 0 = perfect fit
Root-Mean-Square Error of Approximation	RMSEA	$\leq .05$

Research Question 4 (RQ4)

“Do the scores on the CTES demonstrate adequate internal consistency and test-retest reliability?”

To answer RQ4, data gathered from the field administration used in RQ3 was used to conduct classical test theory analyses to examine the reliability estimates of the CTES total score and for each of its subscales. Additionally, the CTES was administered once more to further assess its scores' evidence of internal consistency and temporal reliability. In the field administration, classical test theory analyses included examination of item means, standard deviations, item-total correlations, and Cronbach's alpha for the

total scale and subscales. For the test-retest administration, analysis of Pearson Product-moment correlation coefficients between the first and second administration was conducted.

Field administration-classical test theory. Statistical analyses used to answer RQ4 were based on classical test theory (CTT). The data collected from the field administration the intact CTES were used to conduct item analysis and to derive reliability estimates to determine how well the items were fitting with the measure or relevant content domain (DeVellis, 2012). At the item level, the CTT model is relatively simple (Fan, 1998). An assumption of CTT is that a scale must be unidimensional (DeVellis, 2012; Fan, 1998). This means that items must share one and only one underlying variable if they are to be combined into a scale. Thus, if a set of items is multidimensional, then the separate, unidimensional item groupings must be dealt with individually (DeVellis, 2012). Therefore, items of the intact CTES underwent analyses that examined both the inter-item correlations and the item-total correlations of the CTES and each of its subscales.

Participants. Participants involved in this part of the study were those recruited to provide data to answer the field administration portion of RQ3. See the “participants” section in RQ3-field administration for complete details on participants, including recruitment and informed consent procedures.

Instruments. The instruments used to collect data to answer RQ4 were the same as those used to gather data to answer RQ3-field administration.

Data Screening. Data screening procedures used here were the same as those used on the data gathered to answer RQ3.

Analysis. CTT analyses were conducted using SPSS. Individual item means and standard deviations were analyzed. In addition, internal consistency reliability for the CTES and each of its subscales were assessed using Cronbach's alpha coefficient, and item-total correlations.

Test-retest administration. To gather additional evidence of internal consistency and temporal stability, a test-retest administration of the CTES was conducted. The underlying rationale of a test-retest administration is that if a measure truly reflects a meaningful construct, it should assess that construct comparably on separate occasions (DeVellis, 2012). Thus, in the test-retest administration, the CTES was administered once more to a sample population twice within a two-week period.

Participants. Approval to conduct the test-retest study was received from the lead researcher's home institution's IRB. Participants in the test-retest administration were recruited from the original national sample used in the field administration done in RQ3. At the conclusion of taking the CTES in the field administration, participants were given an option to volunteer for the retest by taking the CTES a second time two weeks later (Appendix J). Participants were able to either accept or decline the invitation to participate in the retest of the CTES. If participants chose not to participate in the retest, they were redirected to the end of the survey and their participation was complete.

Participants who chose to participate in the retest were directed to a page that outlined the procedures (Appendix K) of the retest that was to be taken in two weeks. Because participation in the retest required participants to provide a unique "identifier" to link the data between their completed surveys, the welcome page included a full disclosure statement informing participants of the steps to be taken to protect their

identity. To encourage participation in the retest, participants were told that they could choose to enter their names into a drawing where they would be eligible to win 1 of 5 \$20 gift cards to amazon.com (Appendix L).

Participants who volunteered for the retest submitted an email address to the lead researcher, who, two weeks later, sent participants a link directing them to the online CTES-Retest survey hosted at surveyshare.com. The email address was also used as the unique identifier for each participant. The lead researcher sent the retest link to the first 50 volunteers who submitted their email address. A total of 41 completed responses were received via the online survey. The lead researcher notified the winners of the amazon.com gift cards by email (Appendix M). Table 4 shows the demographics of the participants in the retest administration.

Instruments. The same CTES used in the field administration phase of RQ3 and the CTT phase for RQ4 was used in the test-retest administration.

Table 4

Participant Demographics: CTES Test-Retest (N=41)

Characteristic	N (%)	Characteristic	N (%)
Sex		Highest Degree Earned	
Female	32 (78)	Bachelor's Degree	21 (51.2)
Male	8 (19.5)	Master's Degree	20 (48.8)
Genderqueer	1 (2.4)		
Age (In years)		Degree Being Sought	
25 or Under	15 (36.6)	Doctoral	21 (51.2)
26-40	24 (58.5)	Educational Specialist	1 (2.4)
41-55	2 (4.9)	Master's	19 (46.3)
Race/Ethnicity		Program Accreditation	
African American/Black	3 (7.3)	APA	10 (24.4)
		CACREP	19 (46.3)

Indian National	1 (2.4)	COAMFTE	7 (17.1)
Multi-heritage	3 (7.3)	CORE	3 (7.3)
White/Caucasian American	34 (82.9)	Not Accredited	2 (4.9)
US Citizen/Permanent Resident		Region	
No	1 (2.4)	North Atlantic	5 (12.2)
Yes	40 (97.6)	North Central	14 (34.1)
		Rocky Mountain	2 (4.9)
Sexual Orientation		Southern	17 (41.5)
Bi-sexual	3 (7.3)	Western	3 (7.3)
Heterosexual	37 (90.2)		
Transgender	1 (2.4)		

Note. APA = American Psychological Association; CACREP = Council for Accreditation of Counseling and Related Educational Programs; COAMFTE = Commission on Accreditation for Marriage and Family Therapy Education; CORE = Council on Rehabilitation Education.

Analysis. Temporal stability of the CTES was measured through a test-retest reliability analysis. Pearson Product-moment correlation coefficients (r) between the scores on the first and second administrations were calculated to examine the CTES's scores temporal reliability.

CHAPTER 4: RESULTS

This chapter presents the results of the study. Data gathered for Research Question (RQ) 1 includes the items that were generated for the Counseling Training Environment Scale (CTES) through each of the item development phases described in Chapter 3. Results for RQ2 include findings establishing evidence of content validity of the CTES's items through expert review. This section also includes the results of the selection method for determining the final set of items included on the intact CTES. Results for RQ3 are findings from the field administration of the CTES. Results for RQ4 are related to the CTES's internal consistency and temporal reliability estimates. The results are presented sequentially.

Research Question 1

What items operationalize the domains of Bronfenbrenner's (1979, 1992) framework in assessing students' perceptions of their training environment in a counseling and related training program?

In order to answer RQ1 the following procedures were conducted: (a) development of the test specifications and (b) generation of the item pool. The results are presented as follows.

Development of Test Specifications

Prior to generating any items, the lead researcher developed a test specification that outlined the details of the CTES. The test specification was broken into two parts:

(a) test description and (b) test blueprint.

Test description. Details of the test description include information regarding the target group, the purpose of the CTES, test length (i.e., total number of desired items), desired time for administration, item type, and the mode of administration. Table 5 shows the test description developed for the CTES.

Table 5

Test Specifications: Test Description

Description Area	Content
Target Group	Graduate students in counseling and related programs who are at least in their second field placement of their training
Purpose	To assess counseling students' perceptions of their training environment
Desired Test length	34 items
Administration Time	< 10 minutes
Item Type	5-point Likert-type scale
Administration Mode	Online, computer-based

Test blueprint. The lead researcher also developed a test specification blueprint that delineated the domains and content categories that the CTES was designed to assess. The test blueprint was also used to delineate the number of items desired within each domain and content category. The five domains of Bronfenbrenner's (1979, 1992) ecological model represent the CTES's content domains: (a) microsystem, (b) mesosystem, (c) exosystem, (d) macrosystem, and (e) chronosystem. The content

categories of the CTES's domains are specific to each domain and were identified through a review of the literature on counseling training and learning environment research and in accordance to the theoretical assumptions of Bronfenbrenner's model. The review of the counseling training literature and Bronfenbrenner's model can be found in Chapter 2. Table 6 shows the test blueprint developed for the CTES.

Table 6

CTES Test Specifications: Test Blueprint

Domain	Content Category	Number of Items
Microsystem	Classroom/Advising	2
	Clinical Experience	2
	Academic Unit	2
	University/College	2
	Community	2
Mesosystem	Multisetting Participation	2
	Intersetting Communication	2
	Intersetting Knowledge	2
Exosystem	Student-Client-Client's Other	1
	Student-Faculty-Faculty's Other	2
	Student-Supervisor-Supervisor's Other	2
	Student-Classmates-Classmates' Other	1
Macrosystem	Political Culture	1
	Laws and Ethics	2
	Economics	1
	Multiculturalism	2
Chronosystem	Social-Historical	3
	Current, Up-to-date, Adaptive	3
Total		34

Generation of Item Pool

Items for the CTES were generated through an item-development team and were developed through a two-step process: (a) lead researcher and dissertation chair developed items, and (b) outside expert developed items. Results from both steps are reported below.

Items developed by lead researcher and dissertation chair. Items developed by the lead researcher and dissertation chair were done in accordance to the test blueprint developed for the CTES and based on an extensive review of literature on counseling training, learning environment research, and adult learning. See Chapter 2 for the review of the literature.

As the original test blueprint called for 34 items total, following the recommendations of test developers (e.g., Benson & Clark, 1982; Cox et al., 2006; DeVellis, 2012), the item development team sought to develop at least thrice as many items in the original item pool. Thus, a total of at least 102 items was sought. The total number of items developed by the lead researcher and dissertation chair was 197. By individual domain, 81 items were developed for the microsystem, 30 for the mesosystem, 34 for the exosystem, 36 for the macrosystem, and 16 for the chronosystem. Appendix N shows the total list of items generated by the lead researcher and dissertation chair defined by their domains and content categories.

Outside expert developed items. An outside expert familiar in counseling training and Bronfenbrenner's (1979, 1992) ecological theory joined the item development process after the lead researcher and the dissertation chair completed their part of the process. The lead researcher briefed the outside expert on the process and

criteria to be used in developing the items. Besides generating additional items, this outside expert was also tasked to review the list of previously generated items by the lead researcher and dissertation chair and to provide feedback on the items.

Items revised. After reviewing the items generated by the lead researcher and the dissertation chair, the outside expert revised a total of 22 items. The revised items are outlined and grouped by their specific domain of the CTES in Table 7.

Table 7

Outside Expert Writer: Items Revised by Domain

Domain	Original	Revised
Microsystem	1. I feel comfortable disclosing personal information to my professor	1. I feel comfortable disclosing personal information to my professors
	2. My professors give me reasonable control over my pace of learning	2. My professors respect my learning style and give me reasonable control over my pace of learning
	3. I am encouraged to share my personal experiences in class	3. I am encouraged to share my personal life experiences in class
	4. Student-to-student interaction in class is encouraged	4. Professors encourage collaboration among students
	5. My clinical site supervisor is a motivated person	5. My clinical site supervisor motivates me to do my best
	6. My clinical site supervisor is enthusiastic towards my development	6. My clinical site supervisor facilitates my growth and development
	7. My clinical site supervisor has my well-being in mind	7. My clinical site supervisor and I have a positive rapport
	8. University/college services are	8. University/college services

	readily available to support my graduate research and training (e.g., computer labs)	are readily available to support my graduate research and training (e.g., computer labs, library resources)
Mesosystem	<ol style="list-style-type: none"> 1. We have a student group that actively participates in university/college events 2. My faculty mentor shares his/her knowledge in his/her specialty area with me 3. Faculty members share their expert knowledge in the courses they teach 4. Students are made abreast of the mental health needs of the community 	<ol style="list-style-type: none"> 1. We have a student group that actively participates in university/college and community events 2. My faculty mentor/advisor shares his/her knowledge in his/her specialty area with me 3. Professors share their expert knowledge in the courses they teach 4. Students are kept abreast of the mental health needs of the community
Exosystem	<ol style="list-style-type: none"> 1. I am able to improve my clinical skills by learning from my classmates' clinical experiences 	<ol style="list-style-type: none"> 1. I am able to improve my clinical skills by learning from my classmates' experiences
Macrosystem	<ol style="list-style-type: none"> 1. My training curricula meets state standards for professional licensure and/or certification 2. I have the opportunity to work with clients from a different socio-economic status as myself 3. The costs to attend my program is a worthy investment 	<ol style="list-style-type: none"> 1. Training curricula meets state standards for professional licensure and/or certification 2. I have the opportunity to work with clients from a different socio-economic status than myself 3. The costs to attend my program is a worthwhile investment
Chronosystem	<ol style="list-style-type: none"> 1. Students learn about the historical development of our mental health profession 2. Students are taught to 	<ol style="list-style-type: none"> 1. Students learn about the historical development of the mental health profession 2. Students are taught to

appreciate the history of our mental health profession	appreciate the history of the mental health profession
3. The program is intentional in facilitating students' growth and development through stages	3. The program is intentional in facilitating students' growth and development
4. The program is considerate of students' individual development	4. The program is responsive to students' individual development
5. Program implements current and up-to-date technologies needed to facilitate my learning	5. The Program implements current and up-to-date technologies needed to facilitate my learning
6. My program keeps abreast of the current trends of the profession	6. The program keeps abreast of the current trends in the profession

Items added and removed. In total, the outside expert item writer added 11 items and removed 16 items from the original item pool developed by the lead researcher and the dissertation chair. Table 8 displays the individual items that were added and/or removed.

In the microsystem, five items were added and three items were removed. The microsystem received the largest number of items added by the outside expert writer. The outside expert writer also recommended that the item "My clinical site supervisor assists me in developing my multicultural competence" be removed from the exosystem and moved into the microsystem, instead. For the mesosystem, two items were added, and four items were removed.

Within the exosystem, the outside expert added one item and removed five items. The five items removed from the exosystem represented the largest number of items removed by the outside expert. Finally, three items were added to and four were

removed from the macrosystem. No items were recommended for removal nor were any items added to the chronosystem by the outside expert item writer.

Table 8

Outside Expert Writer: Items Added and Removed by Domain

Domain	Added	Removed
Microsystem	1. Professors focus on promoting active student learning of specific skills	1. Professors make attempts to integrate my life experiences into the class discussions
	2. My learning is frequently measured	2. My personal life experiences are not valued in class (-)
	3. Learning objectives focus on learning aspects of theory that are relevant to counseling practice	3. Learning occurs at my own pace, not my professors'
	4. Professors utilize a variety of activities to facilitate student learning (lecture, role-plays, experiential activities, guest speakers, student presentations, etc.)	
	5. My clinical site supervisor assists me in developing my multicultural competence (added from Exosystem)	
Mesosystem	1. My faculty supervisor and site supervisor regularly communicate with each other	1. What I learn in class is highly applicable in my clinical field placement site
	2. Students are made aware of opportunities to volunteer in community activities	2. The types of assignments I am given in class is similar to the type of work I expect to do when I graduate
		3. My faculty supervisor and site supervisor have no

		communication with each other (-)
		4. My faculty supervisor and site supervisor regularly communicate with each other
Exosystem	1. My training helps me become cognizant of the impact that my background and life experiences have on my clients and how these may affect my clients	1. I am taught how to teach my clients to advocate for themselves
		2. My training helps become cognizant on how my background and life experiences can affect my clients' life space as a result of interacting with me
		3. Faculty disclose outside information with students
		4. External factors limit the amount of interaction I have with my faculty
		5. My clinical site supervisor assists me in developing my multicultural competence (moved to Microsystem)
Macrosystem	1. Students are kept abreast of current local, state, and national legislation that affects the mental health profession and the impact this legislation has on our clients	1. Students are kept updated of the government activities that impact the mental health profession
	2. There is an emphasis on developing a strong professional identity	2. Discussing government activity that impact our profession is practiced regularly

- | | |
|---|---|
| 3. An emphasis is placed on adhering to the ethical codes set forth by the profession | 3. My program emphasizes developing a strong professional identity |
| | 4. My program emphasizes the adherence to the ethical codes set forth by the profession |
-

Note. (-) Indicates reverse-scoring items.

Total Number of Items

Establishment of the total item pool was accomplished after the two-step item development process was completed, resulting in 83 items in the microsystem, 27 in the mesosystem, 30 in the exosystem, 36 in the macrosystem, and 16 in the chronosystem. The grand total of items was 192, and thus meeting the requirement of at least thrice as many items needed to be generated (Benson & Clark, 1982; Cox et al., 2006; DeVellis, 2012). See Appendix O for the final set of 192 items generated by the item development team.

In sum, multiple steps were taken to not only conceptualize the purpose and objectives of the CTES, but also in the item development process. The total number of items developed for consideration in the CTES was more than thrice as many as desired for the final intact version of the CTES.

Research Question 2

What is the evidence for content validity of the CTES?

Content validity of the CTES was assessed through a three-phase content validity process: (a) target group read-aloud administration, (b) internal review by item development team, and (c) external review from an outside expert reviewer. In addition to the content validity procedures, the item development team and the external reviewer

conducted an “item rating” exercise on each item. In the item rating procedure, each item was rated on its “importance” for inclusion in the final version of the CTES that would be field-tested. Items given higher importance received priority in being selected for inclusion. Results from each procedure are presented below.

Target Group Review

In the target group review, participants engaged in a read-aloud where they qualitatively evaluated all aspects of the CTES. The lead researcher facilitated the read-aloud and took notes of the participants’ feedback on the CTES’s instructions/directions, response format, and individual items.

CTES-instructions. Target group reviewers stated experiencing no difficulty or ambiguity in reading and understanding the measure’s instructions. Reviewers believed the instructions to be at an appropriate level for graduate students.

CTES-response format. Target group reviewers expressed a mixed view towards the response format. One reviewer suggested that a “neutral” option be made available in the response format, while the other two reviewers recommended leaving the response format intact. The reviewer who suggested that a neutral option be included stated that it might be a “safer” option for test-takers instead of “forcing” a selection. However, the other two reviewers stated that if the intent is to assess a training program’s environment, having a participant’s opinion one-way or another (i.e., agree or disagree) would be more beneficial than having no opinion. After further discussion, the reviewers came to a compromise and suggested that a “not applicable” response option be included. A “not applicable” response was coded as “missing” and replaced with the scale mean.

CTES-individual items. Reviewers read-aloud each of the items and provided their feedback on the items that appeared to make less sense, were less specific, appeared to be irrelevant, and/or presented greater difficulty in understanding the item. The reviewers offered recommendations for improving items, as well as recommendations for item removal. A general recommendation was made to highlight, italicize, or underline specific words that suggest a reversed-scored or negatively worded item. The lead researcher made note of the specific words and items that were recommended by the reviewers. All revisions to the items were done immediately by the lead researcher and to the satisfaction of the target group reviewers. Specific details of the outcomes of the target group read-aloud are provided in Tables 9 to 12 and are grouped by the individual domains of the CTES.

Microsystem. Reviewers recommended revisions be made to nine items, and also recommended that 18 items be removed. One item that received particular attention was “Questions from students are welcomed in class.” Reviewers unanimously stated that the item was confusing because they did not know which class the item was referring to. It was recommended that “all my classes” be added to the item so that the item requires survey-takers to consider their program as a whole, and not a singular class. Table 9 outlines all of the revisions and removals made within the microsystem.

Table 9

Target Group Review: Items Revised and Removed by Domain-Microsystem

Original	Revised
1. Questions from students are welcomed in class	1. Questions from students are welcomed in all my classes

- | | |
|---|---|
| 2. My professors' expectations of me are clearly outlined at the beginning of class | 2. My professors' expectations of me are clearly outlined at the beginning of the semester |
| 3. The classroom atmosphere motivates me as a learner | 3. The atmosphere in all my classes motivates me as a learner |
| 4. My opinions and viewpoints are not solicited in class | 4. My opinions and viewpoints are not solicited in class |
| 5. I am able to choose meaningful assignments specific to my professional interests | 5. I am able to choose meaningful topics specific to my professional interests |
| 6. My learning is frequently measured | 6. My learning is frequently assessed |
| 7. My clinical training site is poorly organized | 7. My clinical training site is poorly organized |
| 8. There is a clearly defined pathway to address problems within the department | 8. There is a clearly defined pathway to address problems within my academic department |
| 9. The training I receive prepares me for the work I will do upon graduation | 9. I believe the training I receive prepares me for the work I will do upon graduation |

Removed

1. Professors model appropriate skills for approaching difficult issues
2. My professors respect my learning style and give me reasonable control over my pace of learning
3. I am concerned about the class size affecting my learning
4. My opinions are regularly demeaned by my professor
5. I feel unfairly used at my clinical training site
6. I can choose clinical field placements that reflect my clinical interests
7. I am able to individualize my training to match my interest and needs
8. Faculty and staff have clear roles and responsibilities
9. My program provides the resources needed to facilitate my learning
10. My program offers me regular formal feedback on my performance
11. My program offers me regular informal feedback on my performance
12. Classes are scheduled to meet the needs of working students
13. My department is valued by my institution's senior administrators (e.g., President/Chancellor and Provost)
14. Program faculty are accessible to students outside of class hours
15. Administrative procedures are handled smoothly

16. My university/college is well-respected within academia
 17. The university/college campus is accommodating to graduate students and families (e.g., graduate/family housing)
 18. We are located in a surrounding community that provides diverse clients to work with
-

Mesosystem. The target group reviewers recommended no items in the mesosystem domain for removal. However, revisions were suggested for four items. The major recommendation for revision to items was related to the term “faculty.” One reviewer suggested that a school counseling student could easily interpret the term “faculty” as a school faculty (i.e., teacher, principle, registrar, etc.) at the school site, and not the graduate training program’s faculty that the item was intended to refer to. Thus, it was recommended to change the term “faculty” to “program faculty” when referring to the graduate training program’s faculty. Table 10 shows the specific items that were revised.

Table 10

Target Group Review: Items Revised and Removed by Domain-Mesosystem

Original	Revised
1. My faculty supervisor and my site supervisor disagree on the areas they feel I need to improve on (-)	1. My program faculty supervisor and my site supervisor <i>disagree</i> on the areas they feel I need to improve on (-)
2. Faculty are active in addressing issues that arise at my clinical field experience site	2. Program faculty are active in addressing issues that arise at my clinical field experience site
3. My faculty supervisor and site supervisor regularly communicate with each other	3. I believe my program faculty supervisor and site supervisor regularly communicate with each other

- | | |
|--|---|
| 4. There are clearly defined mechanisms and avenues in place for students to offer feedback to faculty | 4. There are clearly defined mechanisms and avenues in place for students to offer feedback to program faculty |
|--|---|
-

Note. (-) Indicates reverse-scoring items.

Exosystem. Within the exosystem domain, eight items were recommended for removal, while the target group reviewers recommended only one item for revision. For some of the items that were recommended for removal, reviewers reported that the specific items appeared to be too difficult to answer or “know” because knowing the answers to such questions would require students to be privy to information that is not always well known. For example, the items “My clinical site supervisor is well-networked within the profession” and “My clinical site supervisor regularly participates in continuing professional development activities” were said to be information that neither of the reviewers were aware of, and that other students would likely find confusing to answer. Table 11 outlines the specific items that were recommended for revision and removal.

Table 11

Target Group Review: Items Revised and Removed by Domain-Exosystem

Original	Revised
1. My field site’s administration has policies in place that support the clinical supervision process	1. My clinical site’s administration has policies in place that support the clinical supervision process
<u>Removed</u>	
<ol style="list-style-type: none"> 1. Faculty help me recognize my client’s impact on my development as a counselor 2. Faculty regularly present at professional conferences 3. Faculty members collaborate with faculty in other departments on campus 4. Faculty is generally too busy with other responsibilities and activities to be concerned with student learning (-) 	

5. My clinical site supervisor regularly participates in continuing professional development activities
 6. My clinical site supervisor is well- networked within the profession
 7. My classmates actively participate in community activities
 8. My classmates are encouraged to share their personal resources with each other
-

Macrosystem. Reviewers recommended that one item be revised and three items be removed from the macrosystem domain. All three reviewers commented that the item “Students are encouraged to select their field placement site based on multicultural factors” may be unfair for the programs that have limited options for placing students in clinical sites. For example, one reviewer stated that due to the limited number of clinical sites in the community, he was encouraged to find “anywhere” that would accept him as an intern. Another reviewer stated that he was simply placed in a site by the district’s school board, and that the academic program and student interns have little to no control over where students can be placed for their clinical field training. Table 12 shows the revised and removed items.

Table 12

Target Group Review: Items Revised and Removed by Domain-Macrosystem

Original	Revised
1. Students are expected to demonstrate professional and legal etiquette (i.e., documentation, case notes, etc.) necessary for professionals in our field	1. Students are expected to demonstrate professional etiquette (i.e., documentation, case notes, etc.) necessary for professionals in our field
<u>Removed</u>	
1. The costs to attend my program is a worthwhile investment 2. I am encouraged to work with clients culturally different from myself 3. Students are encouraged to select their field placement site based on multicultural factors	

Chronosystem. The target group reviewers made no recommendations for item revision or item removal for this domain. Reviewers agreed that the items appeared to be specific, relevant, and clear.

Total number of items. At the conclusion of the target group read-aloud, a total of 164 items remained, resulting in 65 in the microsystem, 28 in the mesosystem, 22 in the exosystem, 33 in the macrosystem, and 16 in the chronosystem. Appendix P shows the resultant items after the target group read-aloud.

Item Development Team Review

At the conclusion of the target group read-aloud, the lead researcher revised the item pool as recommended by the target group reviewers. The lead researcher then forwarded a copy of the target group reviewers' comments and recommendations for the CTES to the rest of the item development team. Item development team members were asked to review the target group's recommendations and to provide additional feedback. Both the dissertation chair and the outside item writer approved the proposed recommendations to the CTES. The resultant items and format of the CTES was then forwarded to the outside expert reviewer for the third and final stage of assessing content validity.

Outside Expert Review

Upon completion of the target group read-aloud and the item development team review, the remaining items were sent to an outside expert reviewer for the final phase of the content validation process. In this process, each item was typed as it would read on the final version of the intact CTES and was given to the outside expert reviewer. Because each item was generated with a specific domain in mind, the role of the outside

expert reviewer was to accurately place each item into its originally intended domain within the CTES through a blind process. The lead researcher removed items that the outside expert reviewer placed into a domain differently from where they were originally intended to be.

In total, the expert reviewer placed 36 items differently compared to the item development team. Thus, these 36 items were not deemed valid and were consequently removed from the CTES's item pool. Specifically, the expert reviewer's placements differed among five items within the microsystem, 16 items within the mesosystem, 12 items within the exosystem, and three items within the chronosystem. The expert reviewer accurately placed all of the items within the macrosystem. Table 13 outlines the specific items that were removed from the CTES, including the intended domain by the item development team and the domain identified by the expert reviewer.

Table 13

Outside Expert Reviewer: Items Misplaced and Removed

Item Removed	Intended Domain	Domain Identified by Outside Expert
1. My university/college offers a range of social activities for graduate students	Microsystem	Chronosystem
2. The university/college has support programs and wellness activities for graduate students (e.g., work-life balance)	Microsystem	Choronosystem
3. My university/college is an active member within the community	Microsystem	Macrosystem
4. The surrounding community offers a vibrant place to live	Microsystem	Macrosystem
5. The surrounding community stimulates intellectual activity	Microsystem	Macrosystem
6. Social events for students are hosted outside of class	Mesosystem	Macrosystem
7. There are clearly defined mechanisms and	Mesosystem	Microsystem

avenues in place for students to offer feedback to program faculty		
8. The university/college disseminates information specific to graduate students	Mesosystem	Macrosystem
9. The university/college utilizes various modes to communicate with students	Mesosystem	Chronosystem
10. Channels are in place for students to provide informal feedback to the program	Mesosystem	Macrosystem
11. Channels are in place for students to provide formal feedback to the program	Mesosystem	Macrosystem
12. Communication from my department is disseminated in a timely fashion	Mesosystem	Macrosystem
13. Students are made aware of self-care options available on campus	Mesosystem	Macrosystem
14. Technical support from the university is available to assist in conducting scholarly activity	Mesosystem	Chronosystem
15. The university/college offers training specific to graduate students	Mesosystem	Chronosystem
16. My faculty mentor/advisor shares his/her knowledge in his/her specialty area with me	Mesosystem	Microsystem
17. Professors share their expert knowledge in the courses they teach	Mesosystem	Macrosystem
18. Students are aware of university/college policies and deadlines	Mesosystem	Macrosystem
19. The university's website provides information relevant to my training needs	Mesosystem	Chronosystem
20. The department's website provides adequate information to assist my training needs	Mesosystem	Chronosystem
21. The university's policies are easily accessible to students	Mesosystem	Chronosystem
22. Faculty place more emphasis on their research than on their students' development (-)	Exosystem	Macrosystem
23. Faculty regularly participate in professional development activities	Exosystem	Macrosystem
24. Faculty tend to bring their personal issues into the classroom (-)	Exosystem	Macrosystem
25. Faculty invite outside experts to guest lecture	Exosystem	Macrosystem
26. My clinical site supervisor has too many supervisees to provide the type of supervision that I desire (-)	Exosystem	Macrosystem
27. My clinical site's administration has	Exosystem	Macrosystem

28. My clinical site's administration has policies in place that support the clinical supervision process	Exosystem	Macrosystem
29. My clinical site supervisor incorporates his/her personal experiences into the supervision process	Exosystem	Macrosystem
30. My classmates are active in professional organizations	Exosystem	Macrosystem
31. My classmates tend to let events in their personal lives dominate class discussions (-)	Exosystem	Macrosystem
32. My classmates regularly share their clinical experiences with the class	Exosystem	Macrosystem
33. My classmates don't seem to get along on a regular basis (-)	Exosystem	Macrosystem
34. Students are taught to appreciate the history of the mental health profession	Chronosystem	Macrosystem
35. Students are taught how to appreciate the social, political, and cultural forces that impact the practice of mental health counseling	Chronosystem	Macrosystem
36. Students learn about the historical development of the mental health profession	Chronosystem	Macrosystem

At the conclusion of the outside expert evaluation, all remaining items constituted the final set of content-validated items. This final set of items totaled 128 with 60 items in the microsystem, 12 in the mesosystem, 10 in the exosystem, 33 in the macrosystem, and 13 in the chronosystem. See Appendix Q for the complete set of content-validated items.

Item Rating Review

In an effort to systematically select the final items for inclusion into the intact CTES, an item rating review was conducted by each member of the item development team and by the outside expert reviewer. Using a scale of 1 (*not important at all*) to 5 (*extremely important*), each person was asked to rate the level of importance that he or

she felt that a particular item should be included in the final intact CTES. A mean score was generated for each item's rating. Items with higher mean scores received a higher priority in the selection process for inclusion in the final intact CTES. Table 14 shows details of the item rating review including the mode, range, minimum and maximum scores, and the breakdown of item ratings within each domain. For a complete list of each item and its individual rating, see Appendix R.

Table 14.

Item Rating Breakdown

Domain	Mean Score	# Of Items	Domain	Mean Score	# Of Items
Microsystem	2.75	3	Exosystem	3.50	1
(Range = 2.25)	3.00	3	(Range = 1.25)	4.00	1
(Minimum = 2.75)	3.25	7	(Minimum = 3.5)	4.25	1
(Maximum = 5)	3.50	7	(Maximum = 4.75)	4.50	2
	3.75	8		4.75*	5
	4.00*	10	Total	Total	10
	4.25	9			
	4.50	6	Macrosystem	2.75	1
	4.75	5	(Range = 2.25)	3.25	5
	5.00	2	(Minimum = 2.75)	3.50	3
Total	Total	60	(Maximum = 5)	3.75	5
				4	5
Mesosystem	2.75	1		4.25	5
(Range = 2)	3.25	1		4.50	1
(Minimum = 2.75)	3.50	2		4.75*	7
(Maximum = 4.75)	3.75	2		5	1
	4.00*	3	Total	Total	33
	4.25	1			
	4.50	1	Chronosystem	3.75*	3
	4.75	1	(Range = 1.25)	4	1
Total	Total	12	(Minimum = 3.75)	4.25	2
			(Maximum = 5)	4.50	1

4.75*	3
5*	3
Total	13

Note. * = Mode.

Selection of Items

After the item rating process was complete, all the items were cross-referenced with the original test blueprint developed in RQ1. The lead researcher selected and retained the appropriate number of highest-rated items for each cell by first selecting the items with the highest rating then selecting the items with the next highest rating (and so forth) until the desired number of items as delineated in the original test blueprint was met. This final set of content-validated items comprised the intact CTES that was used in the quantitative evaluation phase to answer RQ3 and RQ4. See Appendix S for the complete intact CTES.

In sum, the final items on the intact CTES not only survived a multiple-step development process, but also a multiple-step content validation process. The final items for the CTES also underwent a systematic selection process for inclusion.

Research Question 3 (RQ3)

Do the data obtained from the CTES demonstrate a good fit with the five domains of Bronfenbrenner's (1979, 1992) ecological framework?

To assess the fit of the data gathered from the field administration of the CTES to the hypothesized model of Bronfenbrenner's (1979, 1992) ecological theory framework, a confirmatory factor analysis (CFA) using the maximum likelihood extraction method was performed using the statistical software AMOS 18 for the present study's sample ($N = 277$). A total of four models were tested: (a) a single-factor model based on the original 34-item CTES, (b) a five-factor model based on the original 34-item CTES, (c) a

modified five-factor model based on a modified 26-item CTES, and (d) a second single-factor model based on a modified 24-item CTES. Each model and its findings are included.

Model A

Prior to assessing the fit of the data to the hypothesized model of Bronfenbrenner's (1979, 1992) ecological theory, a single-factor model was constructed and assessed with the data. As Bronfenbrenner's theory suggests that a total training environment consists of five sub-systems interacting with each other, creating a single-factor model was done to establish a baseline for the hypothesized five-factor model of the CTES. Figure 1 presents the output of the analysis when using a single-factor model to fit the data of the CTES.

The large oval in Figure 1 represents the training environment and is identified as the latent variable. Figure 1 shows that item loadings were varied. For example, items Exo4r and Micro3 loaded extremely low at .25 and .26, respectively, while Chrono3 and Chrono6 loaded fairly well at .73 and .74, respectively. See Table 15 for the details of the Model A.

Model B

Model B represents the five-factor model as hypothesized through Bronfenbrenner's (1979, 1992) ecological theory. In Figure 2, the five larger ovals represent each of the five factors underlying the theory and the CTES. These five factors are the five sub-systems described by Bronfenbrenner: (a) microsystem, (b) mesosystem, (c) exosystem, (d) macrosystem, and (e) chronosystem. Due to space constraints allowed

in AMOS, the labeling of the five factors were shortened to micro, meso, exo, macro, and chrono, respectively.

In Figure 2, the five factors were allowed to covary with each other and are represented by double-headed arrows connecting each factor. The double-headed arrows indicate that an association exists between the factors, but it does not suggest or predict the direction of the associations (Tabachnick & Fidell, 2007). The numbers that are located between each factor shows the strength of the correlation between each factor. All factors appeared to correlate very strongly with each other, with the lowest correlation of .79 between the micro and macro factors. The macro and chrono factors correlated the strongest with each other at .95. Tables 16 and 17 show the details of Model B including the correlations between latent factors.

Standardized regression weights of the items in the five-factor model were varied. Similar to the single-factor model in Figure 1, Micro3 and Exo4r loaded extremely low to their corresponding factor at .31 and .32 respectively. Chrono6 and Chrono5 loaded most strongly to their corresponding factor at .78 and .73 respectively.

Model C

Model C represents the modified model of the five-factor CTES shown in Figure 2. As model modification is done to improve the model's fit with the data, it is the fifth and final step in conducting a CFA (Tabachnick & Fidell, 2007; Schumacker & Lomax, 2004). Figure 3 shows five-factor CTES after modifications were made. In modifying the model, changes were made based on observed low item loadings and through recommendations from the Modification Indices of AMOS. When modifying a CFA

model, modifications should only be made when the modifications falls within reason of the underlying theory (Schumacker & Lomax, 2004).

After reviewing the item loadings of the original 34-item five-factor model, decisions were made to remove those items that loaded below .32 (Costello & Osborne, 2005). Items were removed iteratively and the model was reassessed after each item was removed. Reviewing the discrepancies between the observed data and the hypothesized model can also assist the developer in identifying problematic areas of the model (Schumacker & Lomax, 2004). Thus, the model's residuals were reviewed and items were removed appropriately. After removal of items, the resultant model was a 26-item CTES with the following items removed from the original: Micro3, Micro4, Micro7, Exo4r, Exo5, Macro4, Macro6, and Chrono2.

Error terms were also covaried based on the recommendations of the modification indices. Specifically, covariances were established between e5 and e9, e1 and e2, e13 and e15, and e20 and e21. The covarying of the error terms suggested that the unexplained variance of each error term's observed variable could somehow be related.

The five factors in Model C were highly correlated with each other, ranging from .824 to .991. Correlations between the micro and meso factors and the exo and macro factors were observed at .99, and .98 respectively. This suggests that, perhaps, the micro and meso factors are actually measuring the same factor and not separate distinct factors of the counseling training environment. The same could be said about the exo and macro factors. Table 18 shows the details of Model C, Table 19 shows the correlation matrix between the latent factors, and Table 20 shows the details of the correlations between error terms.

Model D

The high correlations between the latent factors found in Model C were of concern because it suggested that the CTES was actually a single-factor instrument and not a five-factor instrument as hypothesized through Bronfenbrenner's (1979, 1992) ecological theory. Alternatively, the items in the CTES were good indicators and representative of the uniqueness of each domains of the theory. Thus, a fourth model, Model D, was developed and tested. Using the 26-items of the modified CTES obtained through Model C, Model D was assessed for model fit as a single-factor model of the CTES. Following the same modification procedures used in Model C, items Meso5 and Macro1 were removed for poor loadings and resulted in a 24-item modified CTES. Figure 4 shows the modified 24-item single-factor model of the CTES. Table 21 shows the details of Model D and Table 22 shows the correlations between the error terms.

Following the recommendations in the modification indices, the following error terms were covarried: e5 and e9, e16 and e2, e16 and e1, e1 and e2, e14 and e6, e16 and e29, e12 and e24, e20 and e21, e29 and e30, and e30 and e31. The covarying of the error terms suggested that the unexplained variance of each error term's observed variable could somehow be related. After the removal of items and the covarying of error terms, the single-factor model demonstrated an improved fit with the data as compared to Models A, B, and C, respectively (see Table 23).

Figure 1

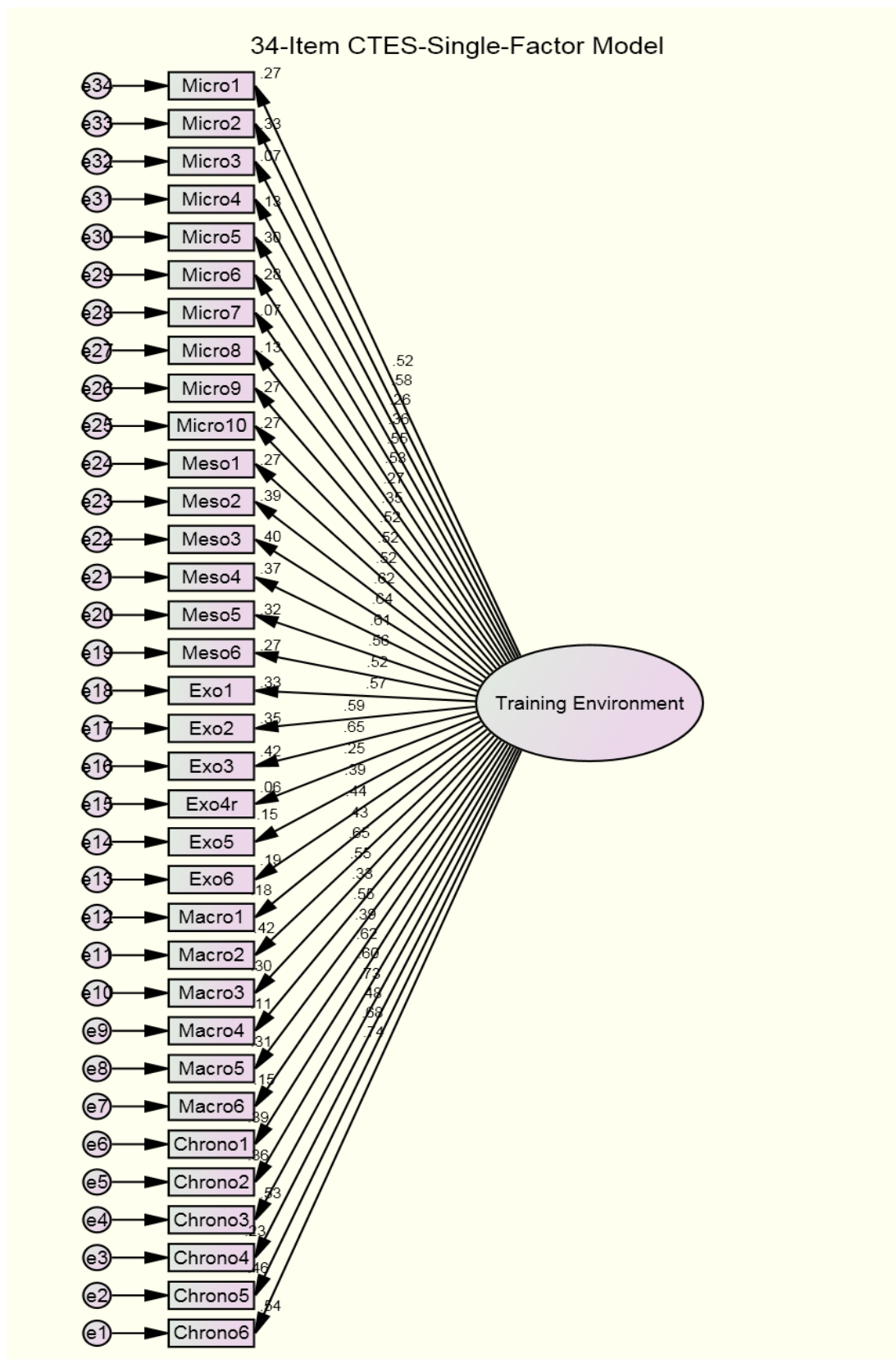


Table 15

CFA-Model A: 34-Item CTES Single-Factor Model (N =277)

Error Term	Observed Variable	Standardized Regression Weight	SMC	<i>p</i>
e34	Micro1	.275	.524	*
e33	Micro2	.332	.576	*
e32	Micro3	.069	.263	*
e31	Micro4	.132	.363	*
e30	Micro5	.300	.547	*
e29	Micro6	.285	.533	*
e28	Micro7	.073	.269	*
e27	Micro8	.125	.354	*
e26	Micro9	.275	.524	*
e25	Micro10	.269	.519	*
e24	Meso1	.266	.515	*
e23	Meso2	.390	.625	*
e22	Meso3	.404	.636	*
e21	Meso4	.367	.606	*
e20	Meso5	.317	.563	*
e19	Meso6	.268	.518	*
e18	Exo1	.330	.574	*
e17	Exo2	.354	.595	*
e16	Exo3	.423	.650	*
e15	Exo4r	.062	.249	*
e14	Exo5	.150	.388	*
e13	Exo6	.194	.441	*
e12	Macro1	.184	.429	*
e11	Macro2	.418	.647	*
e10	Macro3	.299	.547	*
e9	Macro4	.112	.334	*
e8	Macro5	.307	.554	*
e7	Macro6	.154	.393	*
e6	Chrono1	.387	.622	*
e5	Chrono2	.365	.604	*
e4	Chrono3	.526	.725	*
e3	Chrono4	.234	.484	*
e2	Chrono5	.465	.682	*
e1	Chrono6	.543	.737	*

Note. * = Significant at .05 level.

Figure 2

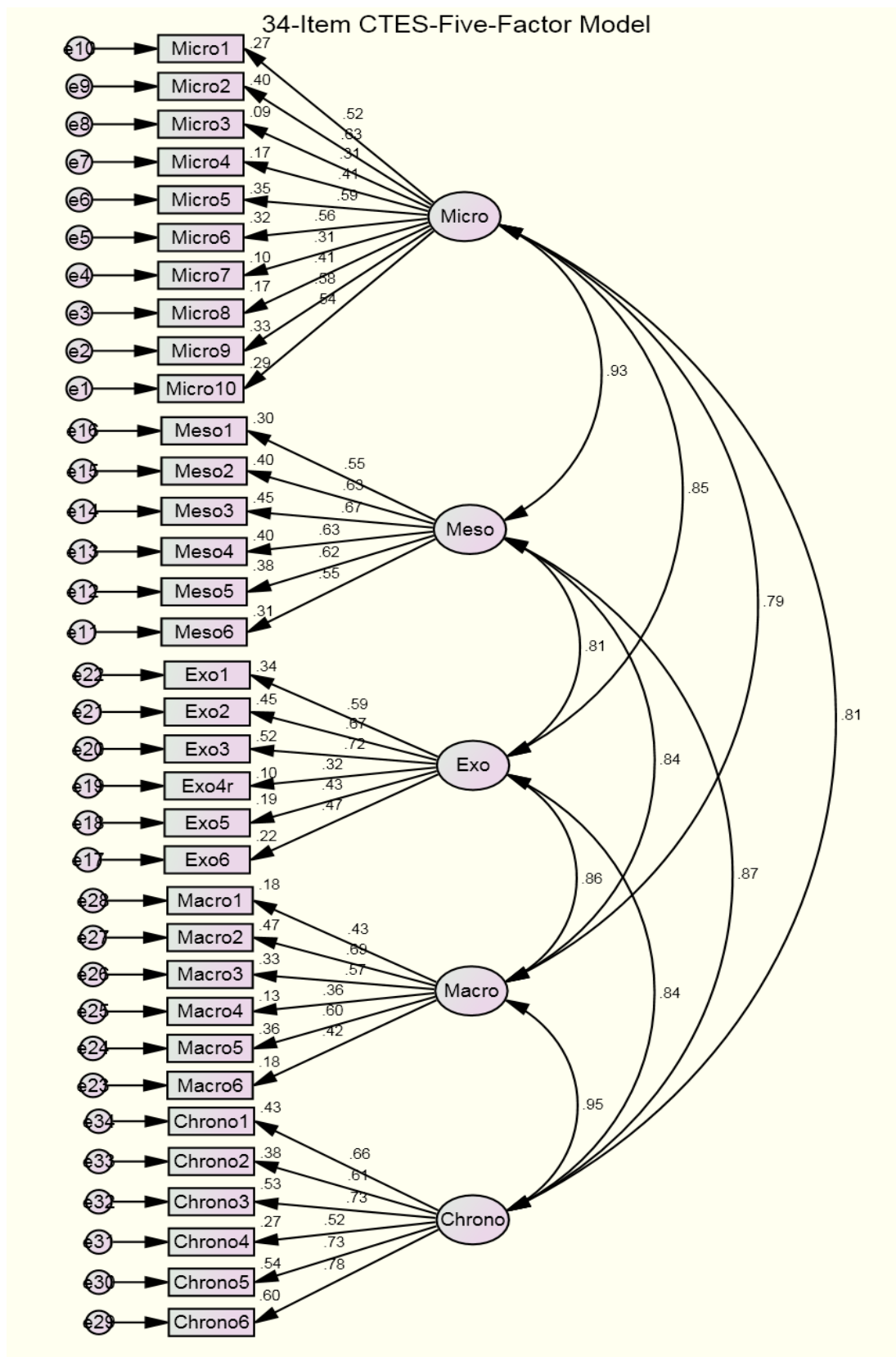


Table 16

CFA-Model B: CTES 34-Item Five-Factor Model (N = 277)

Error Term	Observed Variable	Latent Variable /Domain	Standardized Regression Weight	SMC	<i>p</i>
e10	Micro1	Micro	.519	.269	*
e9	Micro2		.629	.395	*
e8	Micro3		.306	.094	*
e7	Micro4		.414	.171	*
e6	Micro5		.593	.352	*
e5	Micro6		.564	.319	*
e4	Micro7		.310	.096	*
e3	Micro8		.415	.172	*
e2	Micro9		.576	.331	*
e1	Micro10		.542	.293	*
e16	Meso1	Meso	.552	.305	*
e15	Meso2		.631	.398	*
e14	Meso3		.669	.447	*
e13	Meso4		.634	.402	*
e12	Meso5		.619	.383	*
e11	Meso6		.553	.306	*
e22	Exo1	Exo	.586	.343	*
e21	Exo2		.673	.453	*
e20	Exo3		.720	.519	*
e19	Exo4r		.321	.103	*
e18	Exo5		.432	.186	*
e17	Exo6		.471	.222	*
e28	Macro1	Macro	.429	.184	*
e27	Macro2		.687	.472	*
e26	Macro3		.575	.330	*
e25	Macro4		.360	.129	*
e24	Macro5		.596	.355	*
e23	Macro6		.420	.177	*
e34	Chrono1	Chrono	.658	.433	*
e33	Chrono2		.613	.376	*
e32	Chrono3		.726	.527	*
e31	Chrono4		.522	.273	*
e30	Chrono5		.734	.538	*
e29	Chrono6		.777	.603	*

Note. * = Significant at .05 level.

Table 17

CFA-Model B: CTES 34-Item Five-Factor Model-Correlations Between Latent Factors (N = 277)

Factor	1	2	3	4
1. Micro	--	--	--	--
2. Meso	.931	--	--	--
3. Exo	.847	.806	--	--
4. Macro	.790	.843	.858	--
5. Chrono	.807	.871	.838	.952

Figure 3

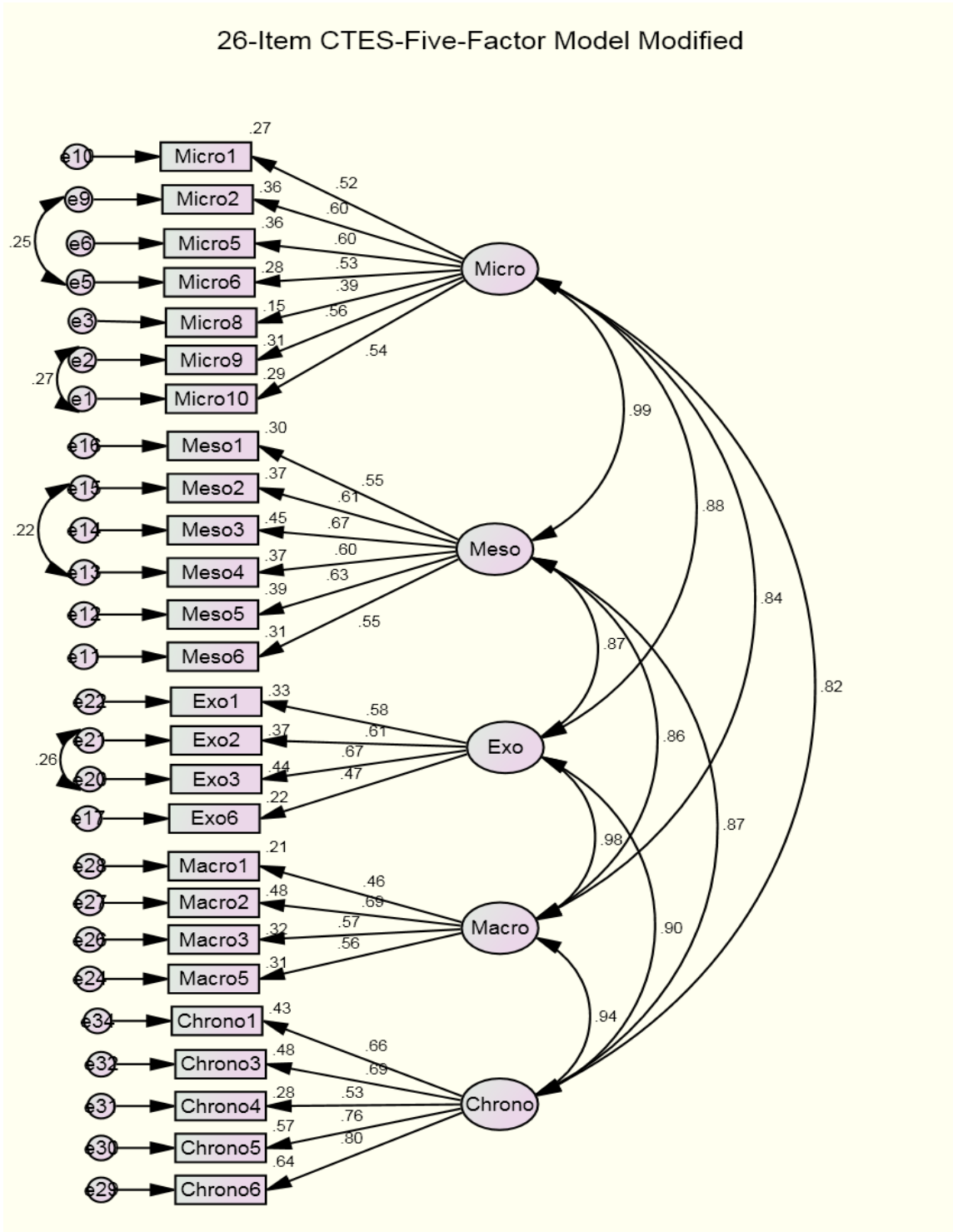


Table 18

CFA-Model C: CTES 26-Item Five-Factor Model Modified (N = 277)

Error Term	Observed Variable	Latent Variable/ Domain	Standardized Regression Weight	SMC	<i>p</i>
e10	Micro1	Micro	.518	.269	*
e9	Micro2		.603	.364	*
e6	Micro5		.603	.363	*
e5	Micro6		.525	.276	*
e3	Micro8		.392	.154	*
e2	Micro9		.557	.310	*
e1	Micro10		.537	.288	*
e16	Meso1	Meso	.551	.304	*
e15	Meso2		.606	.368	*
e14	Meso3		.673	.453	*
e13	Meso4		.605	.366	*
e12	Meso5		.627	.393	*
e11	Meso6		.555	.308	*
e22	Exo1	Exo	.575	.331	*
e21	Exo2		.607	.369	*
e20	Exo3		.666	.443	*
e17	Exo6		.466	.217	*
e28	Macro1	Macro	.458	.210	*
e27	Macro2		.691	.478	*
e26	Macro3		.568	.322	*
e24	Macro5		.557	.311	*
e34	Chrono1	Chrono	.658	.433	*
e32	Chrono3		.692	.479	*
e31	Chrono4		.532	.283	*
e30	Chrono5		.757	.574	*
e29	Chrono6		.802	.643	*

Note. * = Significant at .05 level.

Table 19

CFA-Model C: CTES 26-Item Five-Factor Model Modified-Correlations Between Latent Factors- (N = 277)

Factor	1	2	3	4
1. Micro	--	--	--	--
2. Meso	.991	--	--	--
3. Exo	.877	.870	--	--
4. Macro	.842	.863	.978	--
5. Chrono	.824	.870	.895	.941

Table 20

CFA-Model C: CTES 26-Item Five Factor Model Modified-Correlations Between Error Terms(N = 277)

Error Terms	<i>r</i>
e13 e15	.215
e1 e2	.269
e5 e9	.247
e20 e21	.263

Figure 4

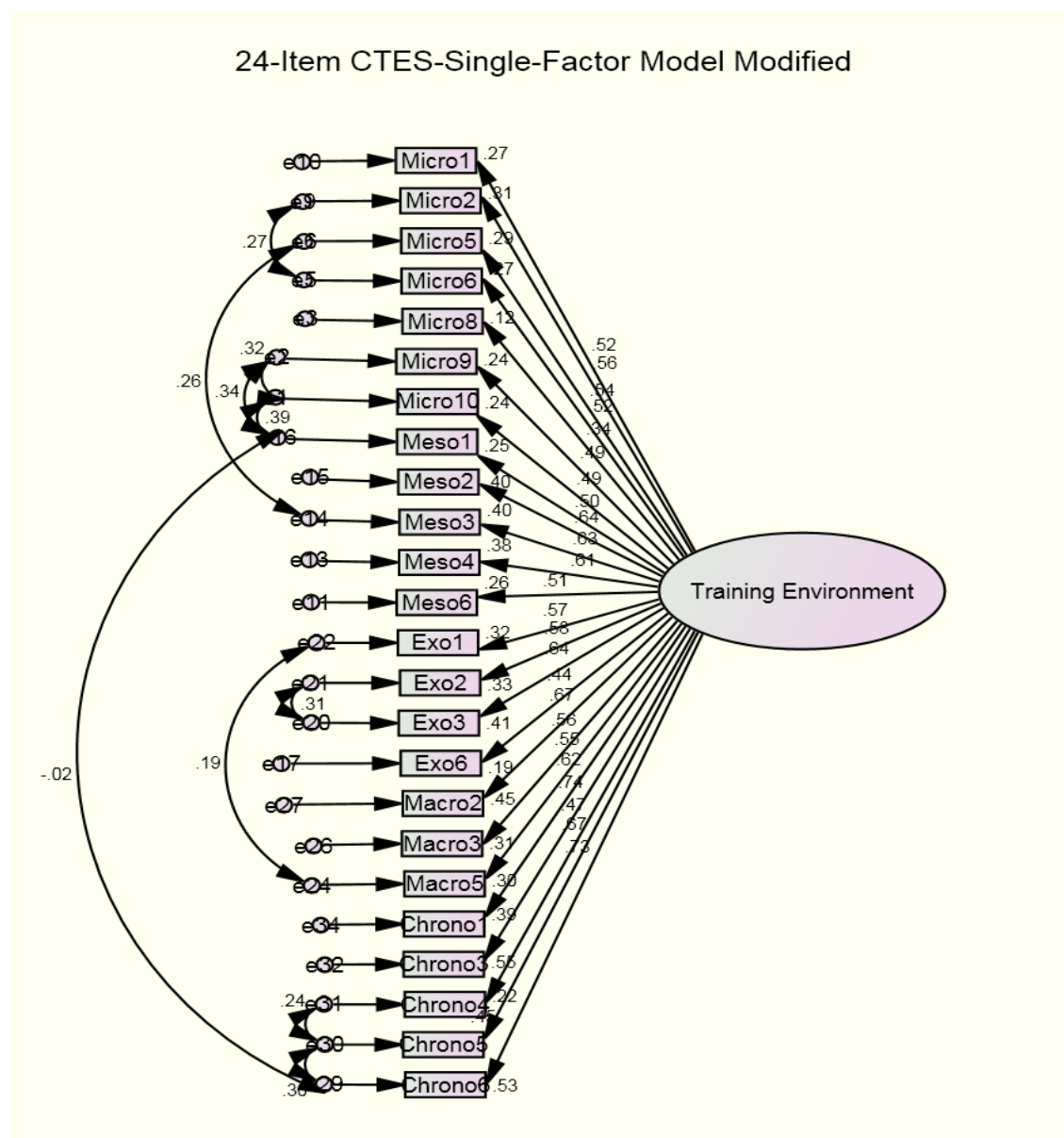


Table 21

CFA-Model D: CTES 24-Item Single-Factor Model Modified (N = 277)

Error Term	Observed Variable	Standardized Regression Weight	SMC	<i>p</i>
e10	Micro1	.519	.270	*
e9	Micro2	.560	.313	*
e6	Micro5	.537	.288	*
e5	Micro6	.520	.271	*
e3	Micro8	.341	.116	*
e2	Micro9	.490	.240	*
e1	Micro10	.492	.242	*
e16	Meso1	.495	.245	*
e15	Meso2	.635	.403	*
e14	Meso3	.631	.399	*
e13	Meso4	.614	.377	*
e11	Meso6	.507	.258	*
e22	Exo1	.569	.324	*
e21	Exo2	.577	.333	*
e20	Exo3	.638	.407	*
e17	Exo6	.441	.194	*
e27	Macro2	.671	.451	*
e26	Macro3	.557	.310	*
e24	Macro5	.546	.298	*
e34	Chrono1	.623	.388	*
e32	Chrono3	.742	.550	*
e31	Chrono4	.473	.224	*
e30	Chrono5	.673	.453	*
e29	Chrono6	.729	.532	*

Note. * = Significant at .05 level.

Table 22

*CFA-Model D: CTES 24-Item Five Factor Model
Modified-Correlations Between Error Terms (N = 277)*

Error Terms	<i>r</i>	
e1	e16	.390
e29	e30	.297
e30	e31	.244
e5	e9	.273
e6	e14	.258

e2	e16	.335
e20	e21	.305
e22	e24	.190
e1	e2	.325
e16	e29	-.018

Model Fit

Each model developed for the CTES was assessed for its fit with the data. Table 23 presents the outcomes of the assessment of model fit based on the fit indices outlined in Chapter 3. Specifically, model fit was assessed based on the NNFI, CFI, Chi-Square (χ^2), SRMR, AIC, and RMSEA fit indices.

Table 23

Confirmatory Factor Analysis: Fit Indices for Four-Models of the CTES(N = 277)

Model	NNFI	CFI	χ^2	df	p	SRMR	AIC	RMSEA
A	.74	.75	1344.40	527	<.001	.07	1480.40	.08
B	.77	.79	1227.70	517	<.001	.07	1383.70	.07
C	.90	.91	522.30	285	<.001	.05	654.30	.05
D	.95	.96	336.68	242	<.001	.04	452.68	.04

Note. Model A = 34-Item CTES-Single-Factor Model; Model B = 34-Item CTES- Five-Factor Model; Model C = 26-Item CTES-Five-Factor Model Modified; Model D = 24-Item CTES-Single-Factor Model Modified; NNFI = Non-normed Fit Index; CFI = Comparative Fit Index; SRMR = Standardized Root Mean Square Residual; AIC = Akaike Information Criterion; RMSEA = Root-Mean-Square Error of Approximation.

All four models failed to yield a non-significant χ^2 statistic. However, because the χ^2 statistic is sensitive to sample size, finding a well-fitting model with a non-significant χ^2 value is quite unrealistic in empirical studies (Byrne, 1998; Garson, 2011).

Model D demonstrated the best fit with the data. Specifically, Model D had higher NNFI and CFI values than Models A, B, and C, and lower SRMR, AIC, and

RMSEA values than Models A, B, and C. Model D's values of NNFI = .95, CFI = .96, SRMR = .04, and RMSEA = .04 all met the guidelines suggested for acceptable levels of model fit (Schumacker & Lomax, 2004; Schreiber, et al., 2006; Hu & Bentler, 1999), whereas Models A, and B did not, and Model C only met the guidelines on CFI, SRMR, and RMSEA. In addition, as the AIC value consistently lowered from Model A down to Model D, this offers further support for Model D being the best fit with the data.

In sum, though the data gathered from the modified five-factor CTES demonstrated an adequate fit with the model hypothesized through Bronfenbrenner's (197, 1992) ecological theory, the high correlations between factors suggested that the CTES was a single-factor instrument. Thus, the newly modified 24-item single-factor CTES (Model D) was shown to demonstrate the best model fit with the data.

Research Question 4 (RQ4)

Do the scores on the CTES demonstrate adequate internal consistency and test-retest reliability?

Reliability estimates of the CTES were computed based on the modified 24-item single-factor model through Classical Test Theory (CTT) analyses. Specific CTT analyses included examination of item means, standard deviations, item-total correlations, and Cronbach's alpha (α). In addition, a 2-week test-retest was conducted on the CTES total scale using Pearson Product-moment correlation coefficients. Results of each procedure are reported as follows.

Classical Test Theory (CTT)

The modified 24-item CTES seen in Model D demonstrated strong evidence of internal consistency with a Cronbach's alpha of .92. Corrected item-total correlations

ranged from .36 (Micro8) to .70 (Chrono6). Table 24 shows the individual item means, standard deviations, corrected-item-total correlation, and alpha if-item-deleted for the total CTES. See Appendix V for the CTT analyses of Models A, B, and C.

Table 24

Modified 24-Item CTES-Classical Test Theory Analyses: Total Scale (N = 277)

Scale/Item	Mean	SD	α	Corrected Item- Total Correlation	α if-Item- Deleted
CTES Total	80.12	9.37	.92		
Micro1	3.70	.60		.49	.92
Micro2	3.22	.70		.55	.92
Micro5	3.14	.74		.53	.92
Micro6	3.47	.61		.51	.92
Micro8	3.41	.60		.36	.92
Micro9	3.22	.74		.52	.92
Micro10	3.05	.78		.52	.92
Meso1	3.31	.67		.52	.92
Meso2	3.42	.62		.59	.92
Meso3	3.00	.73		.61	.92
Meso4	3.30	.64		.58	.92
Meso6	2.92	.81		.50	.92
Exo1	3.53	.60		.54	.92
Exo2	3.42	.71		.55	.92
Exo3	3.47	.66		.62	.92
Exo6	3.48	.55		.42	.92
Macro2	3.68	.54		.62	.92
Macro3	3.74	.51		.53	.92
Macro5	3.40	.65		.51	.92
Chrono1	3.16	.61		.58	.92
Chrono3	3.50	.67		.70	.91
Chrono4	3.04	.72		.46	.92
Chrono5	3.25	.64		.65	.91
Chrono6	3.31	.61		.70	.91

Test-Retest

Pearson Product-moment correlation coefficient (r) between the two-week test-retest administrations was $r = .90$. ($p < .01$, two-tailed), suggesting very strong temporal

reliability for the scores of the modified 24-item single-factor CTES. Internal consistency was also found to be very high ($\alpha = .95$). Table 25 shows the results of the test-retest administration of the modified 24-item CTES.

Table 25

Modified 24-Item CTES: Test-Retest (N = 41)

Scale	Mean		SD		α	r
	Primary	Retest	Primary	Retest		
CTESTotal	3.23	3.24	.44	.46	.95	.90**

*Note.*** = Correlation is significant at the 0.01 level (2-tailed).

In sum, the items of the modified 24-item CTES demonstrated strong internal consistency and temporal reliability as demonstrated through CTT and a two-week test-retest administration.

CHAPTER FIVE: DISCUSSION

This chapter presents a discussion of the findings of the present study based on the research questions posed in Chapter 1. In addition, implications, limitations, and recommendations for future research are offered.

Discussion of Findings

CTES Items

The items that make up the Counseling Training Environment Scale (CTES) were developed from various bases of knowledge. General items were developed based on a literature review on the various aspects of adult learning, and learning and training environment research. However, additional resources were needed to formally operationalize the construct of a counseling training environment. Therefore, the construct of “counseling training environment” underwent extensive evaluation and was closely scrutinized. Accreditation manuals and standards of professional counseling and related mental health training programs such as the Council for Accreditation of Counseling and Related Educational Programs (CACREP; <http://cacrep.org/doc/2009%20Standards%20with%20cover.pdf>), the American Association for Marriage and Family Therapy (AAMFT; www.aamft.org/imis15/Documents/Accreditation_Standards_Version_11.pdf), and the American Psychological Association (APA;

<http://www.apa.org/ed/accreditation/about/policies/guiding-principles.pdf>) were critically reviewed. Thoughts, ideas, and items related to the counseling training environment were generated based on the information found in the individual accreditation manuals and standards. Common themes surrounding the training environment were found amongst each other. These themes were then combined with the items generated previously.

Because Bronfenbrenner's (1979, 1992) ecological theory served as the conceptual framework and foundation of this study, it was necessary to break down his theory into content categories that were specific to the objectives of the CTES. However, because Bronfenbrenner's theory was originally developed as a human development theory and not as a counseling training environment theory, the previously developed items were reviewed and considerations were made in regards to fitting each item into Bronfenbrenner's theory. Hence, the test blueprint developed in Chapter 4 was the result of cross-referencing Bronfenbrenner's theory with the salient concepts of adult learning, learning and training environment research, and counseling training environments.

Because each item considered for inclusion into the final intact CTES was re-written and/or reviewed extensively to fit into Bronfenbrenner's (1979, 1992) ecological theory, these items were considered fully functional in operationalizing the counseling training environment through the theory. The additional assistance from an outside expert in the field of counselor training and Bronfenbrenner's theory also contributed to the revision and development of items that could accurately operationalize the construct of a counseling training environment through Bronfenbrenner's theory. The developed

items and the operationalization of a counseling training environment reached a full agreement between the lead researcher, dissertation chair, and the outside expert.

Content Validity

Multiple steps and precautions were taken to establish content validity of the CTES's items. As outlined in Chapter 3, the CTES underwent both an internal and external review to assess for content validity. Specifically, a review was conducted by a sample target group of current graduate students in counseling (e.g., external review), a secondary review by the item-development team (e.g., internal review), and by a separate outside expert (e.g., external review) in the field of counseling training and Bronfenbrenner's (1979, 1992) ecological theory. Because the CTES and its contents were evaluated at each phase of the content validation process and could not be "passed through" to the next phase without meeting the satisfaction of the reviewers at each phase, the final intact CTES accomplished the establishment of content validity.

A salient feature in the establishment of content validity of the CTES was the inclusion of a sample target group of students in the validation process. Contrary to quantitative methods that are commonly used to establish content validity of developed instruments (e.g., Lynn, 1986), using sample target groups allows instrument developers to receive valuable qualitative feedback on the proposed instrument by a sample of the population for whom the instrument is designed (Benson & Clark, 1982). Thus, the sample target group members provided the lead researcher and item-development team useful insight about the CTES that could not otherwise be gained through quantitative methods. For example, comments and reactions towards the use of certain phrases and the potential confusion they could cause to students were extremely valuable. Though

this process is recommended by assessment experts (e.g., Benson & Clark, 1982; Clark & Watson, 2003), it is not necessarily followed by every instrument developer.

Members of the target group also expressed an appreciation for being included in the development process. All members stated that they often felt that surveys that were designed to be taken by students were not really designed with student input in mind. Another member stated feeling “honored” to have his opinions considered in the development phase of the CTES.

Model Fit

The data did not fit Models A and B well. The data did demonstrate an acceptable fit with the modified five-factor 26-item CTES (Model C). However, the high correlations between the five latent factors in Model C were of concern because it showed little discrimination between and among factors. Therefore, using the 26 items in Model C, a single-factor model of the CTES, Model D, was tested. In following the recommendations for modification, Items Meso5 (“students are kept abreast of the mental health needs of the community”) and Macro1 (“students are kept abreast of current local, state, and national legislation that affects the mental health profession and the impact this legislation has on our clients”) were removed. The modified Model D was found to demonstrate an acceptable fit by meeting the all the pre-set model fitness criteria.

The construction of a single-factor CTES, and its subsequent fit with the data, suggests that the original five-factor CTES as hypothesized through Bronfenbrenner’s (1979, 1992) theory was flawed. In particular, the high correlations between the five latent factors of the CTES showed little evidence for discriminant validity among factors and suggested that the CTES was only measuring a single construct of the counseling

training environment rather than five distinct constructs related to the counseling training environment.

The high correlations among factors could be attributed to a few things. First, the items in the CTES could have been too poorly worded to accurately discriminate among factors. Conciseness was sought in developing the items. However, some items such as Macro1 became quite lengthy and thus lost some of its conciseness. DeVellis (2012) warns instrument developers about lengthy/non-concise items. He states that including lengthy items increases the chance that the item could be misplaced and do a poor job of accurately tapping into the construct of interest. Nonetheless, despite a multiple-step item development and content validation process, lengthy items were included in the CTES.

Second, though the item selection process of the CTES followed a systematic procedure, inevitably, some of the selected items selected could not have been the best representations of their respective subscale/construct. For instance, though 128 items were deemed content valid, only 34 of these items were selected for inclusion in the intact CTES. Perhaps, some of the content valid items not selected for field-testing could have contributed more strongly to the discrimination between the factors/subscales of the CTES.

Third, the complexity of Bronfenbrenner's (1979, 1992) theory could have made it too difficult to accurately discriminate and identify the individual subsystems found within his theory; thus, making it equally difficult to identify the appropriate subscale/factor for each item. Bronfenbrenner's ecological theory has often been criticized as being either too complicated to fully implement, or too convoluted to

accurately assess. For example, McIntosh et al. (2008) found that Bronfenbrenner's mesosystem is much more comprehensive than how researchers often define it, thus making it very difficult to measure and making many studies based on the theory flawed. Nevertheless, despite the comprehensiveness and potential challenges in Bronfenbrenner's theory, it remains to be very popular among human development and system theorists (Tudge et al., 2009). Thus, more work is needed to examine how best to construct the CTES in accordance to Bronfenbrenner's ecological theory.

The modified single-factor model (Model D) also featured the covariances of observed error terms. Covariances were established between e5 and e9, e16 and e2, e16 and e1, e1 and e2, e14 and e6, e16 and e29, e12 and e24, e20 and e21, e29 and e30, and e30 and e31. Error terms of the observed variables account for the random variation in scores. Therefore, the covariance of error terms to improve model fit suggests that the unexplained variance of the observed variables could somehow be related. The observed variables associated with the error terms were: Micro6 (e5) and Micro2 (e9), Meso1 (e16) and Micro9 (e2), Meso1 (e16) and Micro10 (e1), Micro10 (e1) and Micro9 (e2), Meso3 (e14) and Micro5 (e6), Meso1 (e16) and Chrono6 (e29), Exo1 (e12) and Macro5 (e24), Exo3 (e20) and Exo2 (e21), Chrono6 (e29) and Chrono5 (e30), and Chrono5 (e30) and Chrono4 (e31). Because many of the covariances of error terms were between observed variables/items that were originally intended to be in separate and distinct subscales/factors, this offers further evidence that the individual items could have been too poor to accurately discriminate them from each other and from each factor.

The single-factor 24-item CTES (Model D) demonstrated an acceptable level of fit with the gathered data on four of the six fit criteria, namely the NNFI (.95), CFI

(.96), SRMR (.04), and RMSEA (.04). Because there is no set criterion for an acceptable level of the AIC fit criterion, AIC is assessed by its value, with smaller values indicating better fit and a value of 0 indicating a perfect fit (Schumacker & Lomax, 2004; Schreiber et al., 2006). Model D showed an improvement (i.e., lowered value) in AIC compared to all the previous models.

Although none of the models yielded a non-significant chi-square value, the chi-square criterion is known to be sensitive to sample size, with larger samples generating larger values. Thus, studies using larger samples traditionally find it more difficult to achieve a non-significant chi-square value (Garson, 2011; Schumacker & Lomax, 2004). It is for this reason that many researchers choose to use other fit indices to assess model fit and merely report the chi-square statistic for historical purposes only (Mueller & Hancock, 2008). Thus, though the modified single-factor CTES did not demonstrate a minimally acceptable level of fit in each of the criteria chosen, it did demonstrate an acceptable level of fit in each classification of fit indices (i.e., incremental, absolute, and parsimonious).

Finally, despite the five-factor CTES's failure to accurately assess the counseling training environment through Bronfenbrenner's (1979, 1992) ecological theory, the modified single-factor CTES did demonstrate an adequate fit with the data. This suggests that the single-factor CTES was successful in operating as an instrument that assesses the counseling training environment of counseling and related mental health training programs, although not as originally conceptualized through Bronfenbrenner's (1979, 1992) ecological theory.

Reliability and Temporal Stability

The CTES's scores demonstrated strong temporal reliability ($r = .90, p < .01$, two-tailed) and internal consistency ($\alpha = .92$). This suggests that though the CTES failed to assess the counseling training environment through five separate sub-environments/constructs, its scores were consistent across participants. The high correlation between the scores of the primary and retest administrations suggests that the CTES has been successful in measuring a construct on two separate occasions (DeVellis, 2012), providing evidence for the measure's scores' temporal stability.

In summary, despite attempts to construct the CTES as a scale containing five distinct and functional subscales assessing the counseling training environment, the CFA analyses indicated that a single-factor scale reflecting a unified counseling training environment provided the best fit with the data. The modified single-factor CTES appears to be a reliable and stable instrument in assessing the counseling training environment.

Implications

The goal of this study to develop an instrument that could operationalize and assess the counseling training environment of counseling and related mental health training programs through Bronfenbrenner's (1979, 1992) ecological theory had not been achieved. Instead, a single-factor instrument that could assess the counseling training environment emerged. Therefore, this study was successful in developing the first-known training environment assessment instrument specific to the field of graduate counseling and related mental health training programs. In addition, this study was the first known attempt to assess counseling training environments through a cross-discipline

approach. That is, counseling training environments were reviewed from various fields of study (e.g., professional counseling, psychology, marriage and family therapy) and participants were recruited from among these fields.

The results of the present study suggest that the single-factor CTES can be used as an instrument to assess the counseling training environment of counseling and related mental health training programs as perceived by students who were at least in their second clinical training experience in these programs. As program evaluation and measurement of student outcomes are areas that many accreditation bodies mandate (e.g., CACREP, APA, COAMFTE), the 24-item CTES can be used to assist training programs in evaluating their training environment and its impact on areas such as student satisfaction, student retention, and job satisfaction and success. The CTES may also be of assistance to university and college administrators who are interested in measuring and improving the outcomes of students studying in their counseling and related mental health training programs. For instance, because learning environment assessments have a long history of being used as predictors of student learning outcomes (Anderson & Walberg, 1974; Fraser, 1998b, 2002; Goh & Khine, 2002; Moos, 1979), the CTES offers university and college administrators a tool to assist in the predicting and improvement of student learning outcomes.

The CTES also helps address the gap on assessing the graduate student learning environment and understanding its influence on student outcomes. For example, Astin (1993) notes that graduate programs typically follow an input-environmental-outcome (I-E-O) model in predicting student success and outcomes (e.g., using undergraduate transcripts to predict how well the student will succeed in the graduate program and

ultimately graduate). However, Astin and others (e.g., Allodi, 2010; Fraser, 1991) found that most graduate programs fail to focus on the environmental factors, but instead mainly focus on the input and the outcome (e.g., admission and graduation rates) of graduate students. Thus, the CTES can help to address this gap in the training literature.

The CTES also adds to the growing, yet limited, literature on graduate student learning experiences and learning environment. As available research in this area has been typically adapted from elementary and secondary educational learning environments (Fraser, 1998b; Fraser & Treagust, 1986), the CTES offers educators in counseling and related mental health training programs with a training environment instrument that was designed specifically for use with graduate students in their programs.

Limitations and Recommendations for Future Research

While the results of the present study are encouraging, there are limitations in terms of its generalizability. For instance, because a majority (58.8%) of the participants was from programs accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP), the results may not be as applicable or generalizable to other accredited programs besides CACREP. Therefore, the results of this study are primarily limited to CACREP accredited programs in counseling and related mental health professions. Also, because participants in this study were required to have been at least in their second clinical placement, the results of this study is not generalizable to beginning level counselor trainees who have yet to participate in their second clinical placement.

Another limitation is that the present study only examined counseling and related mental health training programs found within the United States. Thus, the results of this

study may not be applicable to programs located outside of the United States. Also, the present study did not require participants to distinguish if they were studying in either a traditional “brick and mortar” graduate program or an online program. But, given that program accreditation of online programs is still very limited, it can be assumed that a majority of the participants were from traditional graduate programs. Therefore, the generalizability of the findings in this study to online counseling programs is limited.

A majority of the participants in this study self-identified themselves as a White/Caucasian heterosexual female. Though this is reflective of the general student population in counseling programs, the absence of a more diverse participant sample also limits the findings of this study. Also, though participants were recruited nationally, the geographic representation of participants and their respective training programs were not balanced. For instance, while 142 participants self-identified themselves as studying in a program located in the Southern region of the United States, only nine participants self-identified themselves as studying in a program located in the Rocky Mountain region.

Finally, the items of the CTES were non-randomly placed throughout the survey, but were grouped by their respective domain. That is, all of the items developed for the microsystem were grouped together and were placed at the beginning of the CTES, followed by all of the items developed for the mesosystem, exosystem, macrosystem, and chronosystem respectively. The non-randomization of items could have impacted the outcomes of the study.

Despite the limitations of this study, feedback from many of the participants, including counseling supervisors and trainers, was generally positive and many expressed an interest in the outcomes of this study. Some professors in counseling training

programs commented that they appreciated the use of Bronfenbrenner's (1979, 1992) theory, especially given the sophistication of the theory. However, despite the generally positive feedback and outcomes of this study, the results of this study indicate several shortcomings and needs for further refinement.

Future research in the area should consider the following recommendations. First, address the issue of the extraordinary intercorrelations among the factors, as seen in Models B and C. This can be accomplished by reevaluating the items of the CTES and conducting additional target group reviews and bringing in additional outside expert reviewers to analyze and critique the total item pool. Second, conduct additional field tests including an Exploratory Factor Analysis on the revised item pool and a subsequent CFA. Third, use the unused items to develop an alternate form of the CTES. Fourth, assess for further evidence of reliability and validity of the CTES through procedures such as split-half analysis and Item-Response Theory (e.g., Rasch Model analysis). In addition, discriminant and convergent validity analysis should be conducted by comparing other measures of classroom training environment scales (e.g., Adult Classroom Environment Scale) to the CTES.

Fifth, create an "ideal" form of the CTES to assess how students would like to experience their counseling training environment as opposed to how they currently perceive it. Also, create a "faculty" form of the CTES that can be used to assess how program faculty members currently perceive the training environment in which they work. Next, comparative studies can be conducted to examine the differences between students' perceptions of their "actual" training environment and their "ideal" training environment.

Additionally, differences between the training environment as perceived by students and by faculty can be conducted and further explored.

Sixth, cross-cultural development and validation of the CTES can be explored. For instance, administer the CTES to an international population in an attempt to gain more knowledge on the counseling training environments of programs located outside of the United States. Translation and validation of the CTES for non-English speaking populations would be a logical recommendation, if the CTES is to be used internationally.

Seventh, an “online” version of the CTES can be developed for use by students and faculty members of online graduate programs and universities. The “online” version of the CTES can be used to assess much of the same construct as the original CTES, yet it would have to take into consideration the uniqueness of online learning and education. Finally, the multicultural competence aspect of the CTES could be expanded to develop a “Multicultural Counseling Training Environment Scale” (MCTES). The MCTES can be used to assess the multicultural training environment in counseling and related mental health training programs.

Conclusion

Though the present study did not reach its goal in developing a training environment scale to assess counseling and related mental health training program environment as per Bronfenbrenner’s (1979, 1992) five-domain ecological theory, a unifactorial training environment scale with strong psychometric properties was resulted. The resultant 24-item CTES is believed to be the first in the literature. It is believed that additional work will help refine the measure as well as shed light on the usefulness of Bronfenbrenner’s ecological theory in conceptualizing counseling training environment.

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APPENDIX A: RECRUITMENT LETTER FOR ITEM DEVELOPMENT

Dear Counseling Expert,

I am currently conducting a study for my dissertation on assessing graduate counseling students' perceptions of their counseling training environment. For this study, I am developing an instrument that will attempt to operationalize and assess the counseling training environment as perceived by counseling trainees in counseling and related mental health training programs (i.e., counseling/clinical psychology, marriage and family therapy), and am requesting your assistance in developing some of the instrument's items. The conceptual framework guiding this study is Bronfenbrenner's (1979, 1992) ecological theory.

To participate as a contributor, you must meet the following criteria:

- Hold an appointment as a faculty member in a graduate counseling or related mental health training program (i.e., counseling/clinical psychology, marriage and family therapy) for at least 3 years;
- Hold a professional license or credential to practice counseling or other related mental health therapies (i.e., psychology, marriage and family therapy)
- Be experienced and familiar in using Bronfenbrenner's (1979, 1992) ecological model; and
- Be willing to commit to the time requirements for participation as an item writer.

If you meet the above criteria and are interested in serving as an item writer, please respond to me via the email posted in my signature. Your responsibility as an item writer will be to review the initial list of items generated by my dissertation chair and myself, and to revise/re-write, and/or remove the items previously generated as you see appropriate. You will also generate as many items related to the counseling training environment as you can in accordance to Bronfenbrenner's (1979, 1992) ecological model. I will provide you with the conceptual definition of the counseling training environment and an overview of Bronfenbrenner's ecological model. Training environment research has been linked to student outcomes and job satisfaction. However, to date, no studies have attempted to assess the counseling training environment in graduate counseling programs; thus research in this area is needed. Therefore, your participation in this study is of great importance and value. Please let me know if you have any questions or concerns regarding this study or your potential role in this study.

Thank you very much.

Jared Lau, MA, NCC, LPC
University of North Carolina at Charlotte
(jlau3@uncc.edu)

APPENDIX B: ITEM DEVELOPMENT FOR OUTSIDE EXPERT

Counseling Training Environment Scale-Item Development

Thank you for agreeing to serve as an item writer for the Counseling Training Environment Scale (CTES). Below you will find an overview of the study including information regarding Bronfenbrenner's (1979, 1992) ecological model, which the CTES is based off. You will also find instructions and guidelines on how to generate your items. Please review the current list of items and revise/rewrite, "move", or remove the items as you see fit. Also, please generate as many additional items as you can and return this form to me within 7 days of receipt of this form. Thank you again for your participation, I look forward to receiving your items!

Sincerely,
Jared Lau, MA, NCC, LPC
Doctoral Candidate, Department of Counseling, UNC Charlotte
jlau3@uncc.edu

Overview

The purpose of this study is to generate items on the training environment in counseling and related training programs as conceptualized through Bronfenbrenner's (1979, 1992) ecological model. The items will be compiled for use in developing an assessment instrument designed to measure students' perceptions of their counseling training environment.

Bronfenbrenner (1979, 1992) identifies five subsystems that he believes constitutes the total environment of individuals: the microsystem, mesosystem, exosystem, macrosystem, and chronosystem.

In conceptualizing the total training environment of counselor trainees, consider each of the subsystems/domains of Bronfenbrenner's (1979, 1992) model:

The Microsystem

Bronfenbrenner (1979) defines the microsystem as "A pattern of activities, roles, and interpersonal relations experienced by the developing person (i.e., counseling trainee) in a given setting with particular physical and material characteristics" (p. 22). The microsystem consists of the immediate settings of the trainee including the interpersonal relations and settings in which the trainee works and studies. A setting is defined as a place where people (i.e., the trainee) can readily engage in face-to-face interaction, to include peers, school, clinical site, the community, and so forth.

The Mesosystem

Bronfenbrenner (1979) defines the mesosystem as: "A set of interrelations between two or more settings in which the developing person becomes an active participant" (p. 209). The emphasis is on the set of connections and links between settings, **not** specific places or settings itself.

In the mesosystem, the "links" or interrelations can occur in the following ways: (a) multisetting participation, where the counseling trainee is active in two or more settings found in the microsystem (e.g., school and internship site); (b) Intersetting communications where messages "transmitted from one setting to the other with the express intent of providing specific information to persons in the other setting" occur (e.g., communication from school to internship site); and (c) intersetting knowledge where the information or experience that exists in one setting has a relationship with the other setting (e.g., information regarding school policies sent to the internship site).

The Exosystem

Bronfenbrenner (1979) defines the exosystem as consisting of "one or more settings that do not involve the developing person as an active participant but in which events occur that affect, or are affected by what happens in that setting" (p. 237). In the exosystem, the counseling trainee is not an active participant in both settings, but is still affected by the events of both settings (e.g., the counseling trainee's client's work environment. Though the trainee is not active in client's workplace, events that occur at the client's workplace are brought into the counseling session and thus impact the counseling trainee).

The Macrosystem

Bronfenbrenner (1979) defines the macrosystem as the "consistency observed within a given culture or subculture in the form and content of its constituent micro-, meso-, and exosystems, as well as any belief systems or ideology underlying such inconsistencies" (p. 258). While the macrosystem is unique to each individual, similarities also exist among all individuals as manifested through the ecological systemic framework. Example would be the cultural or political influences of the college, university, or community on the counseling trainee.

The Chronosystem

The chronosystem (Bronfenbrenner, 1992) reflects changes in patterns of environmental events and sociohistorical conditions (e.g., transitions over the life course of the individual). For example, the chronosystem accounts for sociohistorical conditions of children's development as lives of children today differ from the lives of their parents or grandparents due to changes in social, historical, and political movements. The chronosystem is also reflective of the adaptability of the training environment over time (e.g., implementing current and relevant learning methods, technologies, etc.).

Instructions for Item Writers

In accordance to Bronfenbrenner's (1979, 1992) ecological model, please generate as many items as you can for each subsystem/domain (i.e., microsystem, mesosystem, exosystem, macrosystem, chronosystem) and within each content category (explained below). You may also review, revise/rewrite, move, or discard the current items. If so, please use the Track Changes function in MS Word.

In generating your items, please ensure that your items are:

- Clear
- Relevant
- Simple and concise
- Can be easily understood by the population for which the instrument is intended.

The instructions for the CTES will read:

“The purpose of the CTES is to assess your perceptions of the counseling training environment in the counseling and related mental health training program you are attending right *now*.

The items will assess your perceptions about what your training environment is *actually like*. Please read each item and using the 5-point Likert-type scale, rate your level of agreement with each item.”

The precursor to each item will read: “*In my counseling training program...*”

The response format for the CTES is a 5-point Likert-type scale: 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree, 5 = not applicable.

Please keep in consideration the instructions and response format when generating your items!

Description of Content Categories

Each domain being assessed by the CTES consists of specific content categories that were identified by the literature and are in accordance to the theoretical assumptions of Bronfenbrenner's (1979, 1992) ecological model. Below you will find a description of the content categories and their respective domains.

Domain	Content Category	Description of content category
		<i>The extent to which...</i>
Microsystem	Classroom	Trainees perceive their classroom as a facilitative setting for learning and training
	Clinical	Trainees perceive their clinical environment as helpful and facilitative to learning and growth
	Academic Unit	Trainees perceive their academic unit (i.e., graduate program) to be facilitative of their learning and training
	University /College	Trainees perceive their university/college to be supportive and facilitative of their training
	Community	Trainees perceive the community in which they live and train in is supportive and facilitative to their training development
Mesosystem	Multisetting participation	Trainees perceive the relationship between two or more of their training settings to be facilitative of their training
	Intersetting Communication	Trainees perceive the level of communication transmitted between two or more of their training settings
	Intersetting Knowledge	Trainees perceive the level of knowledge transmitted between two or more of their training settings
Exosystem	Trainee-Client-Client Other	Trainees perceive the impact of clients' environment on their training
	Trainee-Faculty-Faculty Other	Trainees perceive the impact of their faculty's environment on their training
	Trainee-Supervisor, Supervisor Other	Trainees perceive the impact of their supervisors' environment on their training
	Trainee-Classmate-Classmates Other	Trainees perceive the impact of their classmates' environment on their training
Macrosystem	Political Culture	Trainees perceive the influence of the sociopolitical culture on their training
	Law and Ethics	Trainees perceive the influence of legal laws on their training
	Economics	Trainees perceive the influence of economic variables on their training
	Multiculturalism	Trainees perceive the influence of multicultural

		issues on their training
Chronosystem	Socio-Historical	Trainees perceive the historical references and influences on their training
	Current, Up-to-date	Trainees perceive their training to be current, up-to-date, and relevant to their training

Test Blueprint

To aid in the item development process, I have created a “Test Blueprint” which delineates the specific content category areas that are found within each domain that the CTES will attempt to assess. Because each content category is unique to each domain, each item that was developed should fit in only one cross-section or “cell” of the domain and content category. Please review each item developed and feel free to revise/rewrite, remove, or “move” the item(s) to a more appropriate domain/content category as you see appropriate. When developing your original items, please consider each “cell” of the domain and content category. Finally, please use the TRACK CHANGES function in MS Word so that your work can be clearly identified. Thank you.

Microsystem

Domain	Content Category	Item: <i>In my counseling training program...</i>
Microsystem (81 items total)	Classroom/ Advising (25)	<ul style="list-style-type: none"> • Questions from students are welcomed in class • I feel comfortable disclosing personal information to my professor • I feel comfortable disclosing personal information to my advisor • Professors model appropriate skills for approaching difficult issues • My advisor gives me sufficient individual attention • My professors' expectations of me are clearly outlined at the beginning of class • My advisor is interested in me as a person, not just as a student • Professors solicit opinions and perspectives from students • I get regular feedback from my professors • The classroom atmosphere motivates me as a learner • My opinions and viewpoints are not solicited in class (-) • My personal life experiences are not valued in class (-) • Learning occurs at my own pace, not my professors' • My professors give me reasonable control on my pace of learning. • Professors make attempts to integrate my life experiences into the class discussions • I am able to choose meaningful assignments specific to my professional interests • Self-directed learning is encouraged and valued • I am concerned about the class size affecting my learning • My advisor supports me in pursuing my professional goals • My advisor encourages me to become an independent learner • My opinions are regularly demeaned by my professor (-) • I am encouraged to share my personal experiences in class

		<ul style="list-style-type: none"> • Student-to-student interaction in class is encouraged • Most of my classes are intellectually unchallenging • There is little intellectual challenge presented (-)
	Clinical (21)	<ul style="list-style-type: none"> • My clinical site supervisor treats me with respect • My clinical site makes appropriate accommodations to facilitate my training • My clinical site supervisor is a motivated person • My clinical site supervisor is enthusiastic towards my development • I feel comfortable disclosing personal information to my clinical site supervisor • My clinical site supervisor encourages me to become an independent learner • I have open and honest communication with my clinical site supervisor • My clinical training site is poorly organized • My clinical site supervisor creates a safe environment for the discussion of difficult topics • My clinical site supervisor is someone who I feel comfortable seeking advice from • My past experiences are valued in my clinical training • My clinical site has a proper orientation program in place for new trainees • My clinical site understands my limitations as a trainee • I feel unfairly used at my clinical training site (-) • The clinical supervision atmosphere motivates me as a trainee • I have opportunities to observe practical clinical skills being used on the job • My clinical site supervisor makes me feel welcomed at the site • I can choose clinical field placements that reflect my clinical interests • My clinical site supervisor has my well-being in mind • I have opportunities to train alongside other clinicians to enhance my training (e.g., co-facilitate) • My site supervisor provides useful feedback to help me improve as a clinician

	Academic Unit (23)	<ul style="list-style-type: none"> • I am able to individualize my training to match my interest and needs • Faculty and staff have clear roles and responsibilities • There is a clearly defined pathway to address problems within the department • My program provides the resources needed to facilitate my learning • The training I receive prepares me for the work I will do upon graduation • Program faculty care about me as a person • Program faculty are enthusiastic about their work • Program faculty get me excited about the work we do as mental health professionals • My department has adequate accommodations to facilitate my training • My program offers me regular formal feedback on my performance • My program offers me regular informal feedback on my performance • There is a sense of respect among students • Classes are scheduled to meet the needs of working students • Program faculty are accessible to students through a variety of modes (e.g., email, phone, office hours, before/after class) • There is a sense of mutual respect among faculty members • Program faculty are responsive to students' needs • My department is valued by my institution's senior administrators (e.g., President/Chancellor and Provost) • Program faculty are accessible to students outside of class hours • Students have a clear understanding of the policies and procedures of the academic unit • Administrative procedures are handed smoothly • Administrative staff is helpful • Program faculty create safe environment for addressing difficult issues • I am satisfied with the quality of the mentoring I receive from my faculty
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	University/ College (6)	<ul style="list-style-type: none"> • University/college services are readily available to support my graduate research and training (e.g., computer labs) • Students have access to University/college resources to facilitate learning and training (e.g., writing labs) • My university/college is well-respected within academia • My university/college offers a range of social activities for graduate students • The university/college has support programs specific for graduate students (e.g., work-life balance) • The university/college campus is accommodating to graduate students and families (e.g., graduate/family housing)
	Community (6)	<ul style="list-style-type: none"> • My university/college is an active member within the community • The university encourages students to engage in professional development activities in the community • There are ample opportunities to practice/train within the surrounding community • We are located in a surrounding community that provides diverse clients to work with • The surrounding community offers a vibrant place to live • The surrounding community stimulates intellectual activity

Mesosystem

Domain	Content Category	Item: <i>In my counseling training program...</i>
Mesosystem (30 items total)	Multisetting Participation (10)	<ul style="list-style-type: none"> • My clinical site and my training program share similar values and training philosophy) • My faculty supervisor and my site supervisor disagree on the areas they feel I need to improve on (-) • We have a student group that actively participates in university/college events • Social events for students are hosted outside of class • Our program has a good relationship with the local community • What I learn in class is highly applicable in my clinical field placement site • I am able to apply what I learn in class to my clinical field placement site • Skills and knowledge gained in my classes are relevant to the work I am doing at my clinical field placement • The types of assignments I am given in class is similar to the type of work I expect to do when I graduate • What I am learning in class is directly related to the types of work I hope to do when I graduate
	Intersetting Communication (10)	<ul style="list-style-type: none"> • University/college procedures and department procedures for addressing student grievances are consistent • Faculty are active in addressing issues that arise at my clinical field experience site • My faculty supervisor and site supervisor have no communication with each other (-) • There are clearly defined mechanisms and avenues in place for students to offer feedback to faculty • The university/college disseminates information specific to graduate students • The university/college utilizes various modes to communicate with students • Channels are in place for students to provide informal feedback to the program • Channels are in place for students to

		<p>provide formal feedback to the program</p> <ul style="list-style-type: none"> • Communication from my department is disseminated in a timely fashion • My faculty supervisor and site supervisor regularly communicate with each other
	<p>Intersetting Knowledge (10)</p>	<ul style="list-style-type: none"> • Students are made aware of self-care options available on campus • Technical support from the university is available to assist in conducting scholarly activity • The university/college offers training specific to graduate students • My faculty mentor shares his/her knowledge in his/her specialty area with me • Faculty members share their expert knowledge in the courses they teach • Students are made abreast of the mental health needs of the community • Students are aware of university/college policies and deadlines • The university's website provides information relevant to my training needs • The department's website provides adequate information to assist my training needs • The university's policies are easily accessible to students

Exosystem

Domain	Content Category	Item: <i>In my counseling training program...</i>
Exosystem (33 items total)	Student-Client-Client Other (7)	<ul style="list-style-type: none"> • I am taught to understand how events in my clients' life impact me as a counselor • I am taught to recognize the various systems in place that impact and affect my clients • I am taught how to teach my clients to advocate for themselves • Faculty help me recognize my client's impact on my development as a counselor • I am encouraged to discuss how my clients impact me as a counselor • Teaching my clients to advocate for themselves outside of the counseling session is encouraged • My training helps become cognizant on how my background and life experiences can affect my clients' life space as a result of interacting with me
	Student-Faculty-Faculty Other (11)	<ul style="list-style-type: none"> • Faculty place more emphasis on their research than on their students' development (-) • Faculty regularly participate in professional development activities • Faculty incorporate their clinical experiences into the classroom training • Faculty are well-connected within the profession • Faculty regularly present at professional conferences • Faculty tend to bring their personal issues into the classroom (-) • Faculty disclose outside information with students • External factors limit the amount of interaction I have with my faculty • Faculty members collaborate with faculty in other departments on campus • Faculty invite outside experts to guest lecture • Faculty is generally too busy with other responsibilities and activities to be concerned with student learning (-)
	Student-Supervisor-	<ul style="list-style-type: none"> • My clinical site supervisor has too many supervisees to provide the type of supervision

	Supervisor Other (9)	<p>that I desire (-)</p> <ul style="list-style-type: none"> • My clinical site supervisor regularly participates in continuing professional development activities • My clinical site's administration has policies in place that impedes the clinical supervision process (-) • My clinical site supervisor is well- networked within the profession • My clinical site supervisor is more concerned about his/her personal issues than my development as a clinician • My field site's administration has policies in place that support the clinical supervision process • My clinical site supervisor incorporates his/her personal experiences into the supervision process • My clinical site supervisor shares clinical resources with me • My clinical site supervisor assists me in developing my multicultural competence
	Student- Classmates- Classmates other (7)	<ul style="list-style-type: none"> • My classmates actively participate in community activities • My classmates are active in professional organizations • My classmates tend to let events in their personal lives dominate class discussions (-) • My classmates regularly share their clinical experiences with the class • I am able to improve my clinical skills by learning from my classmates' clinical experiences • My classmates are encouraged to share their personal resources with each other • My classmates don't seem to get along on a regular basis (-)

Macrosystem

Domain	Content Category	Item: <i>In my counseling training program...</i>
Macrosystem (36 items total)	Political Culture (6)	<ul style="list-style-type: none"> • (Students are kept updated of the government activities that impact the mental health profession) ??Discussing government activity that impact our profession is practiced regularly • We learn about how governmental policies at the state level impact the lives of our clients • We are encouraged to advocate for disadvantaged populations • We learn about how governmental policies at the national level impact the lives of our clients • Social justice and advocacy in counseling is promoted • Students learn to be proactive in promoting change at the government level
	Laws and Ethics (6)	<ul style="list-style-type: none"> • My training curricula meets state standards for professional licensure and/or certification • My program emphasizes developing a strong professional identity • My program emphasizes the adherence to the ethical codes set forth by the profession • Students are taught to be ethical practitioners • Students are taught to critically examine the ethical codes • Students are expected to demonstrate professional and legal etiquette (i.e., documentation, case notes, etc.) necessary for professionals in our field
	Economics (6)	<ul style="list-style-type: none"> • Graduate assistantships are regularly available to students • I have the opportunity to work with clients from a different socio-economic status as myself • The university/college offers financial resources to support my professional development • The costs to attend my program is a worthy

		<p>investment</p> <ul style="list-style-type: none"> • Program faculty help students locate financial resources to supplement their training • Program faculty are sensitive to the financial concerns of students
	Multiculturalism (18)	<ul style="list-style-type: none"> • Program faculty are diverse in culture and backgrounds • Student body represents diverse cultural backgrounds • Multicultural discussions are held routinely in class • Multiculturalism is practiced and not just spoken about • Multiculturalism is not limited to a singular class, but is practiced throughout • I am encouraged to work with clients culturally different from myself • I am challenged to confront my understanding of multiculturalism • Appreciation of multiculturalism is shared by the university/college • My clinical site promotes a culturally inclusive environment • Students are encouraged to select multicultural topics for their class assignments • Multicultural class electives are available for students to choose from • Students are encouraged to choose multicultural electives • Students are encouraged to select their field placement site based on multicultural factors • I feel that my personal culture is appreciated • Cultural differences between students are celebrated • We are taught to recognize both within-group and between-group differences • My knowledge, awareness, and skills in multicultural counseling has been challenged • Program faculty have helped me develop a new appreciation for multiculturalism

Chronosystem

Domain	Content Category	Item: <i>In my counseling training program...</i>
Chronosystem (16 items total)	Social-Historical, Developmental (8)	<ul style="list-style-type: none"> • Students learn about the historical development of our mental health profession • The training curricula is responsive to current changes in socio-historical-political developments • Students are taught to appreciate the history of our mental health profession • The program has helped me become mindful of my personal development through time • The program has helped me become mindful of my professional development through time • Students are taught how to appreciate the social, political, and cultural forces that impact the practice of mental health counseling • The program is intentional in facilitating students' growth through stages • The program is considerate of students' individual development
	Current, Up-to-date, Adaptive (8)	<ul style="list-style-type: none"> • Program faculty keep up to date with general practice issues • Students are encouraged to consider future implications and directions of the profession • Program implements current and up-to-date technologies needed to facilitate my learning • My training curricula reflects the current trends of the profession • Current social events are discussed in class • My program keeps abreast of the current trends of the profession • My training is current and reflective of the issues impacting our society today • Required training materials (i.e., textbooks and assigned readings) are current and reflective of present-day issues and concerns

APPENDIX C: RECRUITMENT LETTER FOR CONTENT VALIDITY-TARGET
GROUP

Dear Current Counseling Student,

I am currently conducting a study on the training environment for graduate students in counseling and related programs. For this study, I am developing the Counseling Training Environment Scale (CTES), an instrument that will attempt to operationalize and assess the counseling training environment as perceived by counseling trainees. The conceptual framework that is guiding this study is Bronfenbrenner's (1979, 1992) ecological theory. I am requesting your assistance in serving as a target group expert reviewer of the proposed instrument through participating in a "read aloud" focus group administration.

In the "read aloud" administration, I will provide you with a hard copy of the CTES and its directions and response format. You will be asked to read and evaluate the CTES's directions, response format, and individual items and to provide me with qualitative feedback regarding the clarity, usefulness, and relevancy of its contents. You will also be allowed to provide me with recommendations for revisions of specific items.

The "read aloud" will be conducted live and I, the researcher, will take notes of the comments provided by the target group.

I, and my dissertation Chair, Dr. Kok-Mun Ng, have identified you as an expert reviewer appropriate to participate in this study due to your recognition as an exemplary graduate student in a counseling related training program. Your contribution to the development of the CTES will serve to support the validity of a measure, which once created can serve as a tool for assessment, evaluation, and feedback in the ongoing professional development of graduate counseling and related training programs.

If you are interested in accepting a position as a target-group expert reviewer please respond to me via email for more details on the study. I will coordinate an agreed upon date and time to conduct the "read aloud" focus group. The focus group is expected to take about 45-60 minutes of your time and light refreshments will be provided.

Thank you very much.

Jared Lau, MA, NCC, LPC
University of North Carolina at Charlotte
(jlau3@uncc.edu)

APPENDIX D: TARGET GROUP REVIEW EVALUATION DOCUMENTS

Dear Target Group Reviewer,

Thank you for agreeing to serve as a target group reviewer for my dissertation study. On this form you will find the draft version of the Counseling Training Environment Scale (CTES), including its directions/instructions, response format, and the proposed list of items. Please read through the directions/instructions, response format, and each of the items and provide me with your spoken feedback on any portion of the instrument.

Thank you again for your time.

Sincerely
Jared Lau, M.A., NCC, LPC
University of North Carolina at Charlotte
(jlau3@uncc.edu)

Counseling Training Environment Scale (CTES)

The purpose of the CTES is to assess your perceptions and experiences of the counseling training environment in the counseling and related mental health training program you are attending right *now*. **Please note that due to the nature of some of the items, you must be at least in your second clinical placement of your training.**

The items will assess your perceptions about what your current training environment is *actually like*. Please read each item and using the 5-point Likert-type scale (1 = Strongly Disagree, SD; 2 = Disagree, D; 3 = Agree, A; 4 = Strongly Agree, SA; 5 = Not Applicable, NA), rate your level of agreement with each item by selecting the appropriate number.

1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Agree (A), 4 = Strongly Agree (SA), 5 = Not Applicable (NA)

Comments or suggestions on the instruments and/or response format?

<i>In my counseling training program...</i>	SD	D	A	SA	NA
1. Questions from students are welcomed in class	1	2	3	4	5
2. I feel comfortable disclosing personal information to my professors	1	2	3	4	5
3. I feel comfortable disclosing personal information to my advisor	1	2	3	4	5
4. Professors model appropriate skills for approaching difficult issues	1	2	3	4	5
5. My advisor gives me sufficient individual attention	1	2	3	4	5
6. My professors' expectations of me are clearly outlined at the beginning of class	1	2	3	4	5
7. My advisor is interested in me as a person, not just as a student	1	2	3	4	5
8. Professors solicit opinions and perspectives from students	1	2	3	4	5
9. I get regular feedback from my professors	1	2	3	4	5
10. The classroom atmosphere motivates me as a learner	1	2	3	4	5
11. My opinions and viewpoints are not solicited in class (-)	1	2	3	4	5
12. My professors respect my learning style and give me reasonable control over my pace of learning	1	2	3	4	5
13. I am able to choose meaningful assignments specific to my professional interests	1	2	3	4	5
14. Self-directed learning is encouraged and valued	1	2	3	4	5
15. I am concerned about the class size affecting my learning	1	2	3	4	5
16. My advisor supports me in pursuing my professional goals	1	2	3	4	5
17. My advisor encourages me to become an independent learner	1	2	3	4	5
18. My opinions are regularly demeaned by my professor (-)	1	2	3	4	5
19. I am encouraged to share my personal life experiences in class	1	2	3	4	5
20. Professors encourage collaboration among students	1	2	3	4	5
21. Most of my classes are intellectually unchallenging (-)	1	2	3	4	5
22. There is little intellectual challenge presented (-)	1	2	3	4	5
23. Professors focus on promoting active student learning of specific skills	1	2	3	4	5
24. My learning is frequently measured	1	2	3	4	5
25. Learning objectives focus on learning aspects of theory that are relevant to counseling practice	1	2	3	4	5
26. Professors utilize a variety of activities to facilitate student learning (lecture, role-plays, experiential activities, guest speakers, student presentations, etc.)	1	2	3	4	5

<i>In my counseling training program...</i>	SD	D	A	SA	NA
27. My clinical site supervisor treats me with respect	1	2	3	4	5
28. My clinical site makes appropriate accommodations to facilitate my training	1	2	3	4	5
29. My clinical site supervisor motivates me to do my best	1	2	3	4	5
30. My clinical site supervisor facilitates my growth and development	1	2	3	4	5
31. I feel comfortable disclosing personal information to my clinical site supervisor	1	2	3	4	5
32. My clinical site supervisor assists me in developing my multicultural competence	1	2	3	4	5
33. My clinical site supervisor encourages me to become an independent learner	1	2	3	4	5
34. I have open and honest communication with my clinical site supervisor	1	2	3	4	5
35. My clinical training site is poorly organized (-)	1	2	3	4	5
36. My clinical site supervisor creates a safe environment for the discussion of difficult topics	1	2	3	4	5
37. My clinical site supervisor is someone who I feel comfortable seeking advice from	1	2	3	4	5
38. My past experiences are valued in my clinical training	1	2	3	4	5
39. My clinical site has a proper orientation program in place for new trainees	1	2	3	4	5
40. My clinical site understands my limitations as a trainee	1	2	3	4	5
41. I feel unfairly used at my clinical training site (-)	1	2	3	4	5
42. The clinical supervision atmosphere motivates me as a trainee	1	2	3	4	5
43. I have opportunities to observe practical clinical skills being used on the job	1	2	3	4	5
44. My clinical site supervisor makes me feel welcomed at the site	1	2	3	4	5
45. I can choose clinical field placements that reflect my clinical interests	1	2	3	4	5
46. My clinical site supervisor and I have a positive rapport	1	2	3	4	5
47. I have opportunities to train alongside other clinicians to enhance my training (e.g., co-facilitate)	1	2	3	4	5
48. My site supervisor provides useful feedback to help me improve as a clinician	1	2	3	4	5
49. I am able to individualize my training to match my interest and needs	1	2	3	4	5
50. Faculty and staff have clear roles and responsibilities	1	2	3	4	5
51. There is a clearly defined pathway to address problems within the department	1	2	3	4	5

<i>In my counseling training program...</i>	SD	D	A	SA	NA
52. My program provides the resources needed to facilitate my learning	1	2	3	4	5
53. The training I receive prepares me for the work I will do upon graduation	1	2	3	4	5
54. Program faculty care about me as a person	1	2	3	4	5
55. Program faculty are enthusiastic about their work	1	2	3	4	5
56. Program faculty get me excited about the work we do as mental health professionals	1	2	3	4	5
57. My department has adequate accommodations to facilitate my training	1	2	3	4	5
58. My program offers me regular formal feedback on my performance	1	2	3	4	5
59. My program offers me regular informal feedback on my performance	1	2	3	4	5
60. There is a sense of respect among students	1	2	3	4	5
61. Classes are scheduled to meet the needs of working students	1	2	3	4	5
62. Program faculty are accessible to students through a variety of modes (e.g., email, phone, office hours, before/after class)	1	2	3	4	5
63. There is a sense of mutual respect among faculty members	1	2	3	4	5
64. Program faculty are responsive to students' needs	1	2	3	4	5
65. My department is valued by my institution's senior administrators (e.g., President/Chancellor and Provost)	1	2	3	4	5
66. Program faculty are accessible to students outside of class hours	1	2	3	4	5
67. Students have a clear understanding of the policies and procedures of the academic unit	1	2	3	4	5
68. Administrative procedures are handed smoothly	1	2	3	4	5
69. Administrative staff is helpful	1	2	3	4	5
70. Program faculty create a safe environment for addressing difficult issues	1	2	3	4	5
71. I am satisfied with the quality of the mentoring I receive from my faculty	1	2	3	4	5
72. University/college services are readily available to support my graduate research and training (e.g., computer labs, library resources)	1	2	3	4	5
73. Students have access to University/college resources to facilitate learning and training (e.g., writing labs)	1	2	3	4	5
74. My university/college is well-respected within academia	1	2	3	4	5
75. My university/college offers a range of social activities for graduate students	1	2	3	4	5

<i>In my counseling training program...</i>	SD	D	A	SA	NA
76. The university/college has support programs specific for graduate students (e.g., work-life balance)	1	2	3	4	5
77. The university/college campus is accommodating to graduate students and families (e.g., graduate/family housing)	1	2	3	4	5
78. My university/college is an active member within the community	1	2	3	4	5
79. The university encourages students to engage in professional development activities in the community	1	2	3	4	5
80. There are ample opportunities to practice/train within the surrounding community	1	2	3	4	5
81. We are located in a surrounding community that provides diverse clients to work with	1	2	3	4	5
82. The surrounding community offers a vibrant place to live	1	2	3	4	5
83. The surrounding community stimulates intellectual activity	1	2	3	4	5
84. My clinical site and my training program share similar values and training philosophy	1	2	3	4	5
85. My faculty supervisor and my site supervisor disagree on the areas they feel I need to improve on (-)	1	2	3	4	5
86. We have a student group that actively participates in university/college and community events	1	2	3	4	5
87. Social events for students are hosted outside of class	1	2	3	4	5
88. Our program has a good relationship with the local community	1	2	3	4	5
89. I am able to apply what I learn in class to my clinical field placement site	1	2	3	4	5
90. Skills and knowledge gained in my classes are relevant to the work I am doing at my clinical field placement	1	2	3	4	5
91. What I am learning in class is directly related to the types of work I hope to do when I graduate	1	2	3	4	5
92. University/college procedures and department procedures for addressing student grievances are consistent	1	2	3	4	5
93. Faculty are active in addressing issues that arise at my clinical field experience site	1	2	3	4	5
94. My faculty supervisor and site supervisor regularly communicate with each other	1	2	3	4	5
95. There are clearly defined mechanisms and avenues in place for students to offer feedback to faculty	1	2	3	4	5
96. The university/college disseminates information specific to graduate students	1	2	3	4	5
97. The university/college utilizes various modes to communicate with students	1	2	3	4	5

<i>In my counseling training program...</i>	SD	D	A	SA	NA
98. Channels are in place for students to provide informal feedback to the program	1	2	3	4	5
99. Channels are in place for students to provide formal feedback to the program	1	2	3	4	5
100. Communication from my department is disseminated in a timely fashion	1	2	3	4	5
101. Students are made aware of self-care options available on campus	1	2	3	4	5
102. Technical support from the university is available to assist in conducting scholarly activity	1	2	3	4	5
103. The university/college offers training specific to graduate students	1	2	3	4	5
104. My faculty mentor/advisor shares his/her knowledge in his/her specialty area with me	1	2	3	4	5
105. Professors share their expert knowledge in the courses they teach	1	2	3	4	5
106. Students are kept abreast of the mental health needs of the community	1	2	3	4	5
107. Students are made aware of opportunities to volunteer in community activities	1	2	3	4	5
108. Students are aware of university/college policies and deadlines	1	2	3	4	5
109. The university's website provides information relevant to my training needs	1	2	3	4	5
110. The department's website provides adequate information to assist my training needs	1	2	3	4	5
111. The university's policies are easily accessible to students	1	2	3	4	5
112. I am taught to understand how events in my clients' life impact me as a counselor	1	2	3	4	5
113. I am taught to recognize the various systems in place that impact and affect my clients	1	2	3	4	5
114. Faculty help me recognize my client's impact on my development as a counselor	1	2	3	4	5
115. I am encouraged to discuss how my clients impact me as a counselor	1	2	3	4	5
116. Teaching my clients to advocate for themselves outside of the counseling session is encouraged	1	2	3	4	5
117. My training helps me become cognizant of the impact that my background and life experiences have on my clients and how these may affect my clients	1	2	3	4	5

<i>In my counseling training program...</i>	SD	D	A	SA	NA
118. Faculty place more emphasis on their research than on their students' development (-)	1	2	3	4	5
119. Faculty regularly participate in professional development activities	1	2	3	4	5
120. Faculty incorporate their clinical experiences into the classroom training	1	2	3	4	5
121. Faculty are well-connected within the profession	1	2	3	4	5
122. Faculty regularly present at professional conferences	1	2	3	4	5
123. Faculty tend to bring their personal issues into the classroom (-)	1	2	3	4	5
124. Faculty members collaborate with faculty in other departments on campus	1	2	3	4	5
125. Faculty invite outside experts to guest lecture	1	2	3	4	5
126. Faculty is generally too busy with other responsibilities and activities to be concerned with student learning (-)	1	2	3	4	5
127. My clinical site supervisor has too many supervisees to provide the type of supervision that I desire (-)	1	2	3	4	5
128. My clinical site supervisor regularly participates in continuing professional development activities	1	2	3	4	5
129. My clinical site's administration has policies in place that impedes the clinical supervision process (-)	1	2	3	4	5
130. My clinical site supervisor is well- networked within the profession	1	2	3	4	5
131. My clinical site supervisor is more concerned about his/her personal issues than my development as a clinician	1	2	3	4	5
132. My field site's administration has policies in place that support the clinical supervision process	1	2	3	4	5
133. My clinical site supervisor incorporates his/her personal experiences into the supervision process	1	2	3	4	5
134. My clinical site supervisor shares clinical resources with me	1	2	3	4	5
135. My classmates actively participate in community activities	1	2	3	4	5
136. My classmates are active in professional organizations	1	2	3	4	5
137. My classmates tend to let events in their personal lives dominate class discussions (-)	1	2	3	4	5
138. My classmates regularly share their clinical experiences with the class	1	2	3	4	5
139. I am able to improve my clinical skills by learning from my classmates' experiences	1	2	3	4	5
140. My classmates are encouraged to share their personal resources with each other	1	2	3	4	5

<i>In my counseling training program...</i>	SD	D	A	SA	NA
141. My classmates don't seem to get along on a regular basis (-)	1	2	3	4	5
142. Students are kept abreast of current local, state, and national legislation that affects the mental health profession and the impact this legislation has on our clients	1	2	3	4	5
143. We learn about how governmental policies at the state level impact the lives of our clients	1	2	3	4	5
144. We are encouraged to advocate for disadvantaged populations	1	2	3	4	5
145. We learn about how governmental policies at the national level impact the lives of our clients	1	2	3	4	5
146. Social justice and advocacy in counseling is promoted	1	2	3	4	5
147. Students learn to be proactive in promoting change at the government level	1	2	3	4	5
148. Training curricula meets state standards for professional licensure and/or certification	1	2	3	4	5
149. There is an emphasis on developing a strong professional identity	1	2	3	4	5
150. An emphasis is placed on adhering to the ethical codes set forth by the profession	1	2	3	4	5
151. Students are taught to be ethical practitioners	1	2	3	4	5
152. Students are taught to critically examine the ethical codes	1	2	3	4	5
153. Students are expected to demonstrate professional and legal etiquette (i.e., documentation, case notes, etc.) necessary for professionals in our field	1	2	3	4	5
154. Graduate assistantships are regularly available to students	1	2	3	4	5
155. I have the opportunity to work with clients from a different socio-economic status than myself	1	2	3	4	5
156. The university/college offers financial resources to support my professional development	1	2	3	4	5
157. The costs to attend my program is a worthwhile investment	1	2	3	4	5
158. Program faculty help students locate financial resources to supplement their training	1	2	3	4	5
159. Program faculty are sensitive to the financial concerns of students	1	2	3	4	5

<i>In my counseling training program...</i>	SD	D	A	SA	NA
160. Program faculty are diverse in culture and backgrounds	1	2	3	4	5
161. Student body represents diverse cultural backgrounds	1	2	3	4	5
162. Multicultural discussions are held routinely in class	1	2	3	4	5
163. Multiculturalism is practiced and not just spoken about	1	2	3	4	5
164. Multiculturalism is not limited to a singular class, but is practiced throughout	1	2	3	4	5
165. I am encouraged to work with clients culturally different from myself	1	2	3	4	5
166. I am challenged to confront my understanding of multiculturalism	1	2	3	4	5
167. Appreciation of multiculturalism is shared by the university/college	1	2	3	4	5
168. My clinical site promotes a culturally inclusive environment	1	2	3	4	5
169. Students are encouraged to select multicultural topics for their class assignments	1	2	3	4	5
170. Multicultural class electives are available for students to choose from	1	2	3	4	5
171. Students are encouraged to choose multicultural electives	1	2	3	4	5
172. Students are encouraged to select their field placement site based on multicultural factors	1	2	3	4	5
173. I feel that my personal culture is appreciated	1	2	3	4	5
174. Cultural differences between students are celebrated	1	2	3	4	5
175. We are taught to recognize both within-group and between-group differences	1	2	3	4	5
176. My knowledge, awareness, and skills in multicultural counseling has been challenged	1	2	3	4	5
177. Program faculty have helped me develop a new appreciation for multiculturalism	1	2	3	4	5
178. Students learn about the historical development of the mental health profession	1	2	3	4	5
179. The training curricula is responsive to current changes in socio-historical-political developments	1	2	3	4	5
180. Students are taught to appreciate the history of the mental health profession	1	2	3	4	5
181. The program has helped me become mindful of my personal development through time	1	2	3	4	5
182. The program has helped me become mindful of my professional development through time	1	2	3	4	5
183. Students are taught how to appreciate the social, political, and cultural forces that impact the practice of mental health counseling	1	2	3	4	5

<i>In my counseling training program...</i>	SD	D	A	SA	NA
184. The program is intentional in facilitating students' growth and development	1	2	3	4	5
185. The program is responsive to students' individual development	1	2	3	4	5
186. Program faculty keep up to date with general practice issues	1	2	3	4	5
187. Students are encouraged to consider future implications and directions of the profession	1	2	3	4	5
188. The Program implements current and up-to-date technologies needed to facilitate my learning	1	2	3	4	5
189. My training curricula reflects the current trends of the profession	1	2	3	4	5
190. Current social events are discussed in class	1	2	3	4	5
191. The program keeps abreast of the current trends in the profession	1	2	3	4	5
192. My training is current and reflective of the issues impacting our society today	1	2	3	4	5
193. Required training materials (i.e., textbooks and assigned readings) are current and reflective of present-day issues and concerns	1	2	3	4	5

APPENDIX E: RECRUITMENT LETTER FOR CONTENT VALIDITY-OUTSIDE
EXPERT

Dear Counseling Expert,

I am currently conducting a study for my dissertation on the training environment for graduate students in counseling and related programs. For this study, I am developing an instrument that will attempt to operationalize and assess the counseling training environment as perceived by counseling trainees. The conceptual framework that is guiding this study is Bronfenbrenner's (1979, 1992) ecological theory. I am requesting your assistance in serving as an expert reviewer of the instrument's proposed items.

My dissertation Chair, Dr. Kok-Mun Ng, and I have identified you as an expert reviewer appropriate to participate in this study due to your recognition as being an expert in the area of counselor training and systems theories including Bronfenbrenner's (1979, 1992) ecological theory. This designation supports your experience and expertise with counselor training. I am asking for your assistance in reviewing this instrument's proposed items. Your contribution to the development of this instrument will serve to support the validity of a measure which once created can serve as a tool for assessment, evaluation, and feedback in the ongoing professional development of graduate counseling and related training programs.

If you are interested in accepting a position as an expert reviewer please respond to me via email for more details on the study and the research material. If you agree to serve as an expert reviewer, you will be asked to review the proposed items within 7 days and as a token of appreciation for your participation, you will be given an amazon.com gift card.

Thank you very much.

Jared Lau, MA, NCC, LPC
University of North Carolina at Charlotte
(jlau3@uncc.edu)

APPENDIX F: EXTERNAL REVIEW-OUTSIDE EXPERT

Dear Outside Expert Reviewer,

My Dissertation Chair, Dr. Kok-Mun Ng and I thank you for agreeing to serve as an external expert reviewer for my dissertation study entitled “*The Counseling Training Environment Scale (CTES): Development of a Self-Report Measure to Assess Counseling Training Environments.*” On this form you will find a brief overview of the study and a description of the subscales/domains of the CTES. You will also have a draft version of the CTES, including its directions/instructions, response format, and the proposed list of items.

You are being asked to read through the background information on the CTES (including its conceptual framework) and its proposed items. Next, based on your understanding of the CTES’s goals and objectives and in accordance to the conceptual framework guiding this study, you are asked to “place” each of the items into its corresponding domain. Directions on how to place an item are included later.

Thank you again for your time.

Sincerely
Jared Lau, M.A., NCC, LPC
University of North Carolina at Charlotte
(jlau3@uncc.edu)

Overview

The purpose of the CTES is to assess students' perceptions of their training environment in their current counseling and related mental health training program. The counseling training environment is being conceptualized through Bronfenbrenner's (1979, 1992) ecological model.

Bronfenbrenner (1979, 1992) identifies five subsystems that he believes constitutes the total environment of individuals: the microsystem, mesosystem, exosystem, macrosystem, and chronosystem.

In conceptualizing the total training environment of counselor trainees, consider each of the subsystems/domains of Bronfenbrenner's (1979, 1992) model:

The Microsystem

Bronfenbrenner (1979) defines the microsystem as "A pattern of activities, roles, and interpersonal relations experienced by the developing person (i.e., counseling trainee) in a given setting with particular physical and material characteristics" (p. 22). The microsystem consists of the immediate settings of the trainee including the interpersonal relations and settings in which the trainee works and studies. A setting is defined as a place where people (i.e., the trainee) can readily engage in face-to-face interaction, to include peers, school, clinical site, the community, and so forth.

The Mesosystem

Bronfenbrenner (1979) defines the mesosystem as: "A set of interrelations between two or more settings in which the developing person becomes an active participant" (p. 209). The emphasis is on the set of connections and links between settings, **not** specific places or settings itself.

In the mesosystem, the "links" or interrelations can occur in the following ways: (a) multisetting participation, where the counseling trainee is active in two or more settings found in the microsystem (e.g., school and internship site); (b) Intersetting communications where messages "transmitted from one setting to the other with the express intent of providing specific information to persons in the other setting" occur (e.g., communication from school to internship site); and (c) intersetting knowledge where the information or experience that exists in one setting has a relationship with the other setting (e.g., information regarding school policies sent to the internship site).

The Exosystem

Bronfenbrenner (1979) defines the exosystem as consisting of "one or more settings that do not involve the developing person as an active participant but in which events occur that affect, or are affected by what happens in that setting" (p. 237). In the exosystem, the

counseling trainee is not an active participant in both settings, but is still affected by the events of both settings (e.g., the counseling trainee's client's work environment. Though the trainee is not active in client's workplace, events that occur at the client's workplace are brought into the counseling session and thus impact the counseling trainee).

The Macrosystem

Bronfenbrenner (1979) defines the macrosystem as the “consistency observed within a given culture or subculture in the form and content of its constituent micro-, meso-, and exosystems, as well as any belief systems or ideology underlying such inconsistencies” (p. 258). While the macrosystem is unique to each individual, similarities also exist among all individuals as manifested through the ecological systemic framework. Example would be the cultural or political influences of the college, university, or community on the counseling trainee.

The Chronosystem

The chronosystem (Bronfenbrenner, 1992) reflects changes in patterns of environmental events and sociohistorical conditions (e.g., transitions over the life course of the individual). For example, the chronosystem accounts for sociohistorical conditions of children's development as lives of children today differ from the lives of their parents or grandparents due to changes in social, historical, and political movements. The chronosystem is also reflective of the adaptability of the training environment over time (e.g., implementing current and relevant learning methods, technologies, etc.).

Counseling Training Environment Scale (CTES)

Instructions

The purpose of the CTES is to assess your perceptions and experiences of the counseling training environment in the counseling and related mental health training program you are attending right *now*. **Please note that due to the nature of some of the items, you must be at least in your second clinical placement of your training.**

The items will assess your perceptions about what your current training environment is *actually like*. Please read each item and using the 5-point Likert-type scale (1 = Strongly Disagree (SD); 2 = Disagree (D); 3 = Agree (A); 4 = Strongly Agree (SA); 5 = Not Applicable (NA)), rate your level of agreement with each item by selecting the appropriate number.

Response Format

1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Agree (A), 4 = Strongly Agree (SA), 5 = Not Applicable (NA)

Comments or suggestions on the instruments and/or response format?

Item Placement Form: External Expert Review

Instructions

Please read each of the proposed items for the CTES. Next, based on your understanding of Bronfenbrenner's theory and the conceptual framework and goals of the CTES, please "place" each item into its appropriate domain. To place an item into a domain, simply place an "X" or something similar into the corresponding box to the right of the item.

For the purposes of this review, please note the following abbreviations: **MI** = Microsystem, **ME** = Mesosystem, **EX** = Exosystem, **MA** = Macrosystem, and **CH** = Chronosystem.

<i>In my counseling training program...</i>	MI	ME	EX	MA	CH
1. Questions from students are welcomed in class					
2. I feel comfortable disclosing personal information to my professors					
3. I feel comfortable disclosing personal information to my advisor					
4. Professors model appropriate skills for approaching difficult issues					
5. My advisor gives me sufficient individual attention					
6. My professors' expectations of me are clearly outlined at the beginning of class					
7. My advisor is interested in me as a person, not just as a student					
8. Professors solicit opinions and perspectives from students					
9. I get regular feedback from my professors					
10. The classroom atmosphere motivates me as a learner					
11. My opinions and viewpoints are not solicited in class (-)					
12. My professors respect my learning style and give me reasonable control over my pace of learning					
13. I am able to choose meaningful assignments specific to my professional interests					
14. Self-directed learning is encouraged and valued					
15. I am concerned about the class size affecting my learning					
16. My advisor supports me in pursuing my professional goals					
17. My advisor encourages me to become an independent learner					
18. My opinions are regularly demeaned by my professor (-)					
19. I am encouraged to share my personal life experiences in class					
20. Professors encourage collaboration among students					

21. Most of my classes are intellectually unchallenging (-)					
22. There is little intellectual challenge presented (-)					
23. Professors focus on promoting active student learning of specific skills					
24. My learning is frequently measured					
25. Learning objectives focus on learning aspects of theory that are relevant to counseling practice					
26. Professors utilize a variety of activities to facilitate student learning (lecture, role-plays, experiential activities, guest speakers, student presentations, etc.)					

MI = Microsystem, **ME** = Mesosystem, **EX** = Exosystem, **MA** = Macrosystem, and **CH** = Chronosystem.

<i>In my counseling training program...</i>	MI	ME	EX	MA	CH
27. My clinical site supervisor treats me with respect					
28. My clinical site makes appropriate accommodations to facilitate my training					
29. My clinical site supervisor motivates me to do my best					
30. My clinical site supervisor facilitates my growth and development					
31. I feel comfortable disclosing personal information to my clinical site supervisor					
32. My clinical site supervisor assists me in developing my multicultural competence					
33. My clinical site supervisor encourages me to become an independent learner					
34. I have open and honest communication with my clinical site supervisor					
35. My clinical training site is poorly organized (-)					
36. My clinical site supervisor creates a safe environment for the discussion of difficult topics					
37. My clinical site supervisor is someone who I feel comfortable seeking advice from					
38. My past experiences are valued in my clinical training					
39. My clinical site has a proper orientation program in place for new trainees					
40. My clinical site understands my limitations as a trainee					
41. I feel unfairly used at my clinical training site (-)					
42. The clinical supervision atmosphere motivates me as a trainee					
43. I have opportunities to observe practical clinical skills being used on the job					
44. My clinical site supervisor makes me feel welcomed at the site					

45. I can choose clinical field placements that reflect my clinical interests					
46. My clinical site supervisor and I have a positive rapport					
47. I have opportunities to train alongside other clinicians to enhance my training (e.g., co-facilitate)					
48. My site supervisor provides useful feedback to help me improve as a clinician					
49. I am able to individualize my training to match my interest and needs					
50. Faculty and staff have clear roles and responsibilities					
51. There is a clearly defined pathway to address problems within the department					

<i>In my counseling training program...</i>	MI	ME	EX	MA	CH
52. My program provides the resources needed to facilitate my learning					
53. The training I receive prepares me for the work I will do upon graduation					
54. Program faculty care about me as a person					
55. Program faculty are enthusiastic about their work					
56. Program faculty get me excited about the work we do as mental health professionals					
57. My department has adequate accommodations to facilitate my training					
58. My program offers me regular formal feedback on my performance					
59. My program offers me regular informal feedback on my performance					
60. There is a sense of respect among students					
61. Classes are scheduled to meet the needs of working students					
62. Program faculty are accessible to students through a variety of modes (e.g., email, phone, office hours, before/after class)					
63. There is a sense of mutual respect among faculty members					
64. Program faculty are responsive to students' needs					
65. My department is valued by my institution's senior administrators (e.g., President/Chancellor and Provost)					
66. Program faculty are accessible to students outside of class hours					
67. Students have a clear understanding of the policies and procedures of the academic unit					
68. Administrative procedures are handed smoothly					

69. Administrative staff is helpful					
70. Program faculty create a safe environment for addressing difficult issues					
71. I am satisfied with the quality of the mentoring I receive from my faculty					
72. University/college services are readily available to support my graduate research and training (e.g., computer labs, library resources)					
73. Students have access to University/college resources to facilitate learning and training (e.g., writing labs)					
74. My university/college is well-respected within academia					
75. My university/college offers a range of social activities for graduate students					

MI = Microsystem, **ME** = Mesosystem, **EX** = Exosystem, **MA** = Macrosystem, and **CH** = Chronosystem.

<i>In my counseling training program...</i>	MI	ME	EX	MA	CH
76. The university/college has support programs specific for graduate students (e.g., work-life balance)					
77. The university/college campus is accommodating to graduate students and families (e.g., graduate/family housing)					
78. My university/college is an active member within the community					
79. The university encourages students to engage in professional development activities in the community					
80. There are ample opportunities to practice/train within the surrounding community					
81. We are located in a surrounding community that provides diverse clients to work with					
82. The surrounding community offers a vibrant place to live					
83. The surrounding community stimulates intellectual activity					
84. My clinical site and my training program share similar values and training philosophy					
85. My faculty supervisor and my site supervisor disagree on the areas they feel I need to improve on (-)					
86. We have a student group that actively participates in university/college and community events					
87. Social events for students are hosted outside of class					
88. Our program has a good relationship with the local community					
89. I am able to apply what I learn in class to my clinical field placement site					

90. Skills and knowledge gained in my classes are relevant to the work I am doing at my clinical field placement					
91. What I am learning in class is directly related to the types of work I hope to do when I graduate					
92. University/college procedures and department procedures for addressing student grievances are consistent					
93. Faculty are active in addressing issues that arise at my clinical field experience site					
94. My faculty supervisor and site supervisor regularly communicate with each other					
95. There are clearly defined mechanisms and avenues in place for students to offer feedback to faculty					
96. The university/college disseminates information specific to graduate students					
97. The university/college utilizes various modes to communicate with students					

<i>In my counseling training program...</i>	MI	ME	EX	MA	CH
98. Channels are in place for students to provide informal feedback to the program					
99. Channels are in place for students to provide formal feedback to the program					
100. Communication from my department is disseminated in a timely fashion					
101. Students are made aware of self-care options available on campus					
102. Technical support from the university is available to assist in conducting scholarly activity					
103. The university/college offers training specific to graduate students					
104. My faculty mentor/advisor shares his/her knowledge in his/her specialty area with me					
105. Professors share their expert knowledge in the courses they teach					
106. Students are kept abreast of the mental health needs of the community					
107. Students are made aware of opportunities to volunteer in community activities					
108. Students are aware of university/college policies and deadlines					
109. The university's website provides information relevant to my training needs					
110. The department's website provides adequate information to assist my training needs					

111. The university's policies are easily accessible to students					
112. I am taught to understand how events in my clients' life impact me as a counselor					
113. I am taught to recognize the various systems in place that impact and affect my clients					
114. Faculty help me recognize my client's impact on my development as a counselor					
115. I am encouraged to discuss how my clients impact me as a counselor					
116. Teaching my clients to advocate for themselves outside of the counseling session is encouraged					
117. My training helps me become cognizant of the impact that my background and life experiences have on my clients and how these may affect my clients					

MI = Microsystem, **ME** = Mesosystem, **EX** = Exosystem, **MA** = Macrosystem, and **CH** = Chronosystem.

<i>In my counseling training program...</i>	MI	ME	EX	MA	CH
118. Faculty place more emphasis on their research than on their students' development (-)					
119. Faculty regularly participate in professional development activities					
120. Faculty incorporate their clinical experiences into the classroom training					
121. Faculty are well-connected within the profession					
122. Faculty regularly present at professional conferences					
123. Faculty tend to bring their personal issues into the classroom (-)					
124. Faculty members collaborate with faculty in other departments on campus					
125. Faculty invite outside experts to guest lecture					
126. Faculty is generally too busy with other responsibilities and activities to be concerned with student learning (-)					
127. My clinical site supervisor has too many supervisees to provide the type of supervision that I desire (-)					
128. My clinical site supervisor regularly participates in continuing professional development activities					
129. My clinical site's administration has policies in place that impedes the clinical supervision process (-)					
130. My clinical site supervisor is well-networked within the profession					
131. My clinical site supervisor is more concerned about his/her personal issues than my development as a					

clinician					
132. My field site's administration has policies in place that support the clinical supervision process					
133. My clinical site supervisor incorporates his/her personal experiences into the supervision process					
134. My clinical site supervisor shares clinical resources with me					
135. My classmates actively participate in community activities					
136. My classmates are active in professional organizations					
137. My classmates tend to let events in their personal lives dominate class discussions (-)					
138. My classmates regularly share their clinical experiences with the class					
139. I am able to improve my clinical skills by learning from my classmates' experiences					
140. My classmates are encouraged to share their personal resources with each other					

<i>In my counseling training program...</i>	MI	ME	EX	MA	CH
141. My classmates don't seem to get along on a regular basis (-)					
142. Students are kept abreast of current local, state, and national legislation that affects the mental health profession and the impact this legislation has on our clients					
143. We learn about how governmental policies at the state level impact the lives of our clients					
144. We are encouraged to advocate for disadvantaged populations					
145. We learn about how governmental policies at the national level impact the lives of our clients					
146. Social justice and advocacy in counseling is promoted					
147. Students learn to be proactive in promoting change at the government level					
148. Training curricula meets state standards for professional licensure and/or certification					
149. There is an emphasis on developing a strong professional identity					
150. An emphasis is placed on adhering to the ethical codes set forth by the profession					
151. Students are taught to be ethical practitioners					
152. Students are taught to critically examine the ethical codes					
153. Students are expected to demonstrate professional and					

legal etiquette (i.e., documentation, case notes, etc.) necessary for professionals in our field					
154. Graduate assistantships are regularly available to students					
155. I have the opportunity to work with clients from a different socio-economic status than myself					
156. The university/college offers financial resources to support my professional development					
157. The costs to attend my program is a worthwhile investment					
158. Program faculty help students locate financial resources to supplement their training					
159. Program faculty are sensitive to the financial concerns of students					

MI = Microsystem, **ME** = Mesosystem, **EX** = Exosystem, **MA** = Macrosystem, and **CH** = Chronosystem.

<i>In my counseling training program...</i>	MI	ME	EX	MA	CH
160. Program faculty are diverse in culture and backgrounds					
161. Student body represents diverse cultural backgrounds					
162. Multicultural discussions are held routinely in class					
163. Multiculturalism is practiced and not just spoken about					
164. Multiculturalism is not limited to a singular class, but is practiced throughout					
165. I am encouraged to work with clients culturally different from myself					
166. I am challenged to confront my understanding of multiculturalism					
167. Appreciation of multiculturalism is shared by the university/college					
168. My clinical site promotes a culturally inclusive environment					
169. Students are encouraged to select multicultural topics for their class assignments					
170. Multicultural class electives are available for students to choose from					
171. Students are encouraged to choose multicultural electives					
172. Students are encouraged to select their field placement site based on multicultural factors					
173. I feel that my personal culture is appreciated					
174. Cultural differences between students are celebrated					
175. We are taught to recognize both within-group and					

between-group differences					
176. My knowledge, awareness, and skills in multicultural counseling has been challenged					
177. Program faculty have helped me develop a new appreciation for multiculturalism					
178. Students learn about the historical development of the mental health profession					
179. The training curricula is responsive to current changes in socio-historical-political developments					
180. Students are taught to appreciate the history of the mental health profession					
181. The program has helped me become mindful of my personal development through time					
182. The program has helped me become mindful of my professional development through time					
183. Students are taught how to appreciate the social, political, and cultural forces that impact the practice of mental health counseling					

<i>In my counseling training program...</i>	MI	ME	EX	MA	CH
184. The program is intentional in facilitating students' growth and development					
185. The program is responsive to students' individual development					
186. Program faculty keep up to date with general practice issues					
187. Students are encouraged to consider future implications and directions of the profession					
188. The Program implements current and up-to-date technologies needed to facilitate my learning					
189. My training curricula reflects the current trends of the profession					
190. Current social events are discussed in class					
191. The program keeps abreast of the current trends in the profession					
192. My training is current and reflective of the issues impacting our society today					
193. Required training materials (i.e., textbooks and assigned readings) are current and reflective of present-day issues and concerns					

APPENDIX G: FIELD STUDY RECRUITMENT LETTER

Dear Counseling Trainer/Supervisor,

I am currently conducting a study for my dissertation on the training environment for graduate students in counseling and related programs. For this study, I have developed the Counseling Training Environment Scale (CTES), an instrument that attempts to operationalize and assess the counseling training environment as perceived by counseling trainees. I am looking for participants to engage in the field trials, including a test-retest administration, of the CTES. The conceptual framework guiding this study is Bronfenbrenner's (1979, 1992) ecological theory. To participate in the field trials, participants should be a current graduate student in a counseling or related program and be at least in their second clinical field placement portion of their training (e.g., 2nd practicum, 1st internship). As an incentive to participate in the test-retest trials, participants may choose to be entered into a sweepstakes where they can win 1 of 5 \$20 gift cards to amazon.com.

Both the primary and test-retest study is conducted online and will take about 8-10 minutes to complete. I would greatly appreciate it if you could forward this request to students you know who qualify for this study. Interested individuals please access the study's website (<http://uncc.surveymshare.com/>) for more details on the study and the research materials. **Please complete the study within 7 days of receipt of this invitation.**

Thank you very much.

Jared Lau, MA, NCC, LPC
University of North Carolina at Charlotte
(jlau3@uncc.edu)

APPENDIX H: INFORMED CONSENT



College of Education
Department of Counseling
704/687-8960

The Counseling Training Environment Scale (CTES): Development of a Self-Report Measure to Assess Counseling Training Environment

Thank you for your interest in participating in my dissertation research study titled, “The Counseling Training Environment Scale (CTES): Development of a Self-Report Measure to Assess Counseling Training Environment.” The results of my study will be used to develop an instrument that can serve as a tool for assessment, evaluation, and feedback in the ongoing professional development of graduate counseling and related training programs.

Though the field of learning environment research has been steadily growing over the past few decades, the research has been primarily confined to the primary and secondary educational levels and has paid limited attention to adult learning environments. Furthermore, existing instruments that assess adult learning environments tend to be adapted from their primary and secondary learning environment counterparts and lack a comprehensive theory-based design that takes into consideration the uniqueness of adult learners in comparison to child learners. To date, there are no assessments instruments designed to specifically measure the perceived ideal training environment in counseling and related mental health programs. Thus, my study will address this gap in the counseling training literature. Your participation in my study is very significant.

The principal investigator (PI) of this study is Jared Lau, a doctoral candidate in the Department of Counseling at the University of North Carolina at Charlotte. Dr. Kok-Mun Ng, an Associate Professor in the Department of Counseling at the University of North Carolina at Charlotte, is the Chair of this dissertation study.

I am inviting current Master’s and/or Doctoral level students in counseling and related programs (e.g., counseling/counselor education and supervision, marriage and family therapy, counseling/clinical psychology) who are at least in their second field placement clinical training portion of their program (e.g., 2nd practicum/1st internship) to participate in my study by taking part in an online survey. I expect to recruit approximately 500 participants.

Additionally, to further assess the reliability and stability of the CTES, participants are needed to participate in a test-retest administration of this study. For the test-retest

administration, interested participants will be able to submit their email address to the survey's website at the conclusion of taking the CTES. I, the researcher, will contact participants 2 weeks later and provide a link directing participants to take the CTES once more (i.e., "retest"). As an incentive to participate in the test-retest administration, participants will be entered into a sweepstakes where they can win 1 of 5 \$20 gift cards to amazon.com. I expect to recruit 50 participants for the test-retest administration.

If you meet the inclusion criteria and wish to participate in either the initial administration and/or the test-retest administration, simply click on the link titled "continue to survey" and you will be sent to the survey's website (<http://www.surveymshare.com>). By clicking on the link and agreeing to participate in either phase of the study you are acknowledging that you have read and understand the informed consent document. No additional information will be required from you unless you wish to participate in the test-retest administration in which case you will provide your email address at the completion of the CTES survey.

Participation in this study is voluntary. The decision to participate in this study is completely up to you. Neither UNC Charlotte nor the researcher will provide any financial compensation to participants in this study. However, participants who choose to participate in the retest administration will be eligible to win 1 of 5 \$20 gift cards to amazon.com. Winners of the gift cards will be randomly chosen through computer software.

With the exception of those who choose to participate in the test-retest administration, your online responses will be anonymous and confidential. Though data from participants in the retest will be kept confidential, participants will be identifiable through their email addresses. However, for both the primary and retest administration, only group and aggregate data will be published or presented. Because the survey Internet servers are not encrypted, there is a slight chance that data could be observed by a third party. You may choose to terminate participation at any time should you experience emotional discomfort while completing the materials. I do not expect any risks will result from participating in this study, though there may be risks that are currently unforeseeable. No adverse actions will be taken against you for opting out. All data collected will be stored in a secure place. Only the researcher will have access to them.

There are no direct material benefits from participating in this study. However, you may feel good about your participation because it contributes to counselor preparation programs in the U.S. by providing faculty with useful information and knowledge on the counseling training environment. The results of this study could be used in assisting with program evaluation and curriculum design of counselor preparation programs to better serve the needs of its students.

The research protocol of this study has been approved by UNC Charlotte's Institutional Review Board which oversees research with human subjects. UNC Charlotte wants to make sure that you are treated in a fair and respectful manner. Contact the university's Research Compliance Office (704-687-3309) if you have questions about how you are

treated as a study participant. If you have any questions about the actual project or study, please contact the principal investigator Jared Lau (1-808-277-3841, jlau3@uncc.edu) or Dr. Kok-Mun Ng (1-704-687-8963, kokmunng@uncc.edu).

By replying to this recruitment and informed consent document, you acknowledge that:

1. You are at least 18 years old
2. You meet the participant criteria
3. You have read and understood the aforementioned information
4. Your decision to participate in this study was completely up to you and your information will be kept confidential, and
5. You have been given an opportunity to ask the researchers questions concerning this research and your participation.

Sincerely,
Jared Lau, MA, NCC, LPC
Doctoral Candidate
University of North Carolina at Charlotte
Contact: jlau3@uncc.edu; 1-808-277-3841

APPENDIX I: PARTICIPANT DEMOGRAPHIC SHEET

Sex:

- Male
- Female
- Transgendered
- Other

Age (in years):

- ≤ 25
- 26-30
- 31-35
- 36-40
- 41+

Race/Ethnicity:

- African American/Black
- Native American
- White/Caucasian American, Non-Hispanic
- Asian/Pacific Islanders
- Latino/Latina
- Multi-heritage
- Other:

Are you a US Citizen/Permanent Resident?

- Yes
- No

Sexual Orientation:

- Gay
- Lesbian
- Transgender
- Bi-sexual
- Questioning
- Heterosexual

Highest Educational Degree Earned:

- Bachelor's Degree
- Master's Degree
- Doctoral Degree
- Other:

Your Primary Field of Graduate Study:

- Master's-Community Counseling Track

- Master's-College Counseling Track
- Master's- Marital, Couple, and Family Counseling/Therapy Track
- Master's-Mental Health Counseling Track
- Master's-School Counseling Track
- Master's-Student Affairs Counseling Track
- Master's-Pastoral Counseling Track
- Master's-Rehab Counseling Track
- Master's-Counseling/Clinical Psychology
- Master's-Marriage and Family Therapy
- Educational Specialist-Counseling
- Doctoral: Counseling/Clinical/School Psychology
- Other:

My program of study is accredited by

- CACREP
- CORE
- COAMFTE
- APA
- Not Accredited by either CACREP, CORE, COAMFTE, or APA
- Other:

Geographical Region of Program/Institution

- North Atlantic (CT, DE, ME, MA, NH, NJ, NY, PA, RI, VT)
- North Central (IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, OK, SD, WI)
- Southern (AL, AR, FL, GA, KY, LA, MD, MS, NC, SC, TN, TX, WV, VA)
- Rocky Mountain (CO, ID, MT, NM, UT, WY)
- Western (AK, AZ, CA, HI, NV, OR, WA)

Your Current Level of Clinical Training (e.g., beginning practicum)

- Practicum (e.g., 1st Clinical experience)
- First Internship (e.g., 2nd clinical/Subsequent to practicum)
- Second Internship (e.g., Subsequent to first internship)
- Third Internship (e.g., Subsequent to second internship)

Degree you are currently seeking

- Master's
- Educational Specialists
- Doctoral

APPENDIX J: TEST-RETEST INFORMATION

This completes your participation in the CTES. Thank you. In addition, to further assess the psychometric properties of the CTES, a test-retest administration is also being sought. By having just completed the CTES, you have already taken the "test" portion of the test-retest. Therefore, participation in the retest will require you to take the CTES once more in 2 weeks time. Please note that in order to participate in the retest, participants must submit an email address where I can send the online link for the retest. To encourage participation in the retest, participants will be entered into a sweepstakes where they can win 1 of 5 \$20 gift cards to amazon.com. If you would like to participate in the retest portion of this study, please select "yes" and read the information—including the procedures for selecting the winners of the sweepstakes—on the next page. Alternatively, select "no" and you will be directed to the end of this study. Thank you very much.

Sincerely,
Jared Lau, MA, NCC, LPC
Doctoral Candidate
University of North Carolina at Charlotte
Contact: jlau3@uncc.edu; 1-808-277-3841

APPENDIX K: RETEST ADDITIONAL INFORMATION

Thank you for your interest in participating in the test-retest administration of the Counseling Training Environment Scale (CTES). As a reminder, if you choose to, at the conclusion of the CTES retest, you may submit your email address into a drawing for a chance to win 1 of 5 \$20 gift cards to amazon.com. If you choose to submit your email address, it will be entered into an Excel spreadsheet. Two weeks after the test-retest administration is complete, winners of the gift cards will be randomly selected through Excel and will be contacted by me at the email address you provided for this study. At that time, I will ask for a mailing address where I can send you your gift card. I will input your mailing address into the Excel spreadsheet. If you decide that you no longer wish to receive one of the gift cards, please let me know so that I may select the next winner. After I receive all 5 mailing addresses of the winners, the Excel spreadsheet, all of its contents, and any email correspondence between you and I will be immediately destroyed via computer software that destroys data permanently. Only the winners of the gift cards will be notified.

Please feel free to contact me if you have any questions regarding these procedures. Thank you again for your interest in the test-retest administration of the CTES. If you still wish to participate in the retest, please be sure to enter your email address below so that I can send you the link for the retest. Alternatively, if you no longer wish to participate in the retest, simply close your web browser's window. Thank you.

Sincerely,
Jared Lau, MA, NCC, LPC
Doctoral Candidate
University of North Carolina at Charlotte
Contact: jlau3@uncc.edu; 1-808-277-3841

APPENDIX L: SWEEPSTAKES DRAWING

Thank you for participating in the test-retest administration of the Counseling Training Environment Scale (CTES). If you choose to, at the conclusion of taking the CTES, you may submit your email address into a drawing for a chance to win 1 of 5 \$20 gift cards to amazon.com. If you choose to submit your email address, it will be entered into an Excel spreadsheet. Two weeks after the test-retest administration is complete, winners of the gift cards will be randomly selected through Excel and will be contacted by me at the email address you provided for this study. At that time, I will ask for a mailing address where I can send you your gift card. I will input your mailing address into the Excel spreadsheet. If you decide that you no longer wish to receive one of the gift cards, please let me know so that I may select the next winner. After I receive all 5 mailing addresses of the winners I will mail out the gift cards. At that point, the Excel spreadsheet, all of its contents, and any email correspondence between you and I will be immediately destroyed via computer software that destroys data permanently. Only the winners of the gift cards will be notified. Please feel free to contact me if you have any questions regarding these procedures. If you no longer wish to participate in this retest administration, or if at any point during this study you decide you would like to opt out, simply exit the survey by closing your web browser's window. There will be no adverse action taken against you for opting out of this study. Thank you again for your participation in the test-retest administration of the CTES.

Sincerely,
Jared Lau, MA, NCC, LPC
Doctoral Candidate
University of North Carolina at Charlotte
Contact: jlau3@uncc.edu; 1-808-277-3841

APPENDIX M: SWEEPSTAKES FINAL

Thank you for completing the test-retest administration of the Counseling Training Environment Scale (CTES). If you choose to, you may now submit your email address into the drawing for a chance to win 1 of 5 \$20 gift cards to amazon.com. If you choose to submit your email address, it will be entered into an Excel spreadsheet. Two weeks after the test-retest administration is complete, winners of the gift cards will be randomly selected through Excel and will be contacted by me at the email address you provided for this study. At that time, I will ask for a mailing address where I can send you your gift card. I will input your mailing address into the Excel spreadsheet. If you decide that you no longer wish to receive one of the gift cards, please let me know so that I may select the next winner. After I receive all 5 mailing addresses of the winners I will mail out the gift cards. At that point, the Excel spreadsheet, all of its contents, and any email correspondence between you and I will be immediately destroyed via computer software that destroys data permanently. Only the winners of the gift cards will be notified. Please feel free to contact me if you have any questions regarding these procedures. Thank you again for your participation in the test-retest administration of the CTES.

Sincerely,
Jared Lau, MA, NCC, LPC
Doctoral Candidate
University of North Carolina at Charlotte
Contact: jlau3@uncc.edu; 1-808-277-3841

APPENDIX N: ITEM DEVELOPMENT-LEAD RESEARCHER AND DISSERTATION
CHAIR

Microsystem (81 Items)

Content Category	Item: <i>In my counseling training program...</i>
Classroom/ Advising (25)	<ul style="list-style-type: none"> • Questions from students are welcomed in class • I feel comfortable disclosing personal information to my professor • I feel comfortable disclosing personal information to my advisor • Professors model appropriate skills for approaching difficult issues • My advisor gives me sufficient individual attention • My professors' expectations of me are clearly outlined at the beginning of class • My advisor is interested in me as a person, not just as a student • Professors solicit opinions and perspectives from students • I get regular feedback from my professors • The classroom atmosphere motivates me as a learner • My opinions and viewpoints are not solicited in class (-) • My personal life experiences are not valued in class (-) • Learning occurs at my own pace, not my professors' • My professors give me reasonable control on my pace of learning. • Professors make attempts to integrate my life experiences into the class discussions • I am able to choose meaningful assignments specific to my professional interests • Self-directed learning is encouraged and valued • I am concerned about the class size affecting my learning • My advisor supports me in pursuing my professional goals • My advisor encourages me to become an independent learner • My opinions are regularly demeaned by my professor (-) • I am encouraged to share my personal experiences in class • Student-to-student interaction in class is encouraged • Most of my classes are intellectually unchallenging • There is little intellectual challenge presented (-)
Clinical (21)	<ul style="list-style-type: none"> • My clinical site supervisor treats me with respect • My clinical site makes appropriate accommodations to facilitate my training • My clinical site supervisor is a motivated person • My clinical site supervisor is enthusiastic towards my development • I feel comfortable disclosing personal information to my clinical site supervisor • My clinical site supervisor encourages me to become an independent

	<p>learner</p> <ul style="list-style-type: none"> • I have open and honest communication with my clinical site supervisor • My clinical training site is poorly organized • My clinical site supervisor creates a safe environment for the discussion of difficult topics • My clinical site supervisor is someone who I feel comfortable seeking advice from • My past experiences are valued in my clinical training • My clinical site has a proper orientation program in place for new trainees • My clinical site understands my limitations as a trainee • I feel unfairly used at my clinical training site (-) • The clinical supervision atmosphere motivates me as a trainee • I have opportunities to observe practical clinical skills being used on the job • My clinical site supervisor makes me feel welcomed at the site • I can choose clinical field placements that reflect my clinical interests • My clinical site supervisor has my well-being in mind • I have opportunities to train alongside other clinicians to enhance my training (e.g., co-facilitate) • My site supervisor provides useful feedback to help me improve as a clinician
Academic Unit (23)	<ul style="list-style-type: none"> • I am able to individualize my training to match my interest and needs • Faculty and staff have clear roles and responsibilities • There is a clearly defined pathway to address problems within the department • My program provides the resources needed to facilitate my learning • The training I receive prepares me for the work I will do upon graduation • Program faculty care about me as a person • Program faculty are enthusiastic about their work • Program faculty get me excited about the work we do as mental health professionals • My department has adequate accommodations to facilitate my training • My program offers me regular formal feedback on my performance • My program offers me regular informal feedback on my performance • There is a sense of respect among students • Classes are scheduled to meet the needs of working students • Program faculty are accessible to students through a variety of modes (e.g., email, phone, office hours, before/after class)

	<ul style="list-style-type: none"> • There is a sense of mutual respect among faculty members • Program faculty are responsive to students' needs • My department is valued by my institution's senior administrators (e.g., President/Chancellor and Provost) • Program faculty are accessible to students outside of class hours • Students have a clear understanding of the policies and procedures of the academic unit • Administrative procedures are handed smoothly • Administrative staff is helpful • Program faculty create safe environment for addressing difficult issues • I am satisfied with the quality of the mentoring I receive from my faculty
University/ College (6)	<ul style="list-style-type: none"> • University/college services are readily available to support my graduate research and training (e.g., computer labs) • Students have access to University/college resources to facilitate learning and training (e.g., writing labs) • My university/college is well-respected within academia • My university/college offers a range of social activities for graduate students • The university/college has support programs specific for graduate students (e.g., work-life balance) • The university/college campus is accommodating to graduate students and families (e.g., graduate/family housing)
Community (6)	<ul style="list-style-type: none"> • My university/college is an active member within the community • The university encourages students to engage in professional development activities in the community • There are ample opportunities to practice/train within the surrounding community • We are located in a surrounding community that provides diverse clients to work with • The surrounding community offers a vibrant place to live • The surrounding community stimulates intellectual activity

Mesosystem (30 Items)

Content Category	Item: <i>In my counseling training program...</i>
Multisetting Participation (10)	<ul style="list-style-type: none"> • My clinical site and my training program share similar values and training philosophy) • My faculty supervisor and my site supervisor disagree on the areas they feel I need to improve on (-) • We have a student group that actively participates in university/college events • Social events for students are hosted outside of class • Our program has a good relationship with the local community • What I learn in class is highly applicable in my clinical field placement site • I am able to apply what I learn in class to my clinical field placement site • Skills and knowledge gained in my classes are relevant to the work I am doing at my clinical field placement • The types of assignments I am given in class is similar to the type of work I expect to do when I graduate • What I am learning in class is directly related to the types of work I hope to do when I graduate
Intersetting Communication (10)	<ul style="list-style-type: none"> • University/college procedures and department procedures for addressing student grievances are consistent • Faculty are active in addressing issues that arise at my clinical field experience site • My faculty supervisor and site supervisor have no communication with each other (-) • There are clearly defined mechanisms and avenues in place for students to offer feedback to faculty • The university/college disseminates information specific to graduate students • The university/college utilizes various modes to communicate with students • Channels are in place for students to provide informal feedback to the program • Channels are in place for students to provide formal feedback to the program • Communication from my department is disseminated in a timely fashion • My faculty supervisor and site supervisor regularly communicate with each other
Intersetting Knowledge (10)	<ul style="list-style-type: none"> • Students are made aware of self-care options available on campus • Technical support from the university is available to assist in

	<p>conducting scholarly activity</p> <ul style="list-style-type: none">• The university/college offers training specific to graduate students• My faculty mentor shares his/her knowledge in his/her specialty area with me• Faculty members share their expert knowledge in the courses they teach• Students are made abreast of the mental health needs of the community• Students are aware of university/college policies and deadlines• The university's website provides information relevant to my training needs• The department's website provides adequate information to assist my training needs• The university's policies are easily accessible to students
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Exosystem (34 Items)

Content Category	Item: <i>In my counseling training program...</i>
Student-Client-Client's Other (7)	<ul style="list-style-type: none"> • I am taught to understand how events in my clients' life impact me as a counselor • I am taught to recognize the various systems in place that impact and affect my clients • I am taught how to teach my clients to advocate for themselves • Faculty help me recognize my client's impact on my development as a counselor • I am encouraged to discuss how my clients impact me as a counselor • Teaching my clients to advocate for themselves outside of the counseling session is encouraged • My training helps become cognizant on how my background and life experiences can affect my clients' life space as a result of interacting with me
Student-Faculty-Faculty's Other (11)	<ul style="list-style-type: none"> • Faculty place more emphasis on their research than on their students' development (-) • Faculty regularly participate in professional development activities • Faculty incorporate their clinical experiences into the classroom training • Faculty are well-connected within the profession • Faculty regularly present at professional conferences • Faculty tend to bring their personal issues into the classroom (-) • Faculty disclose outside information with students • External factors limit the amount of interaction I have with my faculty • Faculty members collaborate with faculty in other departments on campus • Faculty invite outside experts to guest lecture • Faculty is generally too busy with other responsibilities and activities to be concerned with student learning (-)
Student-Supervisor-Supervisor's Other (9)	<ul style="list-style-type: none"> • My clinical site supervisor has too many supervisees to provide the type of supervision that I desire (-) • My clinical site supervisor regularly participates in continuing professional development activities • My clinical site's administration has policies in place that impedes the clinical supervision process (-) • My clinical site supervisor is well-networked within the profession • My clinical site supervisor is more concerned about his/her

	<p>personal issues than my development as a clinician</p> <ul style="list-style-type: none"> • My field site's administration has policies in place that support the clinical supervision process • My clinical site supervisor incorporates his/her personal experiences into the supervision process • My clinical site supervisor shares clinical resources with me • My clinical site supervisor assists me in developing my multicultural competence
<p>Student- Classmates- Classmates's other (7)</p>	<ul style="list-style-type: none"> • My classmates actively participate in community activities • My classmates are active in professional organizations • My classmates tend to let events in their personal lives dominate class discussions (-) • My classmates regularly share their clinical experiences with the class • I am able to improve my clinical skills by learning from my classmates' clinical experiences • My classmates are encouraged to share their personal resources with each other • My classmates don't seem to get along on a regular basis (-)

Macrosystem (36 Items)

Content Category	Item: <i>In my counseling training program...</i>
Political Culture (6)	<ul style="list-style-type: none"> • Students are kept updated of the government activities that impact the mental health profession • We learn about how governmental policies at the state level impact the lives of our clients • We are encouraged to advocate for disadvantaged populations • We learn about how governmental policies at the national level impact the lives of our clients • Social justice and advocacy in counseling is promoted • Students learn to be proactive in promoting change at the government level
Laws and Ethics (6)	<ul style="list-style-type: none"> • My training curricula meets state standards for professional licensure and/or certification • My program emphasizes developing a strong professional identity • My program emphasizes the adherence to the ethical codes set forth by the profession • Students are taught to be ethical practitioners • Students are taught to critically examine the ethical codes • Students are expected to demonstrate professional and legal etiquette (i.e., documentation, case notes, etc.) necessary for professionals in our field
Economics (6)	<ul style="list-style-type: none"> • Graduate assistantships are regularly available to students • I have the opportunity to work with clients from a different socio-economic status as myself • The university/college offers financial resources to support my professional development • The costs to attend my program is a worthy investment • Program faculty help students locate financial resources to supplement their training • Program faculty are sensitive to the financial concerns of students
Multiculturalism (18)	<ul style="list-style-type: none"> • Program faculty are diverse in culture and backgrounds • Student body represents diverse cultural backgrounds • Multicultural discussions are held routinely in class • Multiculturalism is practiced and not just spoken about • Multiculturalism is not limited to a singular class, but is practiced throughout • I am encouraged to work with clients culturally different from myself • I am challenged to confront my understanding of multiculturalism

	<ul style="list-style-type: none">• Appreciation of multiculturalism is shared by the university/college• My clinical site promotes a culturally inclusive environment• Students are encouraged to select multicultural topics for their class assignments• Multicultural class electives are available for students to choose from• Students are encouraged to choose multicultural electives• Students are encouraged to select their field placement site based on multicultural factors• I feel that my personal culture is appreciated• Cultural differences between students are celebrated• We are taught to recognize both within-group and between-group differences• My knowledge, awareness, and skills in multicultural counseling has been challenged• Program faculty have helped me develop a new appreciation for multiculturalism
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Chronosystem (16 Items)

Content Category	Item: <i>In my counseling training program...</i>
Social-Historical, Developmental (8)	<ul style="list-style-type: none"> • Students learn about the historical development of our mental health profession • The training curricula is responsive to current changes in socio-historical-political developments • Students are taught to appreciate the history of our mental health profession • The program has helped me become mindful of my personal development through time • The program has helped me become mindful of my professional development through time • Students are taught how to appreciate the social, political, and cultural forces that impact the practice of mental health counseling • The program is intentional in facilitating students' growth through stages • The program is considerate of students' individual development
Current, Up-to-date, Adaptive (8)	<ul style="list-style-type: none"> • Program faculty keep up to date with general practice issues • Students are encouraged to consider future implications and directions of the profession • Program implements current and up-to-date technologies needed to facilitate my learning • My training curricula reflects the current trends of the profession • Current social events are discussed in class • My program keeps abreast of the current trends of the profession • My training is current and reflective of the issues impacting our society today • Required training materials (i.e., textbooks and assigned readings) are current and reflective of present-day issues and concerns

APPENDIX O: ITEM DEVELOPMENT TEAM: COMPLETE ITEM POOL BY
DOMAIN AND CONTENT CATEGORY

Microsystem (83 items)

Content Category	Item: <i>In my counseling training program...</i>
Classroom/ Advising (26)	<ol style="list-style-type: none"> 1. Questions from students are welcomed in class 2. I feel comfortable disclosing personal information to my professors 3. I feel comfortable disclosing personal information to my advisor 4. Professors model appropriate skills for approaching difficult issues 5. My advisor gives me sufficient individual attention 6. My professors' expectations of me are clearly outlined at the beginning of class 7. My advisor is interested in me as a person, not just as a student 8. Professors solicit opinions and perspectives from students 9. I get regular feedback from my professors 10. The classroom atmosphere motivates me as a learner 11. My opinions and viewpoints are not solicited in class (-) 12. My professors respect my learning style and give me reasonable control over my pace of learning. 13. I am able to choose meaningful assignments specific to my professional interests 14. Self-directed learning is encouraged and valued 15. I am concerned about the class size affecting my learning 16. My advisor supports me in pursuing my professional goals 17. My advisor encourages me to become an independent learner 18. My opinions are regularly demeaned by my professor (-) 19. I am encouraged to share my personal life experiences in class 20. Professors encourage collaboration among students 21. Most of my classes are intellectually unchallenging (-) 22. There is little intellectual challenge presented (-) 23. Professors focus on promoting active student learning of specific skills 24. My learning is frequently measured 25. Learning objectives focus on learning aspects of theory that are relevant to counseling practice 26. Professors utilize a variety of activities to facilitate student learning (lecture, role-plays, experiential activities, guest speakers, student presentations, etc.)
Clinical (22)	<ol style="list-style-type: none"> 1. My clinical site supervisor treats me with respect 2. My clinical site makes appropriate accommodations to facilitate my training 3. My clinical site supervisor motivates me to do my best 4. My clinical site supervisor facilitates my growth and development 5. I feel comfortable disclosing personal information to my clinical site

	<p>supervisor</p> <ol style="list-style-type: none"> 6. My clinical site supervisor assists me in developing my multicultural competence 7. My clinical site supervisor encourages me to become an independent learner 8. I have open and honest communication with my clinical site supervisor 9. My clinical training site is poorly organized (-) 10. My clinical site supervisor creates a safe environment for the discussion of difficult topics 11. My clinical site supervisor is someone who I feel comfortable seeking advice from 12. My past experiences are valued in my clinical training 13. My clinical site has a proper orientation program in place for new trainees 14. My clinical site understands my limitations as a trainee 15. I feel unfairly used at my clinical training site (-) 16. The clinical supervision atmosphere motivates me as a trainee 17. I have opportunities to observe practical clinical skills being used on the job 18. My clinical site supervisor makes me feel welcomed at the site 19. I can choose clinical field placements that reflect my clinical interests 20. My clinical site supervisor and I have a positive rapport 21. I have opportunities to train alongside other clinicians to enhance my training (e.g., co-facilitate) 22. My site supervisor provides useful feedback to help me improve as a clinician
Academic Unit (23)	<ol style="list-style-type: none"> 1. I am able to individualize my training to match my interest and needs 2. Faculty and staff have clear roles and responsibilities 3. There is a clearly defined pathway to address problems within the department 4. My program provides the resources needed to facilitate my learning 5. The training I receive prepares me for the work I will do upon graduation 6. Program faculty care about me as a person 7. Program faculty are enthusiastic about their work 8. Program faculty get me excited about the work we do as mental health professionals 9. My department has adequate accommodations to facilitate my training 10. My program offers me regular formal feedback on my performance 11. My program offers me regular informal feedback on my performance 12. There is a sense of respect among students 13. Classes are scheduled to meet the needs of working students 14. Program faculty are accessible to students through a variety of modes (e.g., email, phone, office hours, before/after class) 15. There is a sense of mutual respect among faculty members 16. Program faculty are responsive to students' needs

	<ul style="list-style-type: none"> 17. My department is valued by my institution's senior administrators (e.g., President/Chancellor and Provost) 18. Program faculty are accessible to students outside of class hours 19. Students have a clear understanding of the policies and procedures of the academic unit 20. Administrative procedures are handed smoothly 21. Administrative staff is helpful 22. Program faculty create a safe environment for addressing difficult issues 23. I am satisfied with the quality of the mentoring I receive from my faculty
University/ College (6)	<ul style="list-style-type: none"> 1. University/college services are readily available to support my graduate research and training (e.g., computer labs, library resources) 2. Students have access to University/college resources to facilitate learning and training (e.g., writing labs) 3. My university/college is well-respected within academia 4. My university/college offers a range of social activities for graduate students 5. The university/college has support programs specific for graduate students (e.g., work-life balance) 6. The university/college campus is accommodating to graduate students and families (e.g., graduate/family housing)
Community (6)	<ul style="list-style-type: none"> 1. My university/college is an active member within the community 2. The university encourages students to engage in professional development activities in the community 3. There are ample opportunities to practice/train within the surrounding community 4. We are located in a surrounding community that provides diverse clients to work with 5. The surrounding community offers a vibrant place to live 6. The surrounding community stimulates intellectual activity

Mesosystem (27 items)

Content Category	Item: <i>In my counseling training program...</i>
Multisetting Participation (8)	<ul style="list-style-type: none"> 1. My clinical site and my training program share similar values and training philosophy 2. My faculty supervisor and my site supervisor disagree on the areas they feel I need to improve on (-) 3. We have a student group that actively participates in university/college and community events 4. Social events for students are hosted outside of class 5. Our program has a good relationship with the local community 6. I am able to apply what I learn in class to my clinical field placement site

	<ol style="list-style-type: none"> 7. Skills and knowledge gained in my classes are relevant to the work I am doing at my clinical field placement 8. What I am learning in class is directly related to the types of work I hope to do when I graduate
Intersetting Communication (8)	<ol style="list-style-type: none"> 1. University/college procedures and department procedures for addressing student grievances are consistent 2. Faculty are active in addressing issues that arise at my clinical field experience site 3. My faculty supervisor and site supervisor regularly communicate with each other There are clearly defined mechanisms and avenues in place for students to offer feedback to faculty 4. The university/college disseminates information specific to graduate students 5. The university/college utilizes various modes to communicate with students 6. Channels are in place for students to provide informal feedback to the program 7. Channels are in place for students to provide formal feedback to the program 8. Communication from my department is disseminated in a timely fashion
Intersetting Knowledge (11)	<ol style="list-style-type: none"> 1. Students are made aware of self-care options available on campus 2. Technical support from the university is available to assist in conducting scholarly activity 3. The university/college offers training specific to graduate students 4. My faculty mentor/advisor shares his/her knowledge in his/her specialty area with me 5. Professors share their expert knowledge in the courses they teach 6. Students are kept abreast of the mental health needs of the community 7. Students are made aware of opportunities to volunteer in community activities 8. Students are aware of university/college policies and deadlines 9. The university's website provides information relevant to my training needs 10. The department's website provides adequate information to assist my training needs 11. The university's policies are easily accessible to students

Exosystem (30 Items)

Content Category	Item: <i>In my counseling training program...</i>
Student-Client-Client Other (6)	<ol style="list-style-type: none"> 1. I am taught to understand how events in my clients' life impact me as a counselor 2. I am taught to recognize the various systems in place that impact and affect my clients

	<ol style="list-style-type: none"> 3. Faculty help me recognize my client's impact on my development as a counselor 4. I am encouraged to discuss how my clients impact me as a counselor 5. Teaching my clients to advocate for themselves outside of the counseling session is encouraged 6. My training helps me become cognizant of the impact that my background and life experiences have on my clients and how these may affect my clients.
<p>Student-Faculty-Faculty's Other (9)</p>	<ol style="list-style-type: none"> 1. Faculty place more emphasis on their research than on their students' development (-) 2. Faculty regularly participate in professional development activities 3. Faculty incorporate their clinical experiences into the classroom training 4. Faculty are well-connected within the profession 5. Faculty regularly present at professional conferences 6. Faculty tend to bring their personal issues into the classroom (-) 7. Faculty members collaborate with faculty in other departments on campus 8. Faculty invite outside experts to guest lecture 9. Faculty is generally too busy with other responsibilities and activities to be concerned with student learning (-)
<p>Student-Supervisor-Supervisor's Other (8)</p>	<ol style="list-style-type: none"> 1. My clinical site supervisor has too many supervisees to provide the type of supervision that I desire (-) 2. My clinical site supervisor regularly participates in continuing professional development activities 3. My clinical site's administration has policies in place that impedes the clinical supervision process (-) 4. My clinical site supervisor is well-networked within the profession 5. My clinical site supervisor is more concerned about his/her personal issues than my development as a clinician 6. My field site's administration has policies in place that support the clinical supervision process 7. My clinical site supervisor incorporates his/her personal experiences into the supervision process 8. My clinical site supervisor shares clinical resources with me
<p>Student-Classmates-Classmates' other (7)</p>	<ol style="list-style-type: none"> 1. My classmates actively participate in community activities 2. My classmates are active in professional organizations 3. My classmates tend to let events in their personal lives dominate class discussions (-) 4. My classmates regularly share their clinical experiences with the class 5. I am able to improve my clinical skills by learning from my classmates' experiences 6. My classmates are encouraged to share their personal resources with each other

	7. My classmates don't seem to get along on a regular basis (-)
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Macrosystem (36 items)

Content Category	Item: <i>In my counseling training program...</i>
Political Culture (6)	<ol style="list-style-type: none"> 1. Students are kept abreast of current local, state, and national legislation that affects the mental health profession and the impact this legislation has on our clients. 2. We learn about how governmental policies at the state level impact the lives of our clients 3. We are encouraged to advocate for disadvantaged populations 4. We learn about how governmental policies at the national level impact the lives of our clients 5. Social justice and advocacy in counseling is promoted 6. Students learn to be proactive in promoting change at the government level
Laws and Ethics (6)	<ol style="list-style-type: none"> 1. Training curricula meets state standards for professional licensure and/or certification 2. There is an emphasis on developing a strong professional identity 3. An emphasis is placed on adhering to the ethical codes set forth by the profession. 4. Students are taught to be ethical practitioners 5. Students are taught to critically examine the ethical codes 6. Students are expected to demonstrate professional and legal etiquette (i.e., documentation, case notes, etc.) necessary for professionals in our field
Economics (6)	<ol style="list-style-type: none"> 1. Graduate assistantships are regularly available to students 2. I have the opportunity to work with clients from a different socio-economic status than myself 3. The university/college offers financial resources to support my professional development 4. The costs to attend my program is a worthwhile investment 5. Program faculty help students locate financial resources to supplement their training 6. Program faculty are sensitive to the financial concerns of students
Multiculturalism (18)	<ol style="list-style-type: none"> 1. Program faculty are diverse in culture and backgrounds 2. Student body represents diverse cultural backgrounds 3. Multicultural discussions are held routinely in class 4. Multiculturalism is practiced and not just spoken about 5. Multiculturalism is not limited to a singular class, but is practiced throughout 6. I am encouraged to work with clients culturally different from myself 7. I am challenged to confront my understanding of multiculturalism 8. Appreciation of multiculturalism is shared by the university/college 9. My clinical site promotes a culturally inclusive environment

	<ol style="list-style-type: none"> 10. Students are encouraged to select multicultural topics for their class assignments 11. Multicultural class electives are available for students to choose from 12. Students are encouraged to choose multicultural electives 13. Students are encouraged to select their field placement site based on multicultural factors 14. I feel that my personal culture is appreciated 15. Cultural differences between students are celebrated 16. We are taught to recognize both within-group and between-group differences 17. My knowledge, awareness, and skills in multicultural counseling has been challenged 18. Program faculty have helped me develop a new appreciation for multiculturalism
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Chronosystem (16 Items)

Content Category	Item: <i>In my counseling training program...</i>
Social-Historical, Developmental (8)	<ol style="list-style-type: none"> 1. Students learn about the historical development of the mental health profession 2. The training curricula is responsive to current changes in socio-historical-political developments 3. Students are taught to appreciate the history of the mental health profession 4. The program has helped me become mindful of my personal development through time 5. The program has helped me become mindful of my professional development through time 6. Students are taught how to appreciate the social, political, and cultural forces that impact the practice of mental health counseling 7. The program is intentional in facilitating students' growth and development 8. The program is responsive to students' individual development
Current, Up-to-date, Adaptive (8)	<ol style="list-style-type: none"> 1. Program faculty keep up to date with general practice issues 2. Students are encouraged to consider future implications and directions of the profession 3. The Program implements current and up-to-date technologies needed to facilitate my learning 4. My training curricula reflects the current trends of the profession 5. Current social events are discussed in class 6. The program keeps abreast of the current trends in the profession 7. My training is current and reflective of the issues impacting our society today 8. Required training materials (i.e., textbooks and assigned readings) are current and reflective of present-day issues and concerns

APPENDIX P: RESULTS FROM READ ALOUD: ITEMS BY DOMAIN AND
CONTENT CATEGORY

Microsystem (65 Items)

Content Category	Item: <i>In my counseling training program...</i>
Classroom/ Advising (23)	<ol style="list-style-type: none"> 1. Questions from students are welcomed in all my classes 2. I feel comfortable disclosing personal information to my professors 3. I feel comfortable disclosing personal information to my advisor 4. My advisor gives me sufficient individual attention 5. My professors' expectations of me are clearly outlined at the beginning of the semester 6. I experience my advisor to be interested in me as a person, not just as a student 7. Professors solicit opinions and perspectives from students 8. I get regular feedback from my professors 9. The atmosphere in all my classes motivates me as a learner 10. My opinions and viewpoints <u>are not</u> solicited in class (-) 11. My professors respect my learning style 12. My professors give me reasonable control over my pace of learning. 13. I am able to choose meaningful topics specific to my professional interests 14. Self-directed learning is encouraged and valued 15. My advisor supports me in pursuing my professional goals 16. My advisor encourages me to become an independent learner 17. I am encouraged to share my personal life experiences in class 18. Professors encourage collaboration among students 19. There is <u>little</u> intellectual challenge presented (-) 20. Professors focus on promoting active student learning of specific skills 21. My learning is frequently assessed 22. Learning objectives focus on learning aspects of theory that are relevant to counseling practice 23. Professors utilize a variety of activities to facilitate student learning (lecture, role-plays, experiential activities, guest speakers, student presentations, etc.)
Clinical (19)	<ol style="list-style-type: none"> 1. My clinical site supervisor treats me with respect 2. My clinical site makes appropriate accommodations to facilitate my training 3. My clinical site supervisor motivates me to do my best 4. My clinical site supervisor facilitates my growth and development 5. I feel comfortable disclosing personal information to my clinical site supervisor 6. My clinical site supervisor assists me in developing my multicultural competence

	<ol style="list-style-type: none"> 7. My clinical site supervisor encourages me to become an independent learner 8. I have open and honest communication with my clinical site supervisor 9. My clinical training site is <u>poorly</u> organized (-) 10. My clinical site supervisor creates a safe environment for the discussion of difficult topics 11. My clinical site supervisor is someone who I feel comfortable seeking advice from 12. My past experiences are valued in my clinical training 13. My clinical site has a proper orientation program in place for new trainees 14. My clinical site understands my limitations as a trainee 15. The clinical supervision atmosphere motivates me as a trainee 16. My clinical site supervisor makes me feel welcomed at the site 17. My clinical site supervisor and I have a positive rapport 18. I have opportunities to train alongside other clinicians to enhance my training (e.g., co-facilitate) 19. My site supervisor provides useful feedback to help me improve as a clinician
Academic Unit (14)	<ol style="list-style-type: none"> 1. There is a clearly defined pathway to address problems within my academic department 2. I believe the training I receive prepares me for the work I will do upon graduation 3. Program faculty care about me as a person 4. Program faculty are enthusiastic about their work 5. Program faculty get me excited about the work we do as mental health professionals 6. My department has adequate accommodations to facilitate my training 7. There is a sense of respect among students 8. Program faculty are accessible to students through a variety of modes (e.g., email, phone, office hours, before/after class) 9. There is a sense of mutual respect among program faculty members 10. Program faculty are responsive to students' needs 11. Students have a clear understanding of the policies and procedures of the academic unit 12. Administrative staff is helpful 13. Program faculty create a safe environment for addressing difficult issues 14. I am satisfied with the quality of the mentoring I receive from my faculty
University/College (4)	<ol style="list-style-type: none"> 1. University/college services are readily available to support my graduate research and training (e.g., computer labs, library resources) 2. Students have access to University/college resources to facilitate learning and training (e.g., writing labs) 3. My university/college offers a range of social activities for graduate students 4. The university/college has support programs specific for graduate students (e.g., work-life balance)

Community (5)	<ol style="list-style-type: none"> 1. My university/college is an active member within the community 2. The university encourages students to engage in professional development activities in the community 3. There are ample opportunities to practice/train within the surrounding community 4. The surrounding community offers a vibrant place to live 5. The surrounding community stimulates intellectual activity
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Mesosystem (28 Items)

Content Category	Item: <i>In my counseling training program...</i>
Multisetting Participation (8)	<ol style="list-style-type: none"> 1. My clinical site and my training program share similar values and training philosophy 2. My program faculty supervisor and my site supervisor <u>disagree</u> on the areas they feel I need to improve on (-) 3. We have a student group that actively participates in university/college and community events 4. Social events for students are hosted outside of class 5. Our program has a good relationship with the local community 6. I am able to apply what I learn in class to my clinical field placement site 7. Skills and knowledge gained in my classes are relevant to the work I am doing at my clinical field placement 8. What I am learning in class is directly related to the types of work I hope to do when I graduate
Intersetting Communication (9)	<ol style="list-style-type: none"> 1. University/college procedures and department procedures for addressing student grievances are consistent 2. Program faculty are active in addressing issues that arise at my clinical field experience site 3. I believe my program faculty supervisor and site supervisor regularly communicate with each other 4. There are clearly defined mechanisms and avenues in place for students to offer feedback to program faculty 5. The university/college disseminates information specific to graduate students 6. The university/college utilizes various modes to communicate with students 7. Channels are in place for students to provide informal feedback to the program 8. Channels are in place for students to provide formal feedback to the program 9. Communication from my department is disseminated in a timely fashion
Intersetting Knowledge (11)	<ol style="list-style-type: none"> 1. Students are made aware of self-care options available on campus 2. Technical support from the university is available to assist in

	<p>conducting scholarly activity</p> <ol style="list-style-type: none"> 3. The university/college offers training specific to graduate students 4. My faculty mentor/advisor shares his/her knowledge in his/her specialty area with me 5. Professors share their expert knowledge in the courses they teach 6. Students are kept abreast of the mental health needs of the community 7. Students are made aware of opportunities to volunteer in community activities 8. Students are aware of university/college policies and deadlines 9. The university's website provides information relevant to my training needs 10. The department's website provides adequate information to assist my training needs 11. The university's policies are easily accessible to students
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Exosystem (22 Items)

Content Category	Item: <i>In my counseling training program...</i>
Student-Client-Client's Other (5)	<ol style="list-style-type: none"> 1. I am taught to understand how events in my clients' life impact me as a counselor 2. I am taught to recognize the various systems in place that impact and affect my clients 3. I am encouraged to discuss how my clients impact me as a counselor 4. Teaching my clients to advocate for themselves outside of the counseling session is encouraged 5. My training helps me become cognizant of the impact that my background and life experiences have on my clients and how these may affect my clients.
Student-Faculty-Faculty's Other (6)	<ol style="list-style-type: none"> 1. Faculty place more emphasis on their research than on their students' development (-) 2. Faculty regularly participate in professional development activities 3. Faculty incorporate their clinical experiences into the classroom training 4. Faculty are well-connected within the profession 5. Faculty tend to bring their personal issues into the classroom (-) 6. Faculty invite outside experts to guest lecture
Student-Supervisor-Supervisor's Other (6)	<ol style="list-style-type: none"> 1. My clinical site supervisor has too many supervisees to provide the type of supervision that I desire (-) 2. My clinical site's administration has policies in place that impedes the clinical supervision process (-) 3. My clinical site supervisor is more concerned about his/her personal issues than my development as a clinician

	<ol style="list-style-type: none"> 4. My clinical site's administration has policies in place that support the clinical supervision process 5. My clinical site supervisor incorporates his/her personal experiences into the supervision process 6. My clinical site supervisor shares clinical resources with me
Student-Classmates-Classmates' other (5)	<ol style="list-style-type: none"> 1. My classmates are active in professional organizations 2. My classmates tend to let events in their personal lives dominate class discussions (-) 3. My classmates regularly share their clinical experiences with the class 4. I am able to improve my clinical skills by learning from my classmates' experiences 5. My classmates don't seem to get along on a regular basis (-)

Macrosystem (33 items)

Content Category	Item: <i>In my counseling training program...</i>
Political Culture (6)	<ol style="list-style-type: none"> 1. Students are kept abreast of current local, state, and national legislation that affects the mental health profession and the impact this legislation has on our clients. 2. We learn about how governmental policies at the state level impact the lives of our clients 3. We are encouraged to advocate for disadvantaged populations 4. We learn about how governmental policies at the national level impact the lives of our clients 5. Social justice and advocacy in counseling is promoted 6. Students learn to be proactive in promoting change at the government level
Laws and Ethics (6)	<ol style="list-style-type: none"> 1. Training curricula meets state standards for professional licensure and/or certification 2. There is an emphasis on developing a strong professional identity 3. An emphasis is placed on adhering to the ethical codes set forth by the profession. 4. Students are taught to be ethical practitioners 5. Students are taught to critically examine the ethical codes 6. Students are expected to demonstrate professional etiquette (i.e., documentation, case notes, etc.) necessary for professionals in our field
Economics (5)	<ol style="list-style-type: none"> 1. Graduate assistantships are regularly available to students 2. I have the opportunity to work with clients from a different socio-economic status than myself 3. The university/college offers financial resources to support my professional development 4. Program faculty help students locate financial resources to supplement their training

	5. Program faculty are sensitive to the financial concerns of students
Multiculturalism (16)	<ol style="list-style-type: none"> 1. Program faculty are diverse in culture and backgrounds 2. Student body represents diverse cultural backgrounds 3. Multicultural discussions are held routinely in class 4. Multiculturalism is practiced and not just spoken about 5. Multiculturalism is not limited to a singular class, but is practiced throughout 6. I am challenged to confront my understanding of multiculturalism 7. Appreciation of multiculturalism is shared by the university/college 8. My clinical site promotes a culturally inclusive environment 9. Students are encouraged to select multicultural topics for their class assignments 10. Multicultural class electives are available for students to choose from 11. Students are encouraged to choose multicultural electives 12. I feel that my personal culture is appreciated 13. Cultural differences between students are celebrated 14. We are taught to recognize both within-group and between-group differences 15. My knowledge, awareness, and skills in multicultural counseling has been challenged 16. Program faculty have helped me develop a new appreciation for multiculturalism

Chronosystem (16 Items)

Content Category	Item: <i>In my counseling training program...</i>
Social-Historical, Developmental (8)	<ol style="list-style-type: none"> 1. Students learn about the historical development of the mental health profession 2. The training curricula is responsive to current changes in socio-historical-political developments 3. Students are taught to appreciate the history of the mental health profession 4. The program has helped me become mindful of my personal development through time 5. The program has helped me become mindful of my professional development through time 6. Students are taught how to appreciate the social, political, and cultural forces that impact the practice of mental health counseling 7. The program is intentional in facilitating students' growth and development 8. The program is responsive to students' individual development
Current, Up-to-	1. Program faculty keep up to date with general practice issues

date, Adaptive (8)	<ol style="list-style-type: none">2. Students are encouraged to consider future implications and directions of the profession3. The program implements current and up-to-date technologies needed to facilitate my learning4. My training curricula reflects the current trends of the profession5. Current social events are discussed in class6. The program keeps abreast of the current trends in the profession7. My training is current and reflective of the issues impacting our society today8. Required training materials (i.e., textbooks and assigned readings) are current and reflective of present-day issues and concerns
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APPENDIX Q: CONTENT VALIDATED ITEMS BY DOMIAN AND CATEGORY

Microsystem (60 Items)

Content Category	Items
Classroom/ Advising (23)	Questions from students are welcomed in all my classes
	I feel comfortable disclosing personal information to my professors
	I feel comfortable disclosing personal information to my advisor
	My advisor gives me sufficient individual attention
	My professors' expectations of me are clearly outlined at the beginning of the semester
	I experience my advisor to be interested in me as a person, not just as a student
	Professors solicit opinions and perspectives from students
	I get regular feedback from my professors
	The atmosphere in all my classes motivates me as a learner
	My opinions and viewpoints <i>are not</i> solicited in class (-)
	My professors respect my learning style
	My professors give me reasonable control over my pace of learning.
	I am able to choose meaningful topics specific to my professional interests
	Self-directed learning is encouraged and valued
	My advisor supports me in pursuing my professional goals
	My advisor encourages me to become an independent learner
	I am encouraged to share my personal life experiences in class
	Professors encourage collaboration among students
	There is <i>little</i> intellectual challenge presented (-)
	Professors focus on promoting active student learning of specific skills
	My learning is frequently assessed
	Learning objectives focus on learning aspects of theory that are relevant to counseling practice
	Professors utilize a variety of activities to facilitate student learning (lecture, role-plays, experiential activities, guest speakers, student presentations, etc.)
Clinical (19)	My clinical site supervisor treats me with respect
	My clinical site makes appropriate accommodations to facilitate my training
	My clinical site supervisor motivates me to do my best
	My clinical site supervisor facilitates my growth and development
	I feel comfortable disclosing personal information to my clinical site supervisor
	My clinical site supervisor assists me in developing my multicultural competence

	My clinical site supervisor encourages me to become an independent learner
	I have open and honest communication with my clinical site supervisor
	My clinical training site is <i>poorly</i> organized (-)
	My clinical site supervisor creates a safe environment for the discussion of difficult topics
	My clinical site supervisor is someone who I feel comfortable seeking advice from
	My past experiences are valued in my clinical training
	My clinical site has a proper orientation program in place for new trainees
	My clinical site understands my limitations as a trainee
	The clinical supervision atmosphere motivates me as a trainee
	I feel welcomed at my clinical site
	My clinical site supervisor and I have a positive rapport
	I have opportunities to train alongside other clinicians to enhance my training (e.g., co-facilitate)
	My site supervisor provides useful feedback to help me improve as a clinician
Academic Unit (14)	There is a clearly defined pathway to address problems within my academic department
	I believe the training I receive prepares me for the work I will do upon graduation
	Program faculty care about me as a person
	Program faculty are enthusiastic about their work
	Program faculty get me excited about the work we do as mental health professionals
	My department has adequate accommodations to facilitate my training
	There is a sense of respect among students
	Program faculty are accessible to students through a variety of modes (e.g., email, phone, office hours, before/after class)
	There is a sense of mutual respect among program faculty members
	Program faculty are responsive to students' needs
	Students have a clear understanding of the policies and procedures of the academic unit
	Administrative staff is helpful
	Program faculty create a safe environment for addressing difficult issues
	I am satisfied with the quality of the mentoring I receive from my program faculty
University/ College (2)	University/college services are readily available to support my graduate research and training (e.g., computer labs, library resources)
	Students have access to University/college resources to facilitate learning and training (e.g., writing labs)
Community (2)	The university encourages students to engage in professional development activities in the community
	There are ample opportunities to practice/train within the surrounding

	community
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Mesosystem (12 Items)

Content Category	Items
Multisetting Participation (7)	My clinical site and my training program share similar values and training philosophy
	My program faculty supervisor and my site supervisor <i>disagree</i> on the areas they feel I need to improve on (-)
	We have a student group that actively participates in university/college and community events
	Our program has a good relationship with the local community
	I am able to apply what I learn in class to my clinical field placement site
	Skills and knowledge gained in my classes are relevant to the work I am doing at my clinical field placement
	What I am learning in class is directly related to the types of work I hope to do when I graduate
Intersetting Communication (3)	University/college procedures and department procedures for addressing student grievances are consistent
	Program faculty are active in addressing issues that arise at my clinical field experience site
	I believe my program faculty supervisor and site supervisor regularly communicate with each other
Intersetting Knowledge (2)	Students are kept abreast of the mental health needs of the community
	Students are made aware of opportunities to volunteer in community activities

Exosystem (10 Items)

Content Category	Items
Student-Client-Client's Other (5)	I am taught to understand how events in my clients' life impact me as a counselor
	I am taught to recognize the various systems in place that impact and affect my clients
	I am encouraged to discuss how my clients impact me as a counselor
	Teaching my clients to advocate for themselves outside of the counseling session is encouraged
	My training helps me become cognizant of the impact that my background and life experiences have on my clients and how these may affect my clients
Student-Faculty-Faculty's Other (2)	Faculty incorporate their clinical experiences into the classroom training
	Faculty are well-connected within the profession

Student-Supervisor-Supervisor's Other (2)	My clinical site supervisor is more concerned about his/her personal issues than my development as a clinician
Student-Classmates-Classmates's other (1)	My clinical site supervisor shares clinical resources with me I am able to improve my clinical skills by learning from my classmates' experiences

Macrosystem (33 items)

Content Category	Items
Political Culture (6)	<p>Students are kept abreast of current local, state, and national legislation that affects the mental health profession and the impact this legislation has on our clients</p> <p>We learn about how governmental policies at the state level impact the lives of our clients</p> <p>We are encouraged to advocate for disadvantaged populations</p> <p>We learn about how governmental policies at the national level impact the lives of our clients</p> <p>Social justice and advocacy in counseling is promoted</p> <p>Students learn to be proactive in promoting change at the government level</p>
Laws and Ethics (6)	<p>Training curricula meets state standards for professional licensure and/or certification</p> <p>There is an emphasis on developing a strong professional identity</p> <p>An emphasis is placed on adhering to the ethical codes set forth by the profession</p> <p>Students are exposed to state laws and rules that govern the counseling profession</p> <p>Students are taught to critically examine the ethical codes</p> <p>Students are expected to demonstrate professional standards (i.e., documentation, case notes, etc.) necessary for professionals in our field</p>
Economics (5)	<p>Graduate assistantships are regularly available to students</p> <p>I have the opportunity to work with clients from a different socio-economic status than myself</p> <p>The university/college offers financial resources to support my professional development</p> <p>Program faculty help students locate financial resources to supplement their training</p> <p>Program faculty are sensitive to the financial concerns of students</p>
Multiculturalism (16)	<p>Program faculty are diverse in culture and backgrounds</p> <p>Student body represents diverse cultural backgrounds</p> <p>Multicultural discussions are held routinely in classes</p> <p>Multiculturalism is practiced and not just spoken about</p>

	Multiculturalism is not limited to a singular class, but is practiced throughout
	I am challenged to confront my understanding of multiculturalism
	Appreciation of multiculturalism is shared by the university/college
	My clinical site promotes a culturally inclusive environment
	Students are encouraged to select multicultural topics for their class assignments
	Multicultural class electives are available for students to choose from
	Students are encouraged to choose multicultural electives
	I feel that my personal culture is appreciated
	Cultural differences between students are celebrated
	We are taught to recognize both within-group and between-group differences
	My knowledge, awareness, and skills in multicultural counseling has been challenged
	Program faculty have helped me develop a new appreciation for multiculturalism

Chronosystem (13 items)

Content Category	Items
Social-Historical, Developmental (5)	The training curricula is responsive to current changes in socio-historical-political developments
	The program has helped me become mindful of my personal development through time
	The program has helped me become mindful of my professional development through time
	The program is intentional in facilitating students' growth and development
	The program is responsive to students' individual development
Current, Up-to-date, Adaptive (8)	Program faculty keep up to date with general practice issues
	Students are encouraged to consider future implications and directions of the profession
	The program implements current and up-to-date technologies needed to facilitate my learning
	My training curricula reflects the current trends of the profession
	Current social events are discussed in class
	The program keeps abreast of the current trends in the profession
	My training is current and reflective of the issues impacting our society today
	Required training materials (i.e., textbooks and assigned readings) are current and reflective of present-day practices issues and concerns

APPENDIX R: ITEM RATING FORM TOTALS

Microsystem (60 Items)

Content Category	Items	#1	#2	#3	#4	M
Classroom/ Advising (23)	(1 = not important at all...5 = extremely important)					
	Questions from students are welcomed in all my classes	5	5	4	5	4.75
	I feel comfortable disclosing personal information to my professors	3	5	2	2	3
	I feel comfortable disclosing personal information to my advisor	3	5	2	4	3.5
	My advisor gives me sufficient individual attention	3	3	3	4	3.25
	My professors' expectations of me are clearly outlined at the beginning of the semester	5	5	5	5	5
	I experience my advisor to be interested in me as a person, not just as a student	5	4	5	4	4.5
	Professors solicit opinions and perspectives from students	4	4	5	5	4.5
	I get regular feedback from my professors	5	4	5	5	4.75
	The atmosphere in all my classes motivates me as a learner	4	5	4	5	4.5
	My opinions and viewpoints <i>are not</i> solicited in class (-)	3	4	2	2	2.75
	My professors respect my learning style	3	3	2	4	3
	My professors give me reasonable control over my pace of learning.	4	3	2	4	3.25
	I am able to choose meaningful topics specific to my professional interests	4	4	5	4	4.25
	Self-directed learning is encouraged and valued	3	3	3	4	3.25
	My advisor supports me in pursuing my professional goals	4	3	4	4	3.75
	My advisor encourages me to become an independent learner	3	4	3	5	3.75
	I am encouraged to share my personal life experiences in class	4	4	3	2	3.25
	Professors encourage collaboration among students	3	4	5	3	3.75
	There is <i>little</i> intellectual challenge presented (-)	3	3	2	3	2.75
	Professors focus on promoting active student learning of specific skills	3	3	5	4	3.75

	My learning is frequently assessed	4	4	3	5	4
	Learning objectives focus on learning aspects of theory that are relevant to counseling practice	4	4	4	5	4.25
	Professors utilize a variety of activities to facilitate student learning (lecture, role-plays, experiential activities, guest speakers, student presentations, etc.)	4	5	3	4	4
Clinical (19)	My clinical site supervisor treats me with respect	5	5	4	5	4.75
	My clinical site makes appropriate accommodations to facilitate my training	4	3	4	3	3.5
	My clinical site supervisor motivates me to do my best	4	3	4	4	3.75
	My clinical site supervisor facilitates my growth and development	5	5	4	5	4.75
	I feel comfortable disclosing personal information to my clinical site supervisor	4	4	3	3	3.5
	My clinical site supervisor assists me in developing my multicultural competence	5	5	3	4	4.25
	My clinical site supervisor encourages me to become an independent learner	4	4	2	3	3.25
	I have open and honest communication with my clinical site supervisor	4	5	3	4	4
	My clinical training site is <i>poorly</i> organized (-)	3	3	2	3	2.75
	My clinical site supervisor creates a safe environment for the discussion of difficult topics	5	5	5	5	5
	My clinical site supervisor is someone who I feel comfortable seeking advice from	4	5	4	4	4.25
	My past experiences are valued in my clinical training	3	4	3	3	3.25
	My clinical site has a proper orientation program in place for new trainees	4	4	4	5	4.25
	My clinical site understands my limitations as a trainee	4	4	4	5	4.25
	The clinical supervision atmosphere motivates me as a trainee	4	5	2	3	3.5
	I feel welcomed at my clinical site	4	4	3	3	3.5
	My clinical site supervisor and I have a positive rapport	4	5	5	3	4.25
	I have opportunities to train alongside other clinicians to enhance my training (e.g., co-facilitate)	3	3	4	3	3.25
	My site supervisor provides useful feedback to help me improve as a clinician	4	4	5	4	4.25
Academic	There is a clearly defined pathway to address	4	4	3	4	3.75

Unit (14)	problems within my academic department					
	I believe the training I receive prepares me for the work I will do upon graduation	4	5	4	3	4
	Program faculty care about me as a person	4	5	3	4	4
	Program faculty are enthusiastic about their work	3	3	3	3	3
	Program faculty get me excited about the work we do as mental health professionals	4	4	3	3	3.5
	My department has adequate accommodations to facilitate my training	5	5	5	3	4.5
	There is a sense of respect among students	4	4	3	4	3.75
	Program faculty are accessible to students through a variety of modes (e.g., email, phone, office hours, before/after class)	5	5	5	4	4.75
	There is a sense of mutual respect among program faculty members	4	3	4	5	4
	Program faculty are responsive to students' needs	4	4	4	5	4.25
	Students have a clear understanding of the policies and procedures of the academic unit	4	4	5	5	4.5
	Administrative staff is helpful	4	4	3	3	3.5
	Program faculty create a safe environment for addressing difficult issues	4	5	4	3	4
	I am satisfied with the quality of the mentoring I receive from my program faculty	4	4	4	4	4
	University/ College (2)	University/college services are readily available to support my graduate research and training (e.g., computer labs, library resources)	5	5	5	3
Students have access to University/college resources to facilitate learning and training (e.g., writing labs)		4	4	4	3	3.75
Community (2)	The university encourages students to engage in professional development activities in the community	5	4	5	2	4
	There are ample opportunities to practice/train within the surrounding community	5	5	3	3	4

Mesosystem (12 Items)

Content Category	Items	#1	#2	#3	#4	M
Multisetting Participation (7)	(1 = not important at all...5 = extremely important)					
	My clinical site and my training program share similar values and training philosophy	4	3	3	3	3.25
	My program faculty supervisor and my site supervisor <i>disagree</i> on the areas they feel I need to improve on (-)	4	5	3	3	3.75
	We have a student group that actively participates in university/college and community events	3	4	5	3	3.75
	Our program has a good relationship with the local community	4	5	4	3	4
	I am able to apply what I learn in class to my clinical field placement site	3	2	2	4	2.75
	Skills and knowledge gained in my classes are relevant to the work I am doing at my clinical field placement	4	4	5	3	4
	What I am learning in class is directly related to the types of work I hope to do when I graduate	4	4	3	3	3.5
Intersetting Communication (3)	University/college procedures and department procedures for addressing student grievances are consistent	5	5	3	5	4.5
	Program faculty are active in addressing issues that arise at my clinical field experience site	5	5	4	5	4.75
	I believe my program faculty supervisor and site supervisor regularly communicate with each other	4	3	4	3	3.5
Intersetting Knowledge (2)	Students are kept abreast of the mental health needs of the community	5	5	5	2	4.25
	Students are made aware of opportunities to volunteer in community activities	5	5	4	2	4

Exosystem (10 Items)

Content Category	Items	#1	#2	#3	#4	M
Student-Client-Client's Other (5)	(1 = not important at all...5 = extremely important)					
	I am taught to understand how events in my clients' life impact me as a counselor	5	5	4	4	4.5
	I am taught to recognize the various systems in place that impact and affect my clients	5	5	5	3	4.5
	I am encouraged to discuss how my clients impact me as a counselor	4	3	2	5	3.5
	Teaching my clients to advocate for themselves outside of the counseling session is encouraged	5	4	5	5	4.75
	My training helps me become cognizant of the impact that my background and life experiences have on my clients and how these may affect my clients	5	5	4	5	4.75
Student-Faculty-Faculty's Other (2)	Faculty incorporate their clinical experiences into the classroom training	5	5	5	4	4.75
	Faculty are well-connected within the profession	4	4	5	4	4.25
Student-Supervisor-Supervisor's Other (2)	My clinical site supervisor is more concerned about his/her personal issues than my development as a clinician	4	5	3	4	4
	My clinical site supervisor shares clinical resources with me	5	5	5	4	4.75
Student-Classmates-Classmates's other (1)	I am able to improve my clinical skills by learning from my classmates' experiences	5	5	5	4	4.75

Macrosystem (33 items)

Content Category	Items	#1	#2	#3	#4	M
Political Culture (6)	(1 = not important at all...5 = extremely important)					
	Students are kept abreast of current local, state, and national legislation that affects the mental health profession and the impact this legislation has on our clients	5	5	5	4	4.75
	We learn about how governmental policies at the state level impact the lives of our clients	5	5	2	2	3.5
	We are encouraged to advocate for disadvantaged populations	4	4	2	3	3.25
	We learn about how governmental policies at the national level impact the lives of our clients	4	5	2	2	3.25
	Social justice and advocacy in counseling is promoted	5	4	5	3	4.25
	Students learn to be proactive in promoting change at the government level	4	4	4	3	3.75
Laws and Ethics (6)	Training curricula meets state standards for professional licensure and/or certification	5	5	5	5	5
	There is an emphasis on developing a strong professional identity	5	5	4	5	4.75
	An emphasis is placed on adhering to the ethical codes set forth by the profession	5	4	5	5	4.75
	Students are exposed to state laws and rules that govern the counseling profession	4	3	4	5	4
	Students are taught to critically examine the ethical codes	4	5	3	5	4.25
	Students are expected to demonstrate professional standards (i.e., documentation, case notes, etc.) necessary for professionals in our field	4	4	4	5	4.25
Economics (5)	Graduate assistantships are regularly available to students	5	3	3	2	3.25
	I have the opportunity to work with clients from a different socio-economic status than myself	4	5	3	3	3.75
	The university/college offers financial resources to support my professional development	5	4	5	2	4
	Program faculty help students locate financial resources to supplement their	4	4	3	2	3.25

	training					
	Program faculty are sensitive to the financial concerns of students	4	4	3	3	3.5
Multiculturalism (16)	Program faculty are diverse in culture and backgrounds	5	5	4	4	4.5
	Student body represents diverse cultural backgrounds	4	5	4	3	4
	Multicultural discussions are held routinely in classes	5	4	3	4	4
	Multiculturalism is practiced and not just spoken about	5	5	3	4	4.25
	Multiculturalism is not limited to a singular class, but is practiced throughout	5	3	3	4	3.75
	I am challenged to confront my understanding of multiculturalism	4	5	3	4	4
	Appreciation of multiculturalism is shared by the university/college	4	4	4	3	3.75
	My clinical site promotes a culturally inclusive environment	4	3	4	3	3.5
	Students are encouraged to select multicultural topics for their class assignments	3	3	2	3	2.75
	Multicultural class electives are available for students to choose from	4	4	3	4	3.75
	Students are encouraged to choose multicultural electives	4	4	2	3	3.25
	I feel that my personal culture is appreciated	4	4	4	5	4.25
	Cultural differences between students are celebrated	5	5	5	4	4.75
	We are taught to recognize both within-group and between-group differences	5	5	4	5	4.75
	My knowledge, awareness, and skills in multicultural counseling has been challenged	5	5	5	4	4.75
	Program faculty have helped me develop a new appreciation for multiculturalism	5	5	5	4	4.75

Chronosystem (13 items)

Content Category	Items	#1	#2	#3	#4	M
Social-Historical, Developmental (5)	(1 = not important at all...5 = extremely important)					
	The training curricula is responsive to current changes in socio-historical-political developments	5	5	5	5	5
	The program has helped me become mindful of my personal development through time	4	5	4	5	4.5
	The program has helped me become mindful of my professional development through time	4	4	4	5	4.25
	The program is intentional in facilitating students' growth and development	5	5	5	4	4.75
	The program is responsive to students' individual development	4	3	3	5	3.75
Current, Up-to-date, Adaptive (8)	Program faculty keep up to date with general practice issues	5	4	5	5	4.75
	Students are encouraged to consider future implications and directions of the profession	4	3	4	5	4
	The program implements current and up-to-date technologies needed to facilitate my learning	5	5	4	5	4.75
	My training curricula reflects the current trends of the profession	5	5	5	5	5
	Current social events are discussed in class	4	4	4	3	3.75
	The program keeps abreast of the current trends in the profession	4	4	3	4	3.75
	My training is current and reflective of the issues impacting our society today	5	5	5	5	5
	Required training materials (i.e., textbooks and assigned readings) are current and reflective of present-day practices issues and concerns	4	3	5	5	4.25

Note. #1 = Lead Researcher's rating, #2 = Dissertation Chair's rating, #3 = Outside Item Writer's rating, #4 = Outside Expert Reviewer's rating, M = Mean score of item's rating.

APPENDIX S: INTACT 34-ITEM CTES

Counseling Training Environment Scale (CTES)

The purpose of the CTES is to assess your perceptions and experiences of the counseling training environment in the counseling and related mental health training program you are attending *rightnow*. **Please note that due to the nature of some of the items, you must be at least in your second clinical placement of your training.**

The items will assess your perceptions about what your current training environment is *actually like*. Please read each item and using the 5-point Likert-type scale (1 = *Strongly Disagree* [SD]; 2 = *Disagree* [D]; 3 = *Agree* [A]; 4 = *Strongly Agree* [SA]; 5 = *Not Applicable* [NA]), rate your level of agreement with each item by selecting the appropriate number.

<i>In my counseling training program...</i>	SD	D	A	SA	NA
1. Questions from students are welcomed in all my classes	1	2	3	4	5
2. I get regular feedback from my professors	1	2	3	4	5
3. My clinical site supervisor treats me with respect	1	2	3	4	5
4. My clinical site supervisor creates a safe environment for the discussion of difficult topics	1	2	3	4	5
5. Students have a clear understanding of the policies and procedures of the academic unit	1	2	3	4	5
6. Program faculty are accessible to students through a variety of modes (e.g., email, phone, office hours, before/after class)	1	2	3	4	5
7. University/college services are readily available to support my graduate research and training (e.g., computer labs, library resources)	1	2	3	4	5
8. Students have access to University/college resources to facilitate learning and training (e.g., writing labs)	1	2	3	4	5
9. The university/college encourages students to engage in professional development activities in the community	1	2	3	4	5
10. There are ample opportunities to practice/train within the surrounding community	1	2	3	4	5
11. Our program has a good relationship with the local community	1	2	3	4	5
12. Skills and knowledge gained in my classes are relevant to the work I am doing at my clinical field placement	1	2	3	4	5
13. University/college procedures and department procedures for addressing student grievances are consistent	1	2	3	4	5
14. Program faculty are active in addressing issues that arise at my clinical field experience site	1	2	3	4	5

15. Students are kept abreast of the mental health needs of the community	1	2	3	4	5
16. Students are made aware of opportunities to volunteer in community activities	1	2	3	4	5
17. My training helps me become cognizant of the impact that my background and life experiences have on my clients and how these may affect my clients	1	2	3	4	5
18. Faculty incorporate their clinical experiences into the classroom training	1	2	3	4	5
19. Faculty are well-connected within the profession	1	2	3	4	5
20. My clinical site supervisor is more concerned about his/her personal issues than my development as a clinician	1	2	3	4	5
21. My clinical site supervisor shares clinical resources with me	1	2	3	4	5
22. I am able to improve my clinical skills by learning from my classmates' experiences	1	2	3	4	5
23. Students are kept abreast of current local, state, and national legislation that affects the mental health profession and the impact this legislation has on our clients	1	2	3	4	5
24. Training curricula meets state standards for professional licensure and/or certification	1	2	3	4	5
25. An emphasis is placed on adhering to the ethical codes set forth by the profession	1	2	3	4	5
26. The university/college offers financial resources to support my professional development	1	2	3	4	5
27. We are taught to recognize both within-group and between-group differences	1	2	3	4	5
28. My knowledge, awareness, and skills in multicultural counseling has been challenged	1	2	3	4	5
29. The training curricula is responsive to current changes in socio-historical-political developments	1	2	3	4	5
30. The program has helped me become mindful of my personal development through time	1	2	3	4	5
31. The program is intentional in facilitating students' growth and development	1	2	3	4	5
32. The program implements current and up-to-date technologies needed to facilitate my learning	1	2	3	4	5
33. My training curricula reflects the current trends of the profession	1	2	3	4	5
34. My training is current and reflective of the issues impacting our society today	1	2	3	4	5

APPENDIX T: MODIFIED 24-ITEM CTES

Counseling Training Environment Scale (CTES)

The purpose of the CTES is to assess your perceptions and experiences of the counseling training environment in the counseling and related mental health training program you are attending *rightnow*. **Please note that due to the nature of some of the items, you must be at least in your second clinical placement of your training.**

The items will assess your perceptions about what your current training environment is *actually like*. Please read each item and using the 5-point Likert-type scale (1 = *StronglyDisagree* [SD]; 2 = *Disagree* [D]; 3 = *Agree*[A]; 4 = *StronglyAgree* [SA]; 5 = *NotApplicable* [NA]), rate your level of agreement with each item by selecting the appropriate number.

<i>In my counseling training program...</i>	SD	D	A	SA	NA
1. Questions from students are welcomed in all my classes	1	2	3	4	5
2. I get regular feedback from my professors	1	2	3	4	5
3. Students have a clear understanding of the policies and procedures of the academic unit	1	2	3	4	5
4. Program faculty are accessible to students through a variety of modes (e.g., email, phone, office hours, before/after class)	1	2	3	4	5
5. Students have access to University/college resources to facilitate learning and training (e.g., writing labs)	1	2	3	4	5
6. The university/college encourages students to engage in professional development activities in the community	1	2	3	4	5
7. There are ample opportunities to practice/train within the surrounding community	1	2	3	4	5
8. Our program has a good relationship with the local community	1	2	3	4	5
9. Skills and knowledge gained in my classes are relevant to the work I am doing at my clinical field placement	1	2	3	4	5
10. University/college procedures and department procedures for addressing student grievances are consistent	1	2	3	4	5
11. Program faculty are active in addressing issues that arise at my clinical field experience site	1	2	3	4	5
12. Students are made aware of opportunities to volunteer in community activities	1	2	3	4	5
13. My training helps me become cognizant of the impact that my background and life experiences have on my clients and how these may affect my clients	1	2	3	4	5

14. Faculty incorporate their clinical experiences into the classroom training	1	2	3	4	5
15. Faculty are well-connected within the profession	1	2	3	4	5
16. I am able to improve my clinical skills by learning from my classmates' experiences	1	2	3	4	5
17. Training curricula meets state standards for professional licensure and/or certification	1	2	3	4	5
18. An emphasis is placed on adhering to the ethical codes set forth by the profession	1	2	3	4	5
19. We are taught to recognize both within-group and between-group differences	1	2	3	4	5
20. The training curricula is responsive to current changes in socio-historical-political developments	1	2	3	4	5
21. The program is intentional in facilitating students' growth and development	1	2	3	4	5
22. The program implements current and up-to-date technologies needed to facilitate my learning	1	2	3	4	5
23. My training curricula reflects the current trends of the profession	1	2	3	4	5
24. My training is current and reflective of the issues impacting our society today	1	2	3	4	5

APPENDIX U: VARIABLE-TO-SURVEY ITEM TABLE

34-Item Intact CTES

Observed Variable Label	CTES Survey Item
Micro1	1. Questions from students are welcomed in all my classes
Micro2	2. I get regular feedback from my professors
Micro3	3. My clinical site supervisor treats me with respect
Micro4	4. My clinical site supervisor creates a safe environment for the discussion of difficult topics
Micro5	5. Students have a clear understanding of the policies and procedures of the academic unit
Micro6	6. Program faculty are accessible to students through a variety of modes (e.g., email, phone, office hours, before/after class)
Micro7	7. University/college services are readily available to support my graduate research and training (e.g., computer labs, library resources)
Micro8	8. Students have access to University/college resources to facilitate learning and training (e.g., writing labs)
Micro9	9. The university/college encourages students to engage in professional development activities in the community
Micro10	10. There are ample opportunities to practice/train within the surrounding community
Meso1	11. Our program has a good relationship with the local community
Meso2	12. Skills and knowledge gained in my classes are relevant to the work I am doing at my clinical field placement
Meso3	13. University/college procedures and department procedures for addressing student grievances are consistent
Meso4	14. Program faculty are active in addressing issues that arise at my clinical field experience site
Meso5	15. Students are kept abreast of the mental health needs of the community
Meso6	16. Students are made aware of opportunities to volunteer in community activities
Exo1	17. My training helps me become cognizant of the impact that my background and life experiences have on my clients and how these may affect my clients
Exo2	18. Faculty incorporate their clinical experiences into the classroom training
Exo3	19. Faculty are well-connected within the profession
Exo4r	20. My clinical site supervisor is more concerned about his/her personal issues than my development as a clinician

Exo5	21. My clinical site supervisor shares clinical resources with me
Exo6	22. I am able to improve my clinical skills by learning from my classmates' experiences
Macro1	23. Students are kept abreast of current local, state, and national legislation that affects the mental health profession and the impact this legislation has on our clients
Macro2	24. Training curricula meets state standards for professional licensure and/or certification
Macro3	25. An emphasis is placed on adhering to the ethical codes set forth by the profession
Macro4	26. The university/college offers financial resources to support my professional development
Macro5	27. We are taught to recognize both within-group and between-group differences
Macro6	28. My knowledge, awareness, and skills in multicultural counseling has been challenged
Chrono1	29. The training curricula is responsive to current changes in socio-historical-political developments
Chrono2	30. The program has helped me become mindful of my personal development through time
Chrono3	31. The program is intentional in facilitating students' growth and development
Chrono4	32. The program implements current and up-to-date technologies needed to facilitate my learning
Chrono5	33. My training curricula reflects the current trends of the profession
Chrono6	34. My training is current and reflective of the issues impacting our society today

APPENDIX V: CTT ANALYSES FOR CTES MODELS A, B, AND C

Model A*Model A: 34-Item CTES-Single-Factor Model Classical Test Theory Analyses (N = 277)*

Scale/Item	Mean	SD	α	Corrected Item- Total Correlation	α if-Item- Deleted
CTES Total	112.9375	12.12956	.92		
Micro1	3.6920	.60247		.50	.92
Micro2	3.2154	.70296		.57	.92
Micro3	3.6654	.52379		.29	.92
Micro4	3.5160	.62197		.39	.92
Micro5	3.1356	.73650		.52	.92
Micro6	3.4745	.61037		.51	.92
Micro7	3.4714	.57679		.29	.92
Micro8	3.4078	.59408		.37	.92
Micro9	3.2201	.74217		.53	.92
Micro10	3.0534	.77880		.51	.92
Meso1	3.3052	.67420		.50	.92
Meso2	3.4196	.62232		.59	.92
Meso3	2.9971	.73318		.61	.92
Meso4	3.3047	.64448		.58	.92
Meso5	2.8525	.69549		.550	.92
Meso6	2.9218	.80851		.509	.92
Exo1	3.5292	.60064		.549	.92
Exo2	3.4152	.70520		.567	.92
Exo3	3.4729	.65676		.620	.92
Exo4r	3.2238	.81649		.255	.93
Exo5	3.3587	.61135		.418	.92
Exo6	3.4838	.54897		.432	.92
Macro1	2.9204	.79820		.404	.92
Macro2	3.6821	.54395		.597	.92
Macro3	3.7355	.50966		.514	.92
Macro4	2.7924	.89492		.323	.93
Macro5	3.3962	.65430		.532	.92
Macro6	3.4301	.67898		.375	.92
Chrono1	3.1580	.61312		.581	.92
Chrono2	3.5870	.60467		.553	.92

Chrono3	3.4953	.66671	.674	.92
Chrono4	3.0395	.71710	.456	.92
Chrono5	3.2518	.63702	.635	.92
Chrono6	3.3132	.61354	.693	.92

Model B

Model B: 34-Item CTES-Five-Factor Model Classical Test Theory Analyses (N = 277)

Scale/Item	Mean	SD	α	Corrected Item- Total Correlation	α if-Item- Deleted
Micro	33.8514	3.69796	.764		
Micro1	3.6920	.60247		.412	.746
Micro2	3.2154	.70296		.534	.728
Micro3	3.6654	.52379		.292	.760
Micro4	3.5160	.62197		.395	.748
Micro5	3.1356	.73650		.484	.736
Micro6	3.4745	.61037		.493	.736
Micro7	3.4714	.57679		.313	.758
Micro8	3.4078	.59408		.422	.745
Micro9	3.2201	.74217		.492	.735
Micro10	3.0534	.77880		.424	.746
Meso	18.8009	2.88444	.777		
Meso1	3.3052	.67420		.469	.757
Meso2	3.4196	.62232		.509	.748
Meso3	2.9971	.73318		.559	.735
Meso4	3.3047	.64448		.563	.735
Meso5	2.8525	.69549		.560	.735
Meso6	2.9218	.80851		.497	.754
Exo	20.4836	2.52338	.704		
Exo1	3.5292	.60064		.430	.667
Exo2	3.4152	.70520		.535	.630
Exo3	3.4729	.65676		.544	.630
Exo4r	3.2238	.81649		.352	.702
Exo5	3.3587	.61135		.424	.668
Exo6	3.4838	.54897		.362	.686

Macro	19.9568	2.49684	.645		
Macro1	2.9204	.79820		.250	.656
Macro2	3.6821	.54395		.492	.572
Macro3	3.7355	.50966		.407	.600
Macro4	2.7924	.89492		.344	.627
Macro5	3.3962	.65430		.515	.552
Macro6	3.4301	.67898		.359	.608
Chrono	19.8448	2.82558	.827		
Chrono1	3.1580	.61312		.566	.805
Chrono2	3.5870	.60467		.541	.810
Chrono3	3.4953	.66671		.617	.795
Chrono4	3.0395	.71710		.481	.826
Chrono5	3.2518	.63702		.689	.779
Chrono6	3.3132	.61354		.704	.777

Model C

Model C: 26-Item CTES-Five-Factor Model Modified Classical Test Theory Analyses (N = 277)

Scale/Item	Mean	SD	α	Corrected Item- Total Correlation	α if-Item- Deleted
Micro	23.1987	3.02894	.749		
Micro1	3.6920	.60247		.415	.730
Micro2	3.2154	.70296		.554	.698
Micro5	3.1356	.73650		.503	.710
Micro6	3.4745	.61037		.485	.716
Micro8	3.4078	.59408		.382	.736
Micro9	3.2201	.74217		.488	.714
Micro10	3.0534	.77880		.436	.728
Meso	18.8009	2.88444	.777		
Meso1	3.3052	.67420		.469	.757
Meso2	3.4196	.62232		.509	.748
Meso3	2.9971	.73318		.559	.735
Meso4	3.3047	.64448		.563	.735
Meso5	2.8525	.69549		.560	.735
Meso6	2.9218	.80851		.497	.754

Exo	13.9011	1.82658	.698		
Exo1	3.5292	.60064		.432	.663
Exo2	3.4152	.70520		.560	.581
Exo3	3.4729	.65676		.577	.570
Exo6	3.4838	.54897		.371	.695
Macro	13.7343	1.71794	.601		
Macro1	2.9204	.79820		.267	.657
Macro2	3.6821	.54395		.552	.420
Macro3	3.7355	.50966		.409	.523
Macro5	3.3962	.65430		.382	.530
Chrono	16.2579	2.45227	.810		
Chrono1	3.1580	.61312		.558	.785
Chrono3	3.4953	.66671		.539	.791
Chrono4	3.0395	.71710		.493	.809
Chrono5	3.2518	.63702		.707	.739
Chrono6	3.3132	.61354		.715	.739
